

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Main report and annexes

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Abbreviations and Acronyms

Currency equivalents

Monetary Unit = Indian Rupees (INR)

1 US\$ = 83.24 INR

Weights and measures

1 kilogram (kg) = 1000 g (2.204 pounds)

1 kilometre (km) = 0.62 mile

1 metre = 1.09 yards

1 square metre = 10.76 square feet

1 acre = 0.405 hectare

1 hectare = 2.47 acres or 20 kanal

1 hectare = 10,000 m² (0.01 km²)

AWPB	Annual Work Plan and Budget
BCR	Benefit cost ratio
CAAA	Controller of Aid Accounts and Audit
CAG	Comptroller and Auditor General
CoE	Centre of Excellence
COSOP	Country Strategic Opportunities Programme
CPE	Country Programme Evaluation
DA	Designated Account
DAP&FW	Department of Agriculture production and farmers Welfare
DEA	Department of Economic Affairs
DioA	Directorate of Agriculture
DioH	Directorate of Horticulture
DioSH	Directorate of Sheep Husbandry
DioF	Directorate of Floriculture
EC	Executive Committee
EFA	Economic and Financial Analysis
FIG	Farmer Interest Group
ERR	Economic rate of return
ESMP	Environment and Social Management Plan
FM	Financial management
FPO	Farmer Producer Organization
FY	Financial year
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GoI	Government of India
GoJ&K	Government of Jammu and Kashmir
GRM	Grievance redressal mechanism
HADP	Holistic Agriculture Development Programme
IFAD	International Fund for Agricultural Development
IFR	Interim Financial reporting
ILSP	Integrated Livelihoods Support Project
INR	Indian Rupee
IT	Information technology
JKCIP	Jammu and Kashmir Competitiveness Improvement Project

JKCIP-PMU	JKCIP-Project Management Unit
LAMP	Livelihood and Access to Markets Project
M&E	Monitoring and Evaluation
MIS	Management Information System
MoF	Ministry of Finance
MTR	Midterm review
PA	Project Account
PIM	Project Implementation Manual
POs	Promoting Organizations
SC/ST	Scheduled caste and Scheduled Tribe
SDGs	Sustainable Development Goals
SEA	Sexual harassment and sexual exploitation and abuse
SKUAST-J	Sher e Kashmiri University of Agricultural Science and Technology – Jammu
SKUAST-K	Sher e Kashmiri University of Agricultural Science and Technology – Kashmir
US\$	United States Dollar
J&K	Jammu and Kashmir

In line with IFAD mainstreaming commitments, the project has been validated as:

Be gender transformative Be youth sensitive Be nutrition sensitive Prioritize persons with disabilities Prioritize indigenous peoples Include climate finance Build adaptive capacity

Executive Summary

Context and rationale: India is the world's second most populous country, and the third-largest economy in purchasing power terms. Despite strong economic growth, there is uneven progress in reducing poverty, with an extreme poverty rate of about 13.8 percent. India has made significant strides in food production, but crop yields are still lower than global and regional standards. However, between 2005-2006 and 2020-21, India lifted 415 million people out of poverty. In J&K (Jammu and Kashmir), approximately 13 percent of the population are considered poor, and the literacy rate is 67.2 percent, with a notable gender literacy gap of 20.3 percentage points.^[1] The project's focus on high-value agricultural and horticultural crops aligns with the Government of India's strategy to double farmers' income and the J&K Development Report.

Special aspects relating to IFAD's corporate mainstreaming priorities. This project aims to address multiple challenges in the J&K region, including poverty reduction, gender inequalities, youth engagement, climate change, and environmental issues, all aligned with IFAD's priorities. It emphasizes broadening the definition of poverty to include human poverty^[2] due to isolation, remoteness and lack of infrastructure investment. About 56.4 percent of women in J&K are literate compared to 76.8 percent of men.

J&K is bestowed with a predominantly young population with about 69 percent of the population below the age of 35 years^[3]. With limited opportunities for employment in traditional sectors, youth are increasingly opting for self-employment and entrepreneurship. The region, situated in the fragile Himalayan Ecosystem, faces urbanization-driven warming^[4], leading to biodiversity loss and water-related challenges due to climate change. Developing agriculture and allied sectors, especially focused on high-value crops, has the potential to increase farmer's income sustainably and address the concerns of poverty, gender and youth while also addressing climate and environment related issues. The JKCIP's focus on economic empowerment through productivity enhancement, value addition, and enterprise development aligns with IFAD's strategic objectives and the government's priorities.

Rationale for IFAD involvement: IFAD's involvement in this project is justified by several factors: (i) Experience with Smallholder Farmers - IFAD has a successful track record of working with smallholder farmers and value chain strategies in India, which have effectively increased farmers' income over time, especially in the Himalayan region; (ii) Global Expertise - IFAD can tap into crop-specific global technical expertise to enhance the capabilities of the project in J&K; (iii) Strong Network of Partners-IFAD has a well-established network of partnerships in India and elsewhere, allowing it to harness the strength of community organizations in order to develop group response models; (iv) Alignment with Geographic Targeting-The project aligns with the geographic targeting outlined in the Country Strategic Opportunities Programme (COSOP), focusing on disadvantaged regions, particularly those with significant rainfed areas; and (v) Supporting Government Efforts -IFAD's involvement provides an opportunity to collaborate with the government and introduce innovative solutions to double the income of impoverished and marginalized farming communities. It also provides an opportunity to unlock the full potential of the GoJ&K's flagship programme on Holistic Agriculture Development Programme (HADP) aimed at transforming the agriculture in J&K from subsistence to a sustainable and commercial agri-economy. Above all, with a large population of youth and a high potential for improving its agriculture and horticulture sector competitiveness J&K provides an opportunity for a strong partnership with IFAD to bring timely and appropriate technical and financial support to catalyse dynamic rural transformation.

Lessons Learned: This project design has considered the recommendations of the Country Programme Evaluation (CPE), 2016 and the Country Strategic Opportunities Programme (COSOP), 2011-2017 completion report and Mid Term Results Review of COSOP 2018-24 (May 2023). Likewise, the International best practices and lessons learned from various projects of IFAD within India and abroad have been considered. They include: (i) Alternative Marketing Channels - Opening alternative marketing channels can lead to increased efficiencies in traditional marketing channels, and investing in market infrastructure can lead to increased farm sales and better market prices for farmers; (ii) FPO Mobilization - Successful FPO mobilization should prioritize building businesses as a starting point with sustainability of the business as a key consideration; (iii) Beneficiary Participation- The participation of beneficiaries and local stakeholders in project implementation ensures smooth execution, success, and sustainability, especially in conflict-affected areas; (iv) Integrated Approach- An integrated system, linking production, processing & value addition and marketing, is essential for resource optimization and maximizing benefits; (v) Climate Resilience- JKCIP encourages adaptive practices and provides incentives for public and private farm-based investments; (vi) Business Partnerships- Building business partnerships between smallholders, private entities, farmer cooperatives, and government are crucial for sustainable and mutually beneficial agribusinesses; and (vii) cost sharing is critical to buy down risk and meet immediate cash flow needs leading to the success of the project promoted interventions.

Project goal and objectives: The goal of the project is to contribute to the sustained increase in incomes of rural households by improving the competitiveness and climate resilience of farming operations. The project objective is to improve the competitiveness and climate resilience of the farmers through a value chain approach, covering production, value addition and marketing of high-value niche commodities from agriculture, horticulture, and allied sectors of J&K.

Geographic areas of intervention: The project will be implemented in all 20 districts of J&K. The project design has adopted an exclusion strategy to minimize environmental safeguards and other related challenges by excluding Blocks/ Villages that fall adjacent to the border and are ecologically sensitive including forest buffer zone areas, and biodiversity hotspots. The project will be implemented in 90 out of 285 Blocks finalized by (Agriculture Production Department (APD) using a scoring system based on Block level data on key value chains, levels of poverty, contiguity of blocks, existence of vulnerable communities and higher levels of vulnerability to climate change events.

Targeting and target groups: The total number of direct beneficiaries of the project will be 300,000 of which 141,000 will be women (47 percent), 90,000 youth (30 percent) and 30,000 vulnerable communities (SCs/STs) (10 percent) corresponding to 300,000 households and in total reaching 1.5 million individuals^[5]. The main target group would comprise resource-poor farmers and rural households, involved in farming in areas with the potential for cultivation of high-value niche crops and horticultural crops, using climate-resilient and environment-friendly technologies. The target group will also comprise the vulnerable communities including pastoralists, fishermen and other Scheduled Caste (SC) and Scheduled Tribe (ST) communities.

Project Components/Outcomes: The project will have four interlinked components: (i) Climate-smart and market-led production; (ii) Agri-business ecosystem development support; (iii) Support to vulnerable communities; and (iv) Project Management.

Climate-smart and market-led production. Under this component, the project will take up three major activities: upscaling of collectivization, niche crop support and horticultural crop support. The main aim of this component is to address the value chain constraints of small and marginal farmers related to production and productivity by introducing better management practices and expanding the area under cultivation of climate-resilient and high-value agriculture and horticulture crops.

Collectivization of farmers/ small producers is the core on which the cost-effective service delivery and aggregation of inputs and outputs for achieving economies of scale will be built to ensure market-oriented production. The project will shift from target oriented FPO promotion^[6] to building sustainable businesses as the core of FPO mobilization process. The project will support the establishment of 45 new FPOs and strengthening of 56 existing FPOs. The main outcome of this intervention is the provision of new or improved services by 70 percent of the supported FPOs.

J&K's agro-climatic conditions offer potential for revival and expansion of high-value niche crops, such as saffron, black cumin (kala jeera), off-season vegetables, etc. Farmers in the region had traditionally been growing these crops but due to low returns on these crops for a variety of reasons, their interest in growing these crops had diminished. The main value chain constraints include low productivity and production, high cost of production and non-availability of good quality planting materials^[7]. The project will build capacity and introduce climate smart and good agricultural practices (GAP), support farmers for area optimization and diversification under high-value niche agricultural crops with improved water management systems, nursery development and protected cultivation. The project will mainly support the training of 1,085 trainers and 16,200 farmers, support 800 water management systems, 1,650 protected cultivation units and the expansion of niche crops in approx. 2,800 ha covering over 14,000 farmers. The main outcome of this intervention is the adoption of new/improved inputs and services by 70 percent of households supported for niche crops.

Horticulture remains the mainstay of J&K economy and produces large quantities of temperate fruits and nuts. The value chain constraints include poor management practices including lack of understanding and implementation capacity of climate adaptive measures, inadequate availability of quality planting materials, low productivity and production and high cost of production. The project will build capacity and introduce climate smart and good agricultural practices, better management practices in a business mode for existing orchards, expand and intensify area under diversified horticultural crops (nuts, stone fruits and pome fruits in addition to apple), and introduce measures to transform CoEs into resilient, market driven commercial entities. The project will support the training of about 3,250 trainers and 16,200 farmers, establish 320 nurseries, 550 water management systems, expansion of fruit and nut crops in 1,545 ha covering 7,725 farmers and 375 ha of rejuvenation covering 875 farmers. The main outcome of the intervention is the adoption of new/improved inputs and services by 70 percent of households supported for horticultural crops intensification and diversification.

Agri-business ecosystem development: This component is linked with Component 1 and builds on production and productivity enhancement. It will cover market led enterprise promotion in processing, value addition, and marketing of agri and allied sector produce to enable better price realization for the small producers/farmers. The main value chain constraint related to value addition and marketing is the inadequate levels of private investment in agribusiness.

Enterprise promotion by the private sector with a focus on generating corresponding bank finance is the key to enhancing investment. In consideration of women's key role in processing, this activity will largely focus on youth and women, particularly young women. The climate risk assessment will be carried out as a part of risk assessment procedure and adequate adaptation and/or mitigation measures will be ensured. The project will provide matching grants (for establishing agri-business enterprises with special preference for women and youth in terms of differential matching grant and intensive business planning support. In order to reduce elite capture, the percentage grant will decline as the size of investment increases (capped) and will be tied to access to finance. The project will work with banks for financial product/model development to improve the quality of financial proposals, enhance qualification, introduce collateral alternatives, cash flow-based lending and improve affordability for medium to long-term financial products. The project will provide business development services and support the establishment of over 85 business-led enterprises that will act as mentors to over 1,100 individual enterprises. The main outcome of this intervention is the improved profitability of the agri-enterprise with 70 percent of the enterprises reporting an increase in their profits.

Market promotion is the key to improving market linkages and thereby, enhancing price realization. The project will introduce the concept of Multi-Stakeholder Platforms (MSPs) in J&K to enable the establishment of sustained relationships of farmers and FPOs with the private sector. The project will also establish/ improve market outlets, conduct buyer-seller meets and support brand development and promotion. The project will support 12 state-level MSPs, participation in trade fairs by 150 entrepreneurs, 28 Buyer-Seller meets and product development, J&K brand development and brand promotion. The main outcome of this intervention is establishing improved market linkages for 70 percent of the enterprises.

Incubation and start-up activity aims to create a vibrant 'agri-tech start-up culture' in J&K with a focus on youth. They will contribute to strengthening the agri-business ecosystem. The project will mentor business ideas that emanate from rural areas and from vulnerable communities through the creation of business incubator spokes at the district level. In addition, the project will organize ideathons/boot camps at each district, provide mentoring support and seed funds, and scaling-up support to link the start-ups with finance from banks and other programmes. The project will support 350 start-ups, and it is expected that at least 120 of them will scale up by accessing funds from banks and other financial institutions. The main outcome of this intervention is the establishment of

start-ups with 70 percent youth ownership.

Support to vulnerable communities: The project, in consonance with the targeting priorities of IFAD, supports the most vulnerable groups comprising STs, SCs and fisher folks to diversify their livelihood options and to increase their levels of income.

Pastoralists comprising largely STs are migratory and have large herds of sheep and goats. Significant support is being provided to them by the government. The main constraints include low wool prices and limited efforts on equine and goat breed improvement. The project will support a market assessment of the wool sector in J&K and based on the recommendations of this study establish required facilities for wool harvesting and marketing with the private sector. The project will also support an equine and goat breed improvement programme. The main outcome of this intervention is improved wool prices with 50 percent of the pastoralists reporting an increase.

Other vulnerable communities, comprising semi-settled STs including Gujjars, Bakerwals and Gaddis, SCs and fisher folks, will be supported to diversify their livelihood options. The project will support 800 goat/sheep units, the establishment of 12 milk collection units linked to milk processing plants, the introduction of 10,000 ice boxes, and the establishment of 1,250 enterprises with technical support for business plan preparation and mentoring. The main outcome of this intervention is the diversification of livelihood options by 30 percent of the vulnerable households.

The project aims to integrate youth into the overall activities related to enterprise promotion. In addition, under this component, the project will support the existing youth clubs at the panchayat level to develop awareness generation activities for protecting the environment. The activities that these youth clubs will undertake include indigenous tree plantation drives, desilting village ponds/tanks, organizing cleanliness drives in the villages, etc. The project will support 2,700 youth clubs for these activities each comprising about 20 members. The youth clubs with at least 30 percent women members will receive higher levels of support. The main outcome of this intervention is that 60 percent of youth clubs participate in community actions related to the environment.

Project Management: The project will support incremental staff, procurement of office equipment and furniture, internal and external audits, reviews, committee meetings and operating costs. The project will support the establishment of a M&E unit within the PMU. The project will also fund the establishment of a computerised and GIS-linked Management Information System (MIS). Allocations for knowledge generation and dissemination, thematic studies, baseline survey, midline survey, end-line survey and project completion report will be made. The project will support fostering an enabling policy environment for the development of agri and allied sectors, which include policy related to walnut tree felling (harvesting), documentation needs to access government schemes by the pastoralists, and public-private partnership development modalities, etc.

Theory of Change: There are challenges to sustainable agriculture growth in J&K, due to isolation, remoteness, higher cost of production etc. Efforts to enhance production and productivity, with a focus on comparative advantage, remain critical to improving the income levels of smallholder farmers. The other main challenges are: (i) poor management practices with limited focus on intensification and diversification; (ii) insufficient investments in value addition, processing and enterprise promotion and market development efforts; and (iii) limited livelihood diversification options for the vulnerable communities.

These challenges will be addressed by: (i) introducing GAP, water management systems, and expansion of the area under cultivation of niche crops; (ii) introducing GAP, improved tree management practices, nursery development and expansion of area and intensification under diversified horticultural crops; (iii) establishing agri-enterprises and start-ups; (v) establishing market linkages, market development, and brand development and promotion, (vi) providing support to vulnerable/ nomadic /semi-nomadic communities to diversify their livelihood options; and (vii) supporting policy dialogue and formulation, and standards development. These interventions are expected to generate outcomes, which include improved performance of community institutions, improved production and productivity, improved price realisation on account of value addition, and marketing and policy development relevant to the sector. These outcomes will contribute to the project goal of contributing to a sustained increase in the incomes of rural households.

Alignment, ownership and partnership: The project focuses on niche and high-value crops to support marginal and small farmers in adapting to climate change events. It contributes to SDGs 1 - end poverty; SDG 2 - zero hunger; SDG 5 - gender equality; and SDG 13 - combat climate change. The project aligns with the Gol's and GoJ&K's (Government of Jammu and Kashmir) strategy of doubling farmers' income, focusing on comparative advantage, productivity gains, value capture, and connectivity to new markets. The project is also aligned with IFAD policies for mainstreaming. In addition, the three objectives of IFAD's Strategic Framework (2016-2025) are at the core of this project: (i) increasing the productive capacity of poor rural people; (ii) increasing their benefits from market participation; and (iii) strengthening the environmental sustainability and climate resilience of their economic activities. The project also adheres to the recommendations of the Mid Term Results Review of the India COSOP, specifically (i) Prioritize interventions in promoting climate-resilient agriculture; and (ii) Lay more emphasis on building grassroots institutions and supporting rural producers that help making rural economy more resilient. The project is gender mainstreamed, youth sensitive and contributes to climate financing apart from supporting the Indigenous Peoples. APD has been involved in the project design and management from the very beginning.

- **Project costs and financing:** The total JKCIIP incremental investment and recurrent costs, including price and physical contingencies over seven years implementation period (spread over eight financial years) are estimated at US\$ 217.2 million. JKCIIP will be financed as follows: IFAD financing is projected at US\$100 million (46 percent of the total project costs); Domestic financing from GoJ&K and beneficiaries is US\$26.4 million & US\$ 45.7 million (12 percent and 21 percent respectively). Beneficiary contribution will be both in cash and in-kind (raw materials and labour). Convergence support is US\$3.4 million (2 percent), Private Sector comprising entrepreneurs from the J&K : US\$20.7 million. Contribution from the banks will be US\$20.8 million. The climate finance is 7 percent of the total IFAD project amount .
- **Benefits and Economic Analysis:** The total outreach of the project will be 300,000 households reaching 1.53 million individuals. Cost-benefit analysis yields an overall IRR of 24 percent. The estimated NPV for a 7 percent discount rate is US\$ 480.4 million (INR 39.8 billion) and the BCR of 13.3. A positive NPV under the current opportunity cost of capital (OCC) of 7

percent indicates that the project investments are sound and robust. Under a scenario of costs increase by 20 percent and benefits decline by 20 percent over the base-case, a 23 percent and 22 percent IRR respectively with a NPV of US\$ 462.85 million and US\$ 366.74 million are expected confirming the robustness and soundness of the project investments.

Exit strategy and sustainability: JKCIP's exit strategy builds on three key pillars of the project: (i) FPO Promotion and Support; (ii) Niche Agricultural and Horticultural Crop Enhancement; and (iii) Enterprise and Market Promotion. The project will train FPO members in sustainable agricultural practices, efficient resource management, while capitalizing on market trends. FPO mobilization will begin with community-centric businesses, with support tied to performance against a graduated classification system, aiming for self-sustainability, market ties, and increased services to membership. The project will boost production, productivity, and quality of produced niche crops, expand agricultural areas, introduce GAP, and diversify horticultural crops. The project will support agri-enterprises with business services, bank linkages, and matching grants to buy down risks, facilitating profitability and sustainability and ensure a smooth exit. Systems will be established to utilize government grants for community benefit, fostering self-reliance and sustainability for an easier project exit.

Project Risks: The overall project risk probability is rated "Moderate" and the residual risk is rated "Low". The risk probability from political and governance, macro-economic, sector strategies, technical soundness, institutional capacity for implementation and sustainability, monitoring and evaluation arrangements, sector strategies and policies and environment are rated "Moderate", and the residual risk is rated "Low". The financial management and procurement risks are rated "Substantial".

Environment and social category: The environmental and social risk category for JKCIP is assessed as "Moderate^[8]". The project is youth-sensitive, climate-adaptive and gender mainstreamed, and includes activities for indigenous people in select geographies. The project will implement 'Free, Prior, and Informed Consent (FPIC) to enhance tribal communities' ownership. JKCIP will not work in the Blocks with protected areas and will strictly adhere to 'zero' deforestation and forest encroachment with no risk to natural habitat and biodiversity. The project is expected to improve farm diversity, regulate/ reduce chemical inputs, and improve farm health through promoting good agricultural practices.

Climate risk classification^[9]: The climate risk category of the project is determined as "Moderate". The main climate risks for the project include (i) a decrease in productivity and quality of produce due to hailstorms; (ii) increased incidences of new and existing pests and diseases, and (iii) landslides. The project will promote climate-resilient production approaches. The capacity of government line agencies and FPOs will be enhanced to access, interpret, and wisely implement weather-related information. SECAP-related responsibilities are included in the terms of references of thematic specialists.

Organisational Framework: At the central level, DEA will be the nodal agency for the project and the APD of GoJ&K would be the Lead Project Agency. The project implementation will be fully integrated into the Directorates and Universities under APD. Two broad principles would govern the management structure for this project. They include: (i) alignment to the existing government structure; and (ii) flexibility to make changes based on the requirements that may arise during the implementation phase. A PMU of JKCIP will be established within the PMU of HADP as the overall priorities of the two projects are aligned and JKCIP is complimentary to HADP. The JKCIP-PMU will be responsible for the project management, administration and coordination with GoI and IFAD. PMU will report to a Secretary-level Officer of APD, who will be nominated as the Mission Director reporting to the Principal Secretary, APD.

- The project's governance will be harmonized with the existing four-tier project coordination structure of HADP comprising: (i) a Central Apex Committee; (ii) an Empowered Committee; (iii) an Executive Committee; and (iv) District Level Committees (DLC). Under JKCIP, the Executive Committee of HADP will convene a meeting on a quarterly basis and if necessary, by region/province. This committee will be vested with the responsibility to provide strategic and policy guidance and overall supervision and management of the project. The DLC will be responsible for implementing JKCIP at the district level, including its supervision and monitoring and ensuring convergence. Harmonization between HADP and JKCIP is necessary to ensure that communities have access to optimal and unified services as both work for the same goal. Hence it is essential that both adopt similar principles and work in tandem to avoid sending conflicting messages to the stakeholders and prevent duplication while learning from each other's experience with the overall objective of creating sustainable solutions for the rural poor communities.

Financial Management (FM), Procurement and Governance: The JKCIP-PMU will be responsible for the overall financial management. GoJ&K will pre-finance project expenditures. JKCIP-PMU will consolidate the AWPB and incorporate into the budget of APD. GoJ&K will release funds to the nodal account of APD maintained at a commercial bank with online banking services. The JKCIP-PMU will release the budget to implementing partners for the implementation of project activities based on approved AWPB. The project will submit to IFAD through CAAA quarterly WAs to reimburse IFAD's share of project expenditures. The Federal Ministry of Finance will maintain the Designated Account at the Indian Central Bank. All project implementing partners will have separate sub-accounts of the project bank account of the APD PMU. The project accounting will be computerized and customized. **Retroactive financing will be provided to finance eligible project expenditures. Independent internal auditors will be engaged, and CAG will conduct annual statutory audits to ensure compliance with GoJ&K and IFAD requirements. The resources required for the project will be initially provided by GoJ&K and IFAD will reimburse the approved project expenditure as is the standard practice with operations in India. Convergence funds are from existing schemes of GoI.**

Procurement of goods, works and services shall be undertaken as per the provisions of IFAD Procurement Guidelines and IFAD Procurement Handbook, as amended from time to time. Procurement arrangements under the project will be strengthened by establishing a Procurement unit within JKCIP-PMU, headed by a Senior Procurement Specialist and engaging Procurement Officers with all the implementing partners.

Planning, M&E, Knowledge Management and Communication: JKCIP-PMU will be responsible for the preparation of a consolidated AWPB, which shall be based on the AWPBs of the implementing partners. The project will establish computerised and GIS-linked MIS to monitor physical and financial progress, and achievement towards output targets. The project will conduct baseline, mid-line and end-line surveys and thematic studies. A comprehensive KM action plan will be developed in the early stage

of implementation. The project will generate and disseminate knowledge through a variety of knowledge products and events and the creation of a website which will be regularly updated.

Innovations and Scaling up: The main innovations that have been considered in this project design include: (i) Business-led FPO promotion; (ii) Holistic production support through a sub-project model of production expansion support; (iii) Agri-business incubation and start-up support; (iv) Business leader-led enterprise promotion; (v) Entrepreneur-led service delivery and (vi) Digital climate information and extension delivery.

Project Target Group Engagement and Feedback, and Grievance Redressal: In line with IFAD's Framework for Operational Feedback from Stakeholders, the project will promote transparency, governance, accountability, and full and effective participation of stakeholders throughout the project cycle. JKCIP will engage with a range of stakeholders and use APD's established systems in place to check whether the resources of GoJ&K are spent in the targeted areas, transparency in the decision-making process is maintained, and public rights and entitlements are adhered to and effectively implemented with the participation of targeted beneficiaries and stakeholders. JKCIP will establish MSP, which will facilitate the preparation of production plan based on market demand, ensuring the participation and concerns of women, poor, youth and Indigenous people (IP). JKCIP will regularly monitor the FPOs and the participatory monitoring tools, such as the focus group discussions and surveys, and environmental and social safeguard, will be used for regular tracking of the problems and progress. The project will also seek FPIC to ensure mutual respect and full and effective participation in decision-making by the IPs.

Grievance redress: JK-IGRAMS, the GRM of GoJ&K will be strengthened in line with IFAD requirements for processing complaints received from the community, aiming at identifying issues of conflict that may arise during project implementation. The project shall immediately report to IFAD any allegations or reports of sexual harassment received in connection with the implementation of the project and further actions will be initiated in line with the established procedures of IFAD.

Implementation plans: All activities under the project will be implemented by the officials of the Directorates and Universities under APD, assisted by the technical assistance teams and Consultants, procured using an open and transparent procedure and calls for proposals. The project will develop and support Farmers Interest Groups (FIGs) and FPOs who will implement grassroots-level project activities^[10] The project will build on the existing FPOs and develop value chain-specific FIGs and FPOs, who will be the direct partners in implementing value chain related project activities. The activities related to agri-enterprise promotion, markets and marketing will be largely private-sector oriented and will be implemented through them.

This project implementation will be spread over seven years. All the capacity-building efforts will be front-loaded. The project will start regular implementation during the financial year, 2024-25 with initial capacity building activities during 2023-24. The APD has shown its keenness for a rapid start-up and has set up a core team to be part of the detailed design mission.

Supervision, Mid-terms review and completion plans: This project will be directly supervised by IFAD, and annual Supervision Missions will be conducted. A mid-term review (MTR) will be conducted by the end of the third year of the project to review project achievements and implementation constraints. Close to the project completion point, the project will prepare a draft Project Completion Report, and IFAD and GoJ&K will then carry out a Project Completion Review.

1. Context

A. National context and rationale for IFAD involvement

a. National Context

1. National Context

2. India is the world's second-most populous country, and the third-largest economy in purchasing parity terms. India's growth continues to be resilient despite some signs of moderation. India was one of the fastest growing economies in the world with real GDP growing at 7.7 percent year-on-year during financial year (FY) 2022-23. The overall growth momentum remains robust and real GDP growth for FY 2022-23 is estimated to be 6.9 percent.^[11] Despite resilience amid slowing global growth, there are headwinds to India's growth which includes faster-than expected inflation. Between 2011 and 2019, India is estimated to have halved the share of the population living in extreme poverty.^[12] Extreme poverty rate stands at about 13.8 percent. Challenges to reduction in extreme poverty persist. Inequality in consumption continues, with a Gini index of around 35 over the past two decades and high child malnutrition rates of about 35.5 percent.
3. *Poverty (SDG 1), food security and nutrition (SDG 2), and smallholder agricultural and rural development context* The Multidimensional Poverty Index (MPI) of India was down from 55 percent to 16.4 percent and India moved 415 million people out of poverty during 2005-2006 – 2020-2021.^[13] India's rank is 66 out of 109 countries with an MPI score of **0.069**.^[14] India's aspiration to become a high-income country by 2047 will require a climate-resilient growth process that delivers broad-based gains to the bottom half of the population. Over the past six decades, India has been able to comfortably produce food for 1.25 billion people, but crop yields are still relatively low by global and regional standards. India has made rapid strides in lowering the incidence of malnutrition; stunting in children below five years declined from 48 to 35.5 percent between 2006 and 2021.^[15] The National Food Security Act 2013 aims to ensure food and nutrition security for the most vulnerable.^[16]
4. In India, the focus was on less profitable field crops due to food security concerns. This focus on field crops without considering the comparative advantage of the production area to diversify into high-value crops remained one of the reasons for continued high levels of poverty amongst smallholders. This is however changing, with greater support to smallholders to diversify into more remunerative agriculture. About 70 percent of farmers in India are smallholder and they contribute about 41 percent of the total food production. The Doubling of Farmers Income (DFI)^[17] Committee, established by the Government of India also recommends comparative advantage linked production and productivity enhancement and value addition to enhance the income of farmers.
5. **Jammu and Kashmir (J&K) context:** About 12.8 percent of the population of J&K is "multidimensionally poor". Literacy rate is 67.2 percent; one of the lowest in the country with a gap of 20.3 percentage points between male and female literacy rates. A set of inter-related factors such as remoteness, limited connectivity, security concerns and low levels of investments constrained the economic growth of the state of Jammu and Kashmir over the past decades. The Gross domestic product (GDP) growth from 2004-05 to 2013-14 was 12 percent per annum, at least 2 percentage points lower than the national average.^[18] Following an improvement in the security situation and an upswing in economic activity since 2019, Jammu and Kashmir's GDP is expected to grow at 8 per cent between 2022 and 2023 at constant prices.
6. Government of Jammu and Kashmir (GoJ&K), in 2022, constituted an Apex Committee under the Chair of Dr Mangla Rai, former Director General, Indian Council for Agricultural Research with a view to build a technology-driven, sustainable and remunerative agro-economy by identifying the priority areas for interventions through improved policy and capital support.
7. The ambitious Holistic Agriculture Development Programme (HADP) with a total outlay of US\$ 650 million came into effect in April 2023. The design of JKCIP complements and supplements HADP by addressing existing aspects which are either not covered or only partially covered such as support for vulnerable/nomadic/semi-nomadic communities, strengthening of FPOs/collectives, and introducing orchard management practices on a business mode, etc. Additionally, the project focuses on the "how to" part of implementation by proposing to introduce innovative business practices such as public-private-producer partnerships (4Ps), processes for successful promotion of start-ups and incubation; systems for engaging more youth and women in ongoing activities, utilizing grants to drive financial inclusion, etc.

b. Special aspects relating to IFAD's corporate mainstreaming priorities

8. Development of the agriculture and allied sectors in J&K with a focus on high-value niche crops and horticultural crops has significant potential for significantly and sustainably increasing the income of farmers with reduced stress on the environment and at the same time addressing poverty and challenges related to gender, youth, climate and environment.
9. **Poverty:** Though the extent of poverty (12.8 percent) in J&K is not high relative to other regions of India but groups of poor populations across the J&K exist. The conventional definition of poverty in terms of income poverty will have to be broadened in J&K with the inclusion of "human poverty" in terms of denial of choices and opportunities for living a tolerable life on account of isolation and lack of investment in infrastructure due to an environment of insecurity.^[19] GoJ&K has been making serious efforts to address these issues and this project will contribute to reducing the income poverty of J&K farmers by targeting a sustained increase in farm income.
10. **Gender:** India ranked 91 out of 144 countries in a new index that measures global gender equality looking at aspects such as poverty, health, education, literacy, political representation and equality at the workplace^[20]. The female share in agriculture labour force in India is rather high at 62.9 percent^[21]. The agricultural and allied sectors hold a central position in J&K's economy. The project will implement gender-inclusive strategies in relevant project intervention areas. The selection of some of the value chains such as medicinal and aromatic plants (e.g. lavender and lemon grass), dairy, etc. have been done to maximize

greater involvement of women as women play a major role in these value chains. The project will support community institution promotion and development with gender-inclusive policies. Activities such as start-ups, processing and other enterprises with women in the lead resulting in women's control over resources will be promoted with a higher level of incentivization for women.

11. The project will integrate gender considerations throughout the project cycle to promote Gender Equality and Women's Empowerment (GEWE) and ensure equitable development outcomes. The project will engage a Manager- Gender and Youth who will prepare a Gender Strategy during the first year of project implementation in consultation with all the stakeholders including project team. The Strategy will draw on the three pillars of the IFAD Corporate Gender Strategy (viz. Economic empowerment; Equal Voice / equitable decision making and Equitable distribution of workload). A general outline to be adopted while preparing Gender Inclusion Strategy and a Gender Action Plan are provided in PIM-Chapter 1-Appendix C1A4 and PIM-Chapter 1-Appendix C1A5 respectively. The gender roles in key value chains are provided in Annex 14. The key aspects of the Gender Strategy to promote gender inclusivity will include: (i) preferential treatment to women without compromising on qualification and experience while engaging staff at all levels; (ii) targets for inclusion of women in leadership roles while mobilizing FPOs and other community institutions; (iii) higher levels of incentives/matching grants/subsidies to women/youth amongst the farmers/entrepreneurs for niche agri/ horticultural crop production and enterprise establishment ; (iv) higher levels of support to youth groups with more than 40 percent women members for taking up environment related community activities; (v) mechanisms to collect and analyse gender-disaggregated data instituted in MIS; and (vi) systems/ surveys to track progress in gender inclusivity measures. The project intends to reach 141,000 women; 47 percent of the total beneficiaries and 27,000 women-headed households.
12. **Youth:** Jammu & Kashmir is bestowed with a predominantly young population with about 69 percent of the population being below the age of 35 years. Low agricultural and associated sector productivity has hurt employment and per capita income growth. The relatively higher rate of youth unemployment in J&K can be attributed to a number of interconnected factors, including remoteness, extreme weather conditions in some parts, low savings and investment rates, high population growth, declining small-scale industries, slow growth of infrastructure etc. further aggravated by the disruptions caused by acts of terrorism. This situation has changed considerably over the last 3-4 years with the intervention of the government. Youth are now interested in becoming entrepreneurs and seeking to become part of the mainstream. In order to provide a platform for holistic implementation of all youth engagement and outreach initiatives, and to bring the interests and empowerment of youth to the centre of policy making, government of Jammu & Kashmir has rolled out a pioneering initiative - Mission Youth where the youths have been provided grants from the governments to start their own business/ enterprises. JKCIP will support youth involvement in community institution promotion to achieve higher levels of participation by the youth in the process of decision-making and implementation at the local and higher levels. In addition, the project will also support start-ups to enable the youth to transform their innovative ideas into businesses. All interventions with the youth will include strategies for engaging young women in particular. The project intends to reach 90,000 youth being 30 percent of the total number of persons receiving project services.
13. **Nutrition:** India grows sufficient food and has the world's largest public distribution system for food delivery. Malnutrition indicator of J&K measured in terms of stunting has decreased from 35 percent to 28 percent to 27 percent from 2005-06 to 2015-16 to 2019-20 respectively. However, the percentage of underweight children decreased from 27 percent to 19 percent and slightly increased to 21 percent during the same timeframe while wasting has fluctuated between 15 percent to 19 percent. Though anaemia has seen a rise J&K's situation is comparatively lower than the country's averages during 2005-06 and 2015-16, as stated in the National Family Health Survey (NFHS-5) conducted by the International Institute for Population Sciences (IIPS) in 2019-21. Undernutrition prevails notably among younger age brackets, particularly those aged 15-19, individuals residing in rural areas, and women from scheduled tribes. On the other hand, overweight and obesity are notably higher among older adults, urban residents, and well-educated men[22]. GoJ&K is implementing several initiatives to address malnutrition[23]. This project will primarily work towards improving the socio-economic status of the J&K farmers by focusing on sustained income increase as well as the production and productivity enhancement of horticulture and food crops which will result in their ability to access improved diets for the family.
14. **Climate and environment:** India is among the countries most vulnerable to climate change. India's Nationally Determined Contributions under the United Nations Framework Convention on Climate Change (UNFCCC) have been substantial. India is on track to overachieve Paris Agreement targets after adopting its final National Electricity Plan in 2018 as per Climate Action Tracker. J&K nestles in the fragile Himalayan Ecosystem. Large-scale urbanization drives the warming trend. Orography and land use influence spatial distribution of rainfall and temperature. Human-induced landscapes and human activities play a key role in altering the climate at a local and regional level. The projected climate change indicate hotter and moderately wetter future for most of the districts in J&K. Heat waves are expected to become more common. Precipitation is expected to rise slightly to moderately in the future, with much of the increase attributed to heavy downpours. The districts are more at risk due to spatial and temporal heterogeneity. Rising temperatures and changing precipitation patterns could have effect on available water resources. Floods and droughts are projected to become more common. Farmers are currently facing impacts of hailstorms. The biodiversity loss and water owing to climate change are the greatest challenges for J&K over the coming decades.[24] Smallholder farmers and target groups display a moderate awareness of climate risks and related adaptive and mitigation measures. The project will address the climate change risks with investments in the promotion of climate-resilient crops, the use of technology for reduced use of water, and the promotion of climate smart and good agricultural practices in production support. The project will also promote technologies and practices for reducing the use of chemical fertilizers and pesticides and will create appropriate environment for bio inputs production and use.
15. **IFAD's overall and country-specific results framework.** The overarching goal for the IFAD country programme in India from 2018 to 2024 is to maximize its contribution to the government strategy for doubling farmers' income. To achieve this goal, the country programme has a single, focused strategic objective: Smallholder food and agricultural production systems are remunerative, sustainable and resilient.[25] JKCIP's focus is on the economic empowerment of smallholder farmers through more productive farm systems and more profitable participation in agricultural markets and through the generation of agro-

related enterprises that create jobs and serve smallholder farmers along value chains which is in line with IFAD's strategic objectives. The project is also aligned to two of the key recommendations of the COSOP Midterm Results Review, notably (i) prioritize interventions in promoting climate-resilient agriculture; and (ii) lay more emphasis on building grassroots institutions and supporting rural producers that help making rural economy more resilient.

c. Rationale for IFAD involvement

16. The constantly growing demand for food combined with increased pressure on available farmland means investing in agriculture is a necessity. The projections indicate that by 2050, population and economic growth will result in a doubling of demand for food globally. Agricultural production is constrained by growing scarcity and diminished quality of land and water resources. Building more sustainable agriculture and food systems is a priority to address these challenges.^[26] Inability of the smallholders to take advantage of their micro-climatic conditions and diversify into high value niche crops due to lack of support especially in productivity enhancement and market access, impacts the overall income levels of smallholders as they continue to be fully dependent only on food crops. The unique agro-climatic conditions of J&K offers opportunities for smallholders to earn enough from high value niche agriculture and horticulture crops to be able to procure food as well as improve their overall economic well-being. This requires sustained investment in agriculture and allied sectors and JKCIP plans its entire investment around this to enhance their ability to improve production and productivity and will converge with the GoJ&K's flagship HADP initiative.
17. The objectives of IFAD financing are to: (i) increase the climate resilient productive capacity of poor people; (ii) increase benefits of poor people from market participation; and (iii) strengthen the environmental sustainability and climate resilience of their economic activities. To achieve these objectives, [IFAD supports projects](#) that connect poor rural people to markets and services to transform rural communities economically and socially, and foster gender equality and inclusiveness. JKCIP's proposed interventions are in full compliance with the objectives of IFAD and with the strategic objectives of IFAD's India COSOP. Above all, with a large population of youth and a high potential for improving its agriculture and horticulture sector competitiveness J&K offers an opportunity for IFAD to bring timely and appropriate technical and financial support to catalyse dynamic rural transformation.
18. This project concept is an outcome of an agreement between IFAD and GoI and several rounds of discussions between the officials of the GoJ&K. Overall, the rationale for IFAD's involvement in this project is related to IFAD's (i) extensive and successful experience of working with smallholder farmers and value chain modalities in India to generate sustained income for farmers, especially in the Himalayan regions; (ii) ability to leverage crop-specific global/technical expertise to strengthen the capacities in J&K; (iii) strong network of partners in the country and elsewhere that has enabled leveraging the strength of community organizations for developing group response models; (iv) alignment with geographic targeting identified in the COSOP namely the disadvantaged areas particularly regions with large rainfed areas; and (v) opportunity to support government efforts by innovating to develop smarter solutions for doubling the incomes of poor and marginalized farming communities. This project fits well with the biodiversity strategy of IFAD to protect, restore and promote biodiversity and its sustainable use in rural systems ensuring multiple benefits for both nature and the livelihoods of rural people by working on diversification of existing climate resilient crops, and the introduction of good agricultural practices and water management systems. The project area excludes biodiversity hotspots of J&K.
19. JKCIP contributes to the UN framework in the country. The project will contribute to three out of six outcomes of The United Nations Sustainable Development Cooperation Framework (UNSDCF) signed for the period 2023-27. They include: (i) increased access and consumption of adequate, affordable and diverse nutritious food, and quality services year-round by all; (ii) people particularly women and youth benefit from and contribute to sustainable and inclusive growth through higher productivity, competitiveness and diversification; and (iii) all stakeholders to take informed actions to address climate change.
20. IFAD has been actively involved in the agriculture working group of the G20 consultation under India's presidency and has presented on topics covering inclusive value chains, sharing its experience on how to promote stable and fair linkages between small-scale producers and the private sector. JKCIP presents IFAD with an opportunity to support implementation of activities related to value chains and private sector participation that are part of its core strength. It also provides an opportunity to unlock the full potential of the GoJ&K's flagship HADP programme aimed at transforming the agriculture in J&K from subsistence to a sustainable and commercial agri-economy.
21. HADP of J&K is being planned for implementation across all the 285 Blocks of J&K and JKCIP intends to build synergy with this programme in 90 Blocks as well as provide inputs from best practices to optimise the operations of HADP. This requires JKCIP to act in tandem with the modalities of HADP particularly related to provision of matching grant. The grant component in J&K remain high (50 percent) and the risks related to this such as elite capture, inability of the project's target group comprising smallholders, women and youth to access the grants and overall impact on the sustainability of grant making capacity of the Government are anticipated. GoJ&K has indicated its interest to work with IFAD to develop new modalities and products for grant making and reduce the grant component over a period by drawing on the best practices of IFAD funded projects and experience from implementation of JKCIP. This will provide a window of opportunity to IFAD to provide inputs into the policies of GoJ&K which help smallholders and entrepreneurs move towards self sustenance and ensure an equitable, broad based approach and results.

B. Lessons learned

22. **Evaluation results:** The Independent Office of Evaluation's 2016 Country Programme Evaluation (CPE) and the 2011-2017 COSOP completion report concluded that most IFAD-funded projects in India achieved their objectives. The CPE concluded that the traditional agricultural development approaches of IFAD were instrumental in improving basic subsistence conditions, but the aspects related to the analysis of constraints and opportunities for rainfed agriculture development, and organization of interventions around territorial and product clusters, which also facilitate connectivity to markets and value chains received limited focus during the project design in the past. The 2023 COSOP Mid Term Results Review also suggested the need to prioritize interventions on climate-resilient agriculture and the need to build grassroots institutions and support rural producers in order to help rural economy become more resilient. JKCIP intends to address the issues of rainfed farming and value chains in consonance with CPE findings as well as the issues of collectivisation and climate-resilient agriculture as per the COSOP Review recommendations. The identification of value chains and geographic locations/ production clusters has been done through a structured analysis of data available with Line departments and consultations with stakeholders and will be further finetuned during implementation.
23. **Opening alternative marketing channels leverages the increased efficiencies in traditional marketing channels.** The field reports from the IFAD-funded Livelihood and Access to Markets Project (LAMP) and studies from other donor agencies suggest that the transaction costs in the traditional wholesale market reduce within a year of the emergence of a real alternative market channel. The Integrated Livelihoods Support Project (ILSP) funded by IFAD has found that investing in market infrastructure led to an increase in farm sales and a positive correlation between better market infrastructure and improved market prices received by farmers. [27] Even if the project does not directly invest in creating market infrastructure refurbishing and upgrading existing market outlets have similar impact.
24. **Farmer Producer Organization (FPO) mobilization around a business that benefits the members is a critical need for success.** FPO formation in J&K has been target-oriented and mobilisation-focused without giving due priority to sustainability. Successful FPO promotion requires Promoting Organizations with capacity to identify and build businesses as a starting point for FPO promotion with sustainability as the key consideration for ongoing support[28].
25. **Participation of beneficiaries and other local stakeholders ensures smooth implementation, success and sustainability and facilitates implementation in conflict-affected areas.** The demand-driven approach to be adopted by JKCIP requires that its design, preparation, and implementation be driven by the smallholder farmers. The project recognizes the need for considerable and sustained long-term support to community institutions comprising Farmer Interest Groups (FIGs) and FPOs. Experience indicates that sustained outreach in remote areas, actively engaging local institutions such as youth clubs helps build trust of the communities resulting in reduction/disappearance of apprehensions and impediments for implementation[29].
26. **The establishment of an integrated system that links production, processing and marketing is necessary for optimum utilization of resources and to maximize benefits.** This lesson is evident from the implementation of both LAMP and ILSP projects. This project addresses the issues related to market-linked production, processing, and marketing by placing a strong emphasis on an integrated approach which combines investments in infrastructure with market-led production systems and is supported by policy reforms where needed. For JKCIP the investment in infrastructure will primarily be done through ongoing schemes of the government including HADP and the NABARD supported Rural Infrastructure Development Fund (RIDF).
27. **Lack of operating and institutional mechanisms constrain implementation of state action plans on Climate Change.** The multiple State Action Plans on Climate Change for India provide a compilation of existing state government programs that contribute to climate resilience, however they lack the operating and institutional mechanisms required for implementation[30]. In the case of JKCIP this will be undertaken by the project.
28. **Need for business partnerships for sustainable and mutually beneficial agribusinesses:** Innovative Poverty Reduction Programme in Sichuan and Ningxia (IPRAD-SN) in China and the Rural Competitiveness Development Programme in Bosnia and Herzegovina demonstrate the need to promote business partnerships between smallholders, private entities, farmer cooperatives and the government for sustainable and mutually beneficial agribusinesses. Private investments in the organized production base supported by the project have increasingly leveraged the engagement of farmer cooperatives and agro- entities/ Business Leaders. Functional partnerships with various networks and resources help in training, cooperative promotion and market linkage.
29. **Cost sharing is critical for success:** The key lessons of the World Bank from implementing the Participatory Watershed Development Project in Jammu and Kashmir include : (i) cost-sharing is critical for ensuring ownership and continued operations of project-financed assets and hand-outs and full subsidies are to be discouraged; (ii) transparency of decision-making and resource allocation is important to ensure that all community members are fully aware of project activities and benefit; and (iii) watershed development project needs to take into account marginal groups (women, landless, nomadic tribes) who may not directly benefit from project interventions unless targeted efforts are made by the project to cater to their unique needs.[31]
30. **Challenges of resource poor households to access financial services.** The experience with Tejaswini project in Maharashtra indicates that considerable capacity building and demonstration of financial discipline is required to enable resource poor households to access finance and particularly loans for agriculture related activities. India is developing digital infrastructure to partly address the access related issues. The digital infrastructure of India is widening access to financial services in an economy where retail transactions are heavily cash-based. It includes digital identification, interoperable payments, trust through consent.[32] This digital infrastructure in India support not just open banking but open finance as well. As a result, the clients are able to easily access financial services including loans. The Banks in J&K use core banking software and are digitally interconnected between the financial institutions and also with other payment applications.

2. Project Description

C. Project objectives, geographic area of intervention and target groups

Project Goal and Objectives:The goal of the project is to contribute to the sustained increase in incomes of rural households by improving the competitiveness and climate resilience of farming operations. The project objective is to improve the competitiveness and climate resilience of the farmers through the value chain approach covering production, value addition and marketing of high-value niche commodities from agriculture, horticulture, and allied sectors of J&K.

31. **Geographic areas of intervention:** The project will be implemented in all 20 districts of J&K. A two-step approach was adopted to finalise the list of Blocks where the project would be implemented. First, through an exclusion strategy to minimize environmental safeguards-related and other challenges the Blocks/villages that fall adjacent to the border and are ecologically sensitive including forest buffer zone areas, and biodiversity hotspots were excluded which comprised five national parks, 14 wildlife sanctuaries, 37 conservation reserves and 4 Ramsar sites. Thereafter, a list of 90 out of 285 Blocks were shortlisted/ finalized by APD using a scoring system based on Block level data on key value chains covering area under cultivation, production, productivity and the number of farmers as well as the following key selection criteria: (i) higher levels of poverty as per the socioeconomic indicators; (ii) potential for building value chain interventions for niche high-value and horticultural crops in clusters; (iii) contiguity of blocks for operational ease; (iv) existence of vulnerable communities; and (iv) higher levels of vulnerability to climate change events. A list of Blocks selected in consultation with the GoJ&K officials is provided in the Project Implementation Manual (PIM), Chapter 1 - Appendix C1A1.
 32. **Targeting and target groups:** The project will directly benefit 159,000 men and 141,000 women of which 90,000 would be youth and 30,000 vulnerable communities (SCs/STs) corresponding to 300,000 households in total reaching 1.5 million individuals.^[33] The main target group would comprise resource-poor farmers and rural households involved in farming in areas with the potential for cultivation of high-value niche crops and horticultural crops using climate-resilient and environment-friendly technologies. The target group will also comprise the vulnerable communities covering pastoralists, fisherfolks and other SC and ST communities as well as women and youth. JKCIP will target three categories of smallholders, namely; (i) poor; (ii) relatively poor who have the potential to sell the products in the local market and gradually engage with the market; and (iii) commercially oriented 'non-poor' smallholder farmers. The target group includes smallholder farmers and landless, and labourers involved in agriculture and horticulture value chains. As the project plans to work on a value chain modality, it requires the involvement of all the value chain actors including some non-poor who have the capacity to act as "lead farmers". Their role will be to act as first adopters, demonstrating innovative profitable technologies for small scale production and post-harvest handling, and to act as intermediaries and/or nucleus farmers, as well as to ensure the critical aggregate volumes in specific locations to enable effective access to markets. The level of support the project gives to this target group, will depend on their ability and commitment to deliver the above noted services. The involvement of these farmers will thus enable economies of scale in production and reduce transaction costs for aggregation and marketing. Among all, 10 percent of beneficiaries will be of the poor category, 70 percent in the relatively poor category and balance 20 percent will be non-poor. The target group for enterprise promotion activities under Component 2 will be entrepreneurs who are residents of J&K and preference will be given to smallholders, women and youth. Inclusion of smallholder producers, poor and vulnerable rural populations will be ensured by selecting value chains that have evidence to deliver the biggest benefits to the largest number of poor and through extension of agroecology-based climate-smart agriculture and good agriculture practices (GAP) technologies that benefit the intended target group effectively. The focus will be given to the selection of a value chain with high returns on labour, high nutrition value and high profitability. Labour-saving technology, tools and equipment will be facilitated in reducing the drudgery of women. Approximately 47 percent of the total project target groups/ beneficiaries will be women and about 30 percent will be youth.
 33. Of the total target group, it is envisaged that some 90 percent of the target group beneficiaries have the potential to improve their economic well-being through agriculture and horticulture value chain interventions. A further 10 percent of the beneficiaries comprising vulnerable groups will be supported to expand their livelihood options. JKCIP will sensitize and build the skills and capacity of staff on targeting, gender and inclusion. Staff will orient and sensitize the stakeholders who will work with project beneficiaries. The target group categorization and development pathways for each of the target groups is provided in PIM, Chapter 1, Appendix C1A3.
 34. **Direct targeting:** The project will support four main target groups adopting differentiated targeting strategies and packages of interventions: (i) small and marginal farmers with less than 1.0 ha of land involved in only field crops; (ii) horticultural farmers with less than 0.5 ha of horticultural farms; (iii) women and youth; (iv) isolated and migratory communities, women headed and Scheduled Caste and Scheduled Tribe (SC&ST) households.
 35. **Self-targeting:** The project will create opportunities for the community, especially the youth and women to start their own enterprises in the processing and marketing of agricultural and horticultural produce. The project also aims to establish incubation centres where support will be provided to young men and women for startups.
 36. The project will also establish enabling measures to promote: (i) a favourable policy and institutional environment among stakeholders and partners for inclusive economic prosperity; (ii) procedural measures to facilitate transparency in administrative procedures and remove unintended obstacles that may hinder social inclusion and gender equality; (iii) empowering and capacity-building measures to develop the capacity and self-confidence of those with lesser voice and power so that they can articulate their needs and participate in planning, decision-making and project activities; and (iv) measures and activities to enable sustained access to finance for medium to long term on-farm and off-farm investments.
1. The project intends to promote GEWE by supporting women smallholder farmers to improve production and productivity and

women entrepreneurs to establish enterprise. In total the project will support 141,000 women. The main activities of support include the following:

1. The project will directly support 9,720 women to access production inputs and technological packages to diversify into niche agricultural and horticultural crop, 360 women to establish enterprises and 105 women for establishment of start-ups.
2. The project will support increase in the membership of women in FPOs by providing additional share capital support. It is expected that about 9,090 women will become members of these FPOs. In addition, women's inclusion will be promoted in youth clubs and multi-stakeholder platforms and at least 30 percent participation is expected.
3. The project will support mechanization of activities that are dominated by women labour force. These include nurseries, water management, harvesting, grading and sorting. These activities will help reduce the workload of women.

D. Components/outcomes and activities

37. The project's main objective is to increase farmer incomes by improving the competitiveness of their agriculture and horticulture economy keeping in mind the sensitivity of environmental and natural resources in the project area and adaptation practices that strengthen the climate resilience of all beneficiaries involved. An ecosystem-based value chain approach which allows for enhanced production of niche agriculture and horticulture crops to align themselves with integrated production and landscape approaches and management practices that help diversify, protect, and enhance biodiverse ecosystems and their services will be promoted. Promotion of climate smart and good agricultural practices, reduced and appropriate use of fertilizer and pesticide, better water management practices promoting traditional varieties of crops and diversification of cropping have been integrated.
38. JKCIP's primary focus is to address the production and productivity constraints of high value niche crops and horticultural crop value chains through climate resilient technologies, and value addition, through grading, packing, storing and processing with market linkages for improved price realization. GoJ&K has rolled out HADP with an investment outlay of INR 50,000 million and covers the entire agriculture and allied sector ecosystem. JKCIP complements HADP by addressing thematic and financing gaps to address the value chain constraints. The agro-climatic analysis, cropping system and livelihood and value chain pathways are provided in PIM, Chapter 1-Appendix C1A6, Selection of value chains in PIM, Chapter 1-Appendix C1A7, value chain profiles in PIM, Chapter1-C1A8 and details of select value chains in PIM, Chapter1-C1A9. It is to be noted that the agro climatic zones are distinct for horticulture and niche agriculture crops with no overlaps expected between the farmers.
39. This project will have four inter-linked components: (i) Climate-smart and market-led production; (ii) Agri-business ecosystem development support; (iii) Support to vulnerable communities; and (iv) Project Management.

40. Component 1: Climate-smart and market-led production

41. The main aim of this component is to address the value chain constraints of small and marginal farmers related to production and productivity by introducing better management practices and expanding the area under cultivation of climate-resilient and high-value agriculture and horticulture crops. The farmers will diversify into niche crops using a part of their land holding while continuing with cereal cropping in other parts of their landholding. The food and nutrition security of the households will be ensured in this way as well as through the wide range of government schemes being implemented in J&K [34]. J&K has a comparative agro-ecological advantage to grow many high-value crops. It is to be noted that farmers in J&K have been traditionally growing high value/niche crops such as saffron, aromatic rice, black cumin etc. However, due to lack of adequate support and technical guidance, the farmers could not get high returns on these crops and over the years farmers' interest in growing these crops diminished. Through JKCIP the government aims to revive and optimise the production and productivity of these crops and provide support for value addition and access to better markets to motivate more farmers to grow these crops. Some of this support will also be under HADP which will be implemented across the whole of J&K. Hence it is important to align the implementation with HADP so that the results and lessons could feed into the larger HADP programme. The project will follow a participatory and demand-driven approach through analysis of market demand and feasibility to determine the investment levels in these select value chains. The project intends to introduce modalities of grants coupled with access to finance to introduce financial products for improving and sustaining access of smallholders to credit for agriculture and allied investments. The grant modality will be blended financing through matching grant that will complement bank loans for the entrepreneurs. The banks operating in J&K have required financial products and last mile access through branch network but the risk perception for lending to agriculture and allied activities is high. However, with the uptick in the economic growth of J&K, the performance of the banks is improving and their interest to expand loan portfolio remains high. Additionally, the project has made allocations for developing risk mitigation measures during project implementation.
42. This will increase inclusivity for those farmers who may not be able to generate the "match" for the grants and make the grants work harder to stimulate affordable finance.
43. The main outcomes expected from this component include: (i) improved productivity; and (ii) improved quality of production. The outcome targets are provided below:

Indicator	Baseline	Target	
Expected results: Improved productivity			

Productivity of Saffron (Kg/Ha)	3.0	7.5	
Productivity of Kashmiri Chilli ((Kg/Ha)	5,000	15,000	
Productivity of Apple (MT/Ha)	12.0	16	
Productivity of Walnut (MT/Ha)	6.25	7	
Productivity of Mango (MT/Ha)	5.5	7	
Productivity of Citrus (MT/Ha)	2.5	4	
Productivity of Stone fruits (MT/Ha)	11.25	14	
Expected result: Percentage of production marketed as A grade/premium product			
Saffron (Percentage)	TBD	95	
Vegetables (Percentage)	TBD	65	
Kashmiri Chilli (Percentage)	TBD	65	
Apple (Percentage)	40	60	
Mango (Percentage)	30	30	
Stone fruits (Percentage)	20	45	
Citrus (Percentage)	20	30	

44. **Upscaling collectivization:** Collectivization of farmers/ small producers is the core on which cost-effective service delivery and aggregation of inputs and outputs for achieving economies of scale can be built to ensure market-oriented production. This will also form the basis for broad based community engagement/ farmers' participation in the project. The current FPO promotion efforts in J&K are target-oriented and start with registering/creating organizations without a focus on the need for such institutions. Experience from other areas shows that when mobilization is done with a business idea that has the potential to bring benefits to the community such a mobilization has a higher chance of success. Three modalities will be followed to support FPOs: (i) support for existing FPOs; (ii) FIG promotion to allow them to organically grow into FPOs^[35]; (iii) support of existing Cluster Level Federations (CLFs)/Cooperatives and associations to grow into FPOs. The project will invest in a three-pronged strategy to promote FPOs which include: (i) building the capacity of the Promoting Organizations (POs) to build the core competence of promoting FPOs around a viable business; (ii) provision of support on a tapering basis to inculcate the principle of climate resilience and sustainability from the very beginning; and (iii) participatory business planning for the establishment of businesses and facilitation for bank finance designed for FPO business activities. These elements will be implemented through a systematic delivery of services tailored to the needs of the FPOs, using a graduation model approach ultimately leading to sustainable and "fit for purpose" FPOs. The FPOs will be rated on a regular basis against a scorecard to assess their progress towards sustainability using grading tools developed in IFAD supported projects in India and elsewhere.
45. Upscaling of collectivization will start with a business proposition that will help the farmers to move into organized farming such as aggregation of inputs for reducing cost of cultivation and aggregation of output for accessing markets and to get better prices. Improved collectives will enhance farmers' capacity to tackle climate disaster such as road blockage due to flood or landslides by ensuring proper processing and storage facility. In addition, the FPOs will also act as building blocks to develop structured value chains and as buffers to address cashflow fluctuations and variability in harvest performance. The expected outcomes include improved performance of the FPOs and the outcome targets are provided below:

Indicator	Target	
Expected results: Improved performance of Rural Producers' Organizations		
Percentage of Rural Producers' Organizations reporting new or improved services offered by their organization	70	
Percentage of Rural Producers' Organizations reporting an increase in sales	70	

46. The project will support 101 FPOs (including mobilization of 45 new FPOs) covering 30,300 members at 300 members per FPO covering capacity building, management cost, matching equity and business establishment.
47. **Niche agricultural crop support:** J&K's agroclimatic conditions offer the potential for expansion of specialty area specific crops that are high value and with high market demand and generally called niche crops. The main value chain constraints related to niche-crops include low productivity and production, high cost of production and non-availability of good quality planting materials. This project will improve the climate resilient production systems and productivity as well as the quality of the produce of the niche agri-crops. The project will support the introduction of climate resilient and improved management practices with the introduction of Good Agricultural Practices (GAP) and promote area optimization and diversification of niche crop cultivation. The focus will be on select value chains of climate resilient niche crops. Saffron, off-season vegetables and aromatic rice (mushk budji) are the core/primary agricultural value chains and other secondary value chains include spices and medicinal and aromatic plants.
48. The major activities will include: (i) capacity building to introduce GAP including farm and pest (insect, disease and weeds) management best practices; (ii) seed system development and support for the development of vegetable seed production and seed certification systems with private sector participation; (iii) introduction of GAP coupled with area optimization and diversification; and (iv) support for the introduction of business practices into the Centre of Excellence (CoE) and development of a Tulip focused CoE.
49. The project support in introducing better management practices such as production and use of quality planting materials, harvesting practices and post-harvest handling will improve quality. The expected outcomes include improved use of GAP coupled with area optimization and diversification under high value and niche agricultural crops and the outcome targets are provided below:

Indicator	Target
Expected results: Improved adoption of new/improved inputs and technologies and increased area under niche crops	
Percentage of persons/ households reporting adoption of environmentally sustainable and climate resilient technologies and practices for niche crops	70
Area optimization and diversification under niche agricultural crops (Ha)	2,805

50. In total, the project will: (i) support training 1,085 trainers and field staff and 16,200 farmers; (ii) develop seed systems in 50 villages; (iii) 16 seed businesses; (iv) 800 water management systems; (v) 1,650 protected cultivation units; and (vi) expansion of niche crops in 2,805 ha covering 14,025 farmers.
51. **Horticultural crop support:** Horticulture remains the mainstay of J&K economy and produces large quantities of temperate fruits. The value chain constraints related to production include poor management practices, inadequate availability of quality planting materials, low productivity and production and high cost of production. This project will support horticultural crops (apple, plums, cherry, pear, mango, litchi, walnut, almond and pecan nut) to take advantage of the agroecological zones in J&K. Apple, walnut, almond, litchi and mango are the core/primary horticultural value chains and other secondary value chains include plums, cherry, pear and pecan nut.
52. The major activities will include: (i) capacity building to introduce GAP including tree and pest management best practices in a business mode using specialists from the private sector; (ii) establishment of weather advisory services; (iii) nursery development to supply quality planting materials suitable to predicted climate change scenarios; (iv) introducing business orientation to horticultural CoEs; (v) study of the issues related to the expansion of area under HD/MD apple cultivation; (vi) support for the introduction of tree management practices for enhancing climate resilience and improving yields including rejuvenation of existing orchards; (iv) horticultural crop area optimization, intensification and diversification with a focus on diversified fruit and nut crops.
53. The expected outcomes include improved use of GAP coupled with better tree management practices, improved climate

resilience, area optimization, intensification and diversification of fruit crops. The outcome targets are provided below:

Indicator	Target	
Expected results: Improved adoption of new/improved inputs and technologies and increased area under horticultural crops		
Percentage of project participant persons/ households reporting adoption of environmentally sustainable and climate resilient technologies and practices for horticultural crops.	70	
Area optimization, intensification and diversification under horticultural crops (Ha)	1,545	

54. In total, the project will: (i) support training 3,256 trainers and field staff, and 16,200 farmers in GAP; (ii) introduce business orientation to business to 2 horticultural CoEs; (iii) 320 nurseries; (iv) 550 water management systems; (v) 200 ha of solar fencing; (vi) expansion of fruit and nut crops in 1,545 ha covering 7,725 farmers; and (v) 375 ha of rejuvenation covering 1875 farmers.

55. **Climate resilient technology development:** The project will support: (i) the development of climate resilient technologies for both niche agricultural crops and horticultural crops by providing support to SKUASTs to develop these technologies and to conduct field trials; and (ii) support to community institutions/youth clubs to implement pilots related to use of climate resilient technologies.

56. **Component 2: Agribusiness ecosystem development**

57. Agricultural production to be meaningfully developed has to happen in response to market opportunities, and, vice-versa, productivity and quality gains will enable farmers to access, and compete in new markets. It is therefore essential that components 1 and 2 are implemented in close coordination, and that services are tallied with respect to the varying needs of the farmers in the different locations etc. This will be achieved through a participatory and demand driven approach and efforts will be undertaken to systematically expand outreach of the activities to ensure high level of community participation in the proposed activities. Farmers will be involved in planning project interventions and guiding about their preferences and short to medium term priorities. This will involve the transition to a greater focus on commercial production, while ensuring continued household food and nutrition security. Concerned households will be best placed to assess crop choices and the level of diversity in view of achieving income targets and managing production and market risks.

58. The main outcome expected from this component is an increase in farm gate price and the outcome target is provided below:

Indicator	Target	
Expected results: Improved farm gate price		
Percentage of farmers reporting increase of at least 20 percent in farm gate prices	70	

59. **Enterprise promotion support:** As a part of agri-business ecosystem development, the project will support enterprise promotion by the private sector with a focus on generating corresponding bank finance. This activity will largely focus on youth and women, particularly young women, with adequate measures to address climate change impacts and improve environmental sustainability. It is expected that 30 percent of the clients under enterprise promotion will be women. The project will introduce high tech machinery and care will be taken to introduce machineries that have been proven effective and economical. The project will provide business development services for facilitating joint business planning by the entrepreneurs with the project and bank officials, provide matching grants for establishing agri-business enterprises and facilitate bank loans. The grant regime and the financing plan for various investments proposed under the project matching grant is provided in PIM-Chapter 2- Appendix C2A1. Two key modalities to promote enterprise will be followed: (i) a Business-led enterprise development model wherein the Business Leader becomes the mentor and provides market linkages and mentors a group of farmers or small entrepreneurs; and (ii) an individual entrepreneur model wherein the individual entrepreneur establishes an independent business with B2B and B2C facilitation and support for participatory business planning. These modalities will be farmer centric with a view to increase the farm gate prices and will systematize transfer of knowledge and experience. The project will work with banks leading towards (i) a common understanding of the requirements of the banks for applications and financial proposals and production of the same; and (ii) financial product/model development to enhance possibility of qualification, introduce collateral alternatives, cash flow-based lending and improve affordability for medium to long term loan products.

60. The main outcome expected from this sub-component is improved profitability of the agri-enterprise.

Indicator	Target	
Expected results: Improved farm gate price and improved profitability of agri-enterprise		
Percentage of rural enterprises reporting an increase in profit at an annual rate of at least 10 percent	70	

61. The project will provide business development services and support the establishment of 87 business-led enterprises that will act as mentors and 1,117 individual enterprises.
62. **Market promotion support:** The project will introduce the concept of Multi-Stakeholder Platforms (MSPs) to enable the establishment of relationships with the private sector for promoting production based on the market requirement. MSPs are helpful in exchanging learning and solving producers' issues, including climate impacts, and familiarizing them with new and improved technologies. MSPs will facilitate the identification of market players interested in working with the farmers/FPOs to shift to the premium product category, for example, by producing vegetable seeds instead of vegetables. MSPs can also be useful in addressing industry issues, such as traceability, certification, standards, and even types and uses of contracts between stakeholders. MSPs will also ensure that voices of all stakeholders are heard and taken into consideration.
63. Most niche crops have well-established market systems, but it is necessary to keep exploring newer markets to absorb additional quantities. The project will also establish market outlets, conduct buyer-seller meets, and support brand development and promotion.
64. The main outcome expected from this sub-component is improved profitability of the agri-enterprise.

Indicator	Target	
Expected results: Improved market linkages		
Percentage of supported enterprises benefiting from improved market linkages	70	

65. The project will support: (i) 12 state-level MSPs;(ii) participation in trade fairs by 150 entrepreneurs; (iii) 28 Buyer-Seller meets; and (iv) product development, J&K brand development and brand promotion coupled with ICT4D solutions to enhance traceability and transparency of pricing and product. Since premiumization is the key to increasing the income of farmers, GoJ&K has requested support for the establishment of an Export/Logistic Hub to focus on the export/domestic market for agriculture, horticulture, and allied products. This plan needs further deliberations and feasibility assessments. The project will support the engagement of highly experienced Consultant(s) from the sector to further develop the concept of Export/Logistic Hub with a feasibility study considering the prioritized value chains and target commodities, export/domestic market potential, and current constraints of the exporters/traders including lack of suitable logistic infrastructure and phytosanitary and quality certification requirements, private sector participation requirements and ownership and management structure of the Export/Logistic Hub. Once this study is finalized, the project will develop and implement a plan for operationalizing Export Hub/Logistic Park in consultation with IFAD.
66. **Incubation and start-up:** The main aim is to create a vibrant agri-tech start-up culture in J&K with a focus on youth and contribute to strengthening the agri-business ecosystem. The youths will be attracted to engage in environmentally sustainable and climate resilient solutions. The entrepreneurs will be able to assess climate and environmental risk to the business, from production to marketing, and come up with innovative solutions to practice and upscale. Youth will be selected using a competitive process through ideathons and hackathons conducted at the level of incubator spokes. The details of this selection process and mentoring support are provided in PIM-Chapter 2- Section C- Incubation and Start-up. SKUAST-Jammu and SKUAST-Kashmir have established Incubation Centres and started the process of incubating start-ups that can disrupt the markets with innovations. These incubation centres have infrastructure and provide physical space to entrepreneurs to meet and share ideas and to operate during the initial phase. The project will expand this programme to mentor business ideas that emanate from rural areas and from vulnerable communities through the creation of business incubator spokes at the district level. The project will support: (i) mentoring of the Incubation Centres with SKUAST-J and SKUAST-K; (ii) establishment of Business Incubator spokes in each of the KVKs; (iii) conducting ideathons/boot camps at each district; (iii) providing mentoring support and seed funds with requisite training for conducting market surveys and developing business plans; (iv) scaling up support to linking the start-ups with finance from banks and other programmes such as Rashtriya Krishi Vikas Yojana – Raftar (RKVY-Raftar)[\[36\]](#).
67. The project in conjunction with interested financial institutions and other project partners and based on a rural finance strategy to be created at onset, will develop at minimum 4 pilots to drive access to finance for different target clients, including but not limited to: project smallholders and their organizations. These pilots will have four closely related elements to address the identified demand and supply constraints for rural finance: (i) DEMAND- a) Facilitate linkages of FPOs, MSMEs and producers to financial institutions providing credit and insurance products; and 2) Business and financial literacy and capacity building for farmer members, FPOs and MSMEs in the target VCs, and (ii) SUPPLY – a) Development of retail accessible financial products

(not limited to credit) with financial institutions, utilizing complementary and alternative collateral and risk sharing instruments and partnerships, including options for a more effective and catalytic use of project's matching grants and potentially including private sector through VC co-finance and customized to the market demand, including climate-smart investments and investments by youth and women-led businesses; and b) improve outreach and footprint of partner financial institutions, utilizing VC actor/FPO marketing, screening and delivery mechanisms including supporting ICT4D designed to improve outreach, reduce costs and minimize risks. Underpinning these pilots will be the assumption that the project is building good businesses and therefore attractive investment/lending opportunities.

68. The main outcome expected from this sub-component is improved youth participation in start-ups.

Indicator	Target	
Expected results: Improved youth participation in enterprise development		
Percentage of start-ups supported with youth ownership achieving sustainability	60	

69. The project will support 350 start-ups and it is expected that at least 120 of them will scale up by accessing funds from banks and other financial institutions. Young women will be encouraged especially to come up with ideas for start-ups and will be provided preferential financial support from the project.

70. Component 3: Support to vulnerable communities

71. The STs comprising pastoralists and semi-settled livestock grazers, SCs and fisherfolks are the most vulnerable communities of J&K and they are at the forefront of experiencing impacts of climate change. The project in consonance with the mainstreaming priorities of both GoJ&K and IFAD intends to support them. As a first step in implementing these activities, the project will conduct a Free, Prior and Informed Consent (FPIC) to solicit the approval of the STs prior to project implementation. Details are provided in FPIC implementation Plan in Annex 12.

72. **Support to pastoralists:** Pastoralists (Bakerwalas) are migratory communities moving in search of pastures according to seasonal pasture availability and weather conditions. GoJ&K has several schemes and programmes to support the pastoralists that include basic health and education, animal health, transit camp facilities and the recently introduced transport of animals from higher altitudes to lower areas. The main constraint that remains to be addressed is the issue related to the low-price realization of wool. GoJ&K has introduced high-quality wool-producing animals, but the quality of the wool and the resultant price realization remains unremunerative. Equines (ponies, horses and mules) are the main mode of transport and goats are also part of the herd of pastoralists with limited investments in breed improvement.

73. The project will support a study of the demand and supply of wool and a market assessment of the wool sector in J&K and based on the recommendations of this study establish required facilities for wool harvesting and marketing with the private sector. The project will also support an equine breed improvement feasibility study and will establish necessary facilities based on the recommendations of this study. In addition, support will be provided for goat breed improvement. For this, the project will establish partnerships with ICAR-Central Institute for research on Goats, Farah, Mathura.

74. The main outcome from this sub-component is increase in wool prices and the outcome target is provided below:

Indicator	Target	
Expected results: Improved wool price		
Percentage of pastoralists reporting improvements in wool prices	50	

75. **Support to other vulnerable communities:** Gujjar are one of the largest Scheduled Tribe (ST) communities which is largely settled but seasonally migrates to the neighbouring districts in search of fodder for their cattle. The Bakerwals, Gaddis, Scheduled Caste (SC) and the fisherfolk communities are also vulnerable on account of their isolation from the mainstream communities and dependence on common property resources. These communities depend on livestock and fishing. The project will support diversification of their livelihood options. The main outcome expected from this sub-component is diversification of the livelihoods of the vulnerable and the outcome target is provided below:

Indicator	Target	
Expected results: Diversified livelihoods of vulnerable communities		

Percentage of vulnerable households reporting diversification of livelihood options	30	
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76. The project will support: (i) the provision of 800 goat/sheep units; (ii) the establishment of 12 milk collection units linked to milk processing plants; (iii) the supply of 10,000 ice boxes for preserving and selling fish in the market; and (iv) the establishment of 1,250 small scale enterprises with technical support for business plan preparation and mentoring to diversifying livelihoods. Focus will be given to engage primarily women and youth. The project will engage with suitable technical agencies including NGOs to implement the planned activities. It will link the enterprises to services and initiatives promoted under component 2, including enterprises and market promotion support, financial partners, business incubation and start-up support.

77. **Integration of youth:** The project will support the integration of youth into project activities. The young men and women will be encouraged and capacitated to create their own enterprises. The project will also focus on incubation and start-ups where the young men and the women will be given special focus. In addition to these, the project will support the existing youth clubs at the panchayat level to develop awareness generation activities for protecting the environment. The activities these youth clubs will undertake include indigenous tree plantation drives, desilting village ponds/tanks, organizing cleanliness drives in the villages, etc. These clubs will also be working as the focal points for disseminating the climate-related advisories at the village level. They will increase awareness of the community to use these advisories in their day-to-day life and their farming practices. The project will support 2,700 youth clubs for this activity. The project will provide additional support to youth clubs with more than 30 percent young women members. The project will build the capacity of the youth clubs using both technically qualified NGOs and also private sector service providers as needed.

78. The main outcome expected from this sub-component is improved youth participation and the outcome target is provided below:

Indicator	Target	
Expected results: Improved participation of youth		
Percentage of youth clubs participating in community action related to environment	60	

79. Component 4: Project Management

80. **Project Management:** The project would allocate funds for engagement of incremental staff to largely manage compliance and mainstreaming related domains. The project implementation will be mainstreamed into the working of the participating Directorates and Universities who will be the project parties. The Directorates of Agriculture, the Directorates of Horticulture and the Universities of Agricultural Science and Technology will be the main project parties. APD will be able to bring in other project parties in consultation with IFAD. The project has made allocations for incremental compliance related staff in the Directorates/Universities, procurement of office equipment and furniture, internal and external audits, surveys, reviews, committee meetings and operating costs. A separate JKCIP PMU will be established within the PMU of HADP with clear responsibilities for implementing JKCIP related activities.

81. **Monitoring and Evaluation (M&E) and Knowledge Management (KM):** The project will support the establishment of an M&E Unit and KM Unit within the JKCIP-PMU and will facilitate a shift from only output-based monitoring by embedding outcome-based monitoring into the M&E system of the project. The project outcomes and outputs as well as the business plans will be monitored at the field level. The project will support staff costs, procurement of office equipment and operating costs for M&E. The project will also fund the establishment of a computerized and GIS-linked Management Information System (MIS) for collecting and analyzing data. The project will implement some innovative pilots to reduce dependence on grants which will be monitored and the lessons will be integrated into implementation of JKCIP as well as the larger HADP initiative. Allocations for knowledge generation and dissemination, thematic studies, baseline survey, mid-line survey, end-line survey and project completion report preparation have been made.

82. There are many potential areas for South-South Triangular Cooperation (SSTC) such as: (i) introducing and improving the cultivation of high-value crops suited to the region's climate and soil conditions through sharing best practices, technology transfer, and expertise in the cultivation; (ii) sharing successful water conservation techniques, efficient irrigation methods, and sustainable water resource management strategies; (iii) sharing lessons and technology on establishing cold storage facilities, improving transportation logistics, and implementing effective post-harvest technologies to reduce losses and increase the shelf life of agricultural produce; (iv) developing collaborative projects to transfer advanced agricultural technologies, precision farming methods, and the use of digital tools for crop monitoring and management; and (v) developing triangular cooperation that can help establish connections with international markets, improve value chains, and enhance the overall competitiveness of agricultural products from J&K. Prospects of SSTC with the countries that are strategically fit such as Bhutan, Nepal and Israel for agriculture and horticultural products will be explored during implementation. Central Asian countries such as Kyrgyzstan are best suited for SSTC covering the wool sector.

83. **Policy support:** The project will work towards fostering an enabling policy environment for the development of agri and allied sectors which will be evidence based. The project will support studies on identified policy issues and organize consultations to deliberate on the recommendations and prepare action plans to facilitate the government to address policy bottlenecks. The policy issues identified include: (i) policy related to walnut tree harvesting; (ii) documentation needs to access government schemes by the pastoralists; and (iii) public-private partnership development modalities. The project during implementation will

also identify other relevant issues and undertake thematic studies. Once the thematic studies are prepared, the project will present the findings and hold consultations to prepare and agree on relevant policy and process notes for consideration by the Government. A policy engagement strategy will be detailed in the early stages of project implementation.

E. Theory of Change

84. Despite record production of various food grains, and commercial and horticultural crops in India, crop productivity is much lower than in other advanced and emerging market economies. The main issues are fragmented landholdings, lower farm mechanisation and lower public and private investment in agriculture resulting in low levels of income for the farmers. This situation is exacerbated by climate change-related losses in crop productivity and production. The situation in J&K is similar. Despite favourable agro-climatic conditions for diversifying into more remunerative horticultural and agricultural niche crops, small-scale producers have been constrained from optimising their land use due to limited access to information and services as well as market inefficiencies.
85. The major challenges of J&K's farmers include: (i) small and fragmented landholding and inadequate economies of scale; (ii) slow process of change owing to a history of conflict and security challenges resulting in the inability to optimally benefit from the comparative advantage of their geography; (iii) apple-centric horticulture promotion with poor management practices and limited focus on intensification, better management practices, and expansion into other fruit and nut crops; (iv) insufficient investments and focus on value addition, processing and enterprise promotion; (v) limited market development efforts, large number of marketing intermediaries, and inadequate aggregation, storing and transportation facilities; (vi) limited livelihood diversification options for vulnerable/nomadic/semi-nomadic communities living in isolated and remote locations; (vii) increasing climate induced risks and lack of smallholders adaptation capacity and access to climate smart tools and technologies; (viii) youth unemployment and unwillingness to engage in agricultural activities; and (ix) evolving sector strategies, and regulatory and policy framework.
86. After 2019, conflict and security concerns were significantly reduced, and the environment has become more conducive for progressive change. Concerted efforts to address the existing challenges have been initiated and the development pathway envisioned by the GoJ&K includes optimization and diversification of cultivable lands of small farmers to produce high-value niche crops in a value chain mode and diversification and intensification of horticultural crop production coupled with climate sensitive package of practices with support for value addition. To support the farmers in enhancing their productivity and output prices and to attract more youth to the agri and allied sectors, a vibrant agri-business ecosystem comprising agri-enterprises, start-ups and market promotion is needed. In addition, the development pathway for pastoralists/livestock rearers requires improvements to existing livelihood options and diversification of their income sources.
87. The challenges in J&K will be addressed through (i) promotion of FPOs to address the issues of economies of scale and high levels of transaction costs; (ii) support for the promotion of climate-resilient high-value niche crops to harness agroclimatic advantages with GAP to introduce environment-friendly farming practices; (iii) support for expansion, quality improvement of produce, diversification of horticultural crops with a focus on improved varieties, farm advisory and new technologies for sustainable yield and production coupled with improved tree management environment-friendly GAP; (iv) support for establishment of enterprises in the agriculture and horticulture sectors with support for start-ups with focus on youth; (v) facilitation of market linkages, quality certification and develop and deepen the markets for agriculture and horticulture products of J&K; (vi) support to vulnerable/nomadic/semi-nomadic communities to diversify their livelihood options; (vii) support to start up, incubation for employment and income opportunity generation, and engage youth in local level environmental and climate issues solution and (viii) support to policy dialogue and consultations.
88. These interventions are expected to generate outcomes, which include: (i) improved capacity of community institutions (FIGs and FPOs) to support the interests of smallholder farmers; (ii) improved climate resilient production and productivity of select niche agricultural and horticultural crops; (iii) better price realization through improved productivity and quality from better tree management practices, post-harvest practices such a grading, packing and storage and value addition and processing; (iv) improved marketing linkages for wool and milk with enterprise creation for livelihood diversification of vulnerable communities; (v) increase in women and youth-led agri-enterprises, and (vi) policy development on gender, youth and climate mainstreamed into sectoral policies and implementation modalities. These outcomes will improve competitiveness and climate resilience of farmers through a value chain approach covering production, value addition, and marketing of high value agriculture, horticulture and allied sector products supporting the project goal of contributing to a sustained increase in the incomes of rural households.

F. Alignment, ownership and partnerships

89. **Alignment with SDGs.** With its focus on niche and high value and horticultural crops, the project will support marginal and small farmers to adapt to climate change events by promoting climate-resilient farming techniques and crop varieties. The project will contribute significantly to the achievement of SDG 1 - end poverty; SDG 2 - zero hunger; SDG 5 - gender equality; and SDG 13 - combat climate change and its impacts.
90. **Alignment with GoI:** The project is aligned with the GoI's strategy on doubling of Farmers Income which amongst others has recommended focus on comparative advantage in terms of agro-climatic and techno-economic potential specific crops of the region, production enhancement through productivity gains, value capture through value addition activities and connectivity to new markets and exports. These remain the guiding principles of this project design.
91. **Alignment with IFAD policies and corporate priorities.** At corporate level, the project is aligned with IFAD policies for mainstreaming. This includes Youth Action Plan, the IFAD Policy on Engagement with Indigenous Peoples, the IFAD Strategy on Biodiversity (2022-2025). The project is gender mainstreamed, youth sensitive and contributes to climate financing apart from supporting the Indigenous People. In addition, the three objectives of the IFAD strategic framework (2016-2025) are at the core of this project: (i) increasing the productive capacity of poor rural people; (ii) increasing their benefits from market participation; and (iii) strengthening the environmental sustainability and climate resilience of their economic activities.
92. **Ownership:** APD has been directly involved since inception in the design of the project. This project will be embedded APD which will be responsible for project management and will be aligned with the HADP. The project implementation will be integrated into the activities of various Directorates and Universities under APD and have been vested with the task of undertaking all preparatory activities related to project design. This is also the model being followed by HADP.
93. **Partnerships.** The project's approach and implementation modalities are in harmony with the vision and strategies of GoJ&K as also the agenda of the GoI to double farmers' income. The project will converge with the ongoing schemes of the government to bring maximum benefits to the communities and work in close co-ordination with HADP and the SRLM. It will build on the existing platforms of FPOs and SHGs created under various government programmes. The project will work in partnership with the two Agriculture Universities in Jammu and Kashmir to leverage their technical expertise as well as for promotion of enterprises and start-ups. The project will also actively engage private sector partners primarily through Multi Stakeholder Platforms. Partnership with technical and specialised organisations will be undertaken to provide specialised services, training and handholding to various stakeholders/ end users. Banks and other Financing Institutions will be active partners in the project to leverage financing for farmers/ entrepreneurs. Costs, benefits and financing

G. Costs, benefits and financing

a. Project costs

94. The total JKCIP incremental investment and recurrent costs, including price and physical contingencies over seven years implementation period (spread over eight financial years) are estimated at US\$ 217.2 million. This includes base costs of US\$160.5 million and estimated price and physical contingencies of US\$ 56.6 million. The overall investment costs have been estimated at US\$153.1 million (95 percent of base costs) with recurrent costs at US\$7.3 million (5 percent of base costs). The breakdown of the costs by component and sub-component and financier in US\$ is shown in Table 1 below.

95. Table 1: Total project costs by components & sub-components, and financier.

India
Competitiveness Improvement of the Agriculture and Allied
Sectors Project in Jammu and Kashmir
Components by Financiers
(US\$ '000)

	IFAD		GoJ&K		Convergence		Beneficiary		Private Sector		Bank		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Climate-smart and market-led production														
Upscaling collectivization	5,419	73	1,534	21	-	-	517	7	-	-	-	-	7,470	3
Agri-niche crop promotion	20,016	43	5,042	11	-	-	21,504	46	-	-	-	-	46,562	21
Horticulture crop promotion	24,246	41	6,062	10	-	-	22,945	39	6,162	10	-	-	59,415	27
Subtotal	49,681	44	12,638	11	-	-	44,966	40	6,162	5	-	-	113,446	52
B. Agri-business ecosystem development														
Enterprise promotion support	22,261	41	6,590	12	-	-	-	-	10,316	19	15,422	28	54,589	25
Market promotion support	2,249	80	562	20	-	-	-	-	-	-	-	-	2,811	1
Incubation and start-up	4,678	28	1,170	7	3,255	20	-	-	2,170	13	5,424	33	16,696	8
Subtotal	29,188	39	8,322	11	3,255	4	-	-	12,486	17	20,846	28	74,096	34
C. Support to vulnerable communities														
Support for pastoralists	453	49	113	12	195	21	-	-	171	18	-	-	931	0
Support for other vulnerable communities	13,504	68	3,555	18	-	-	785	4	1,893	10	-	-	19,737	9
Subtotal	13,957	68	3,669	18	195	1	785	4	2,064	10	-	-	20,668	10
D. Project Management														
Project Management	5,934	80	1,484	20	-	-	-	-	-	-	-	-	7,418	3
M&E and MIS	825	80	206	20	-	-	-	-	-	-	-	-	1,031	1
KM and Policy	416	80	104	20	-	-	-	-	-	-	-	-	520	0
Subtotal	7,175	80	1,794	20	-	-	-	-	-	-	-	-	8,969	4
Total PROJECT COSTS	100,000	46	26,422	12	3,449	2	45,751	21	20,711	10	20,846	10	217,179	100

96. Table 2 shows the breakdown of the costs by expenditure category including base costs and contingencies.

97. **Table 2: Total project costs by expenditure category and financier**

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir

Expenditure Accounts by Financiers

(US\$ '000)

	IFAD		GoJ&K		Convergence		Beneficiary		Private Sector		Bank		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs														
A. Training and Workshops	2,287	80	572	20	-	-	-	-	-	-	-	-	2,859	1
B. Consultancies	2,829	78	707	19	115	3	-	-	-	-	-	-	3,652	2
C. Goods, Services and Inputs	46,464	38	11,835	10	3,334	3	44,535	37	8,829	7	5,915	5	120,911	56
D. Equipment and Materials	3,452	69	935	19	-	-	634	13	-	-	-	-	5,020	2
E. Grants and Subsidies	36,944	50	10,368	14	-	-	581	1	11,882	16	14,932	20	74,707	34
Total Investment Costs	91,976	44	24,416	12	3,449	2	45,751	22	20,711	10	20,846	10	207,149	95
II. Recurrent Costs														
A. Salaries and Allowances	5,648	80	1,412	20	-	-	-	-	-	-	-	-	7,060	3
B. Operating Costs	2,376	80	594	20	-	-	-	-	-	-	-	-	2,970	1
Total Recurrent Costs	8,024	80	2,006	20	-	-	-	-	-	-	-	-	10,030	5
Total PROJECT COSTS	100,000	46	26,422	12	3,449	2	45,751	21	20,711	10	20,846	10	217,179	100

98. Table 3 shows the cost breakdown by component and sub-component and by year.

99. **Table 3: Total project costs by component & sub-component and by year**

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir

Project Components by Year -- Totals Including Contingencies

(US\$ '000)

	Totals Including Contingencies								Total
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	
A. Climate-smart and market-led production									
Upscaling collectivization	23	1,493	2,430	1,896	1,035	298	303	-	7,470
Agri-niche crop promotion	38	3,462	8,672	9,743	9,982	8,442	6,184	39	46,562
Horticulture crop promotion	70	7,118	13,931	14,295	14,624	6,166	3,210	-	59,415
Subtotal	132	12,073	25,034	25,934	25,641	14,896	9,698	39	113,446
B. Agri-business ecosystem development									
Enterprise promotion support	-	6,206	13,323	17,459	14,026	2,107	1,467	-	54,589
Market promotion support	-	363	1,012	1,113	217	51	54	-	2,811
Incubation and start-up	5	750	2,936	3,833	3,791	3,857	1,348	176	16,696
Subtotal	5	7,318	17,272	22,406	18,034	6,015	2,869	176	74,096
C. Support to vulnerable communities									
Support for pastoralists	-	194	328	161	162	85	-	-	931
Support for other vulnerable communities	-	2,087	3,551	3,743	3,912	3,666	2,779	-	19,737
Subtotal	-	2,281	3,879	3,904	4,074	3,752	2,779	-	20,668
D. Project Management									
Project Management	230	1,063	1,041	1,090	1,068	1,126	1,186	614	7,418
M&E and MIS	10	98	75	79	50	53	667	-	1,031
KM and Policy	32	192	92	104	27	35	28	10	520
Subtotal	272	1,352	1,208	1,273	1,145	1,213	1,881	624	8,969
Total PROJECT COSTS	410	23,024	47,392	53,517	48,894	25,876	17,227	839	217,179

b. Project financing/co-financing strategy and plan

100. JKCIP will be financed as follows: IFAD financing is projected at US\$100 million (46 percent of the total project costs); Domestic financing from GoJ&K and beneficiary contribution will be US\$26.4 million and US\$ 45.7 million (12 percent & 21 percent) respectively. Beneficiary contribution will be in-kind (raw materials and labour). Convergence support is US\$3.4 million (2 percent), Private Sector: US\$ 20.7 million. Contribution from the banks will be US\$ 20.8 million. The climate change finance is estimated at US\$ 50,776,000 which represents 50.7 percent of the total IFAD project amount against a corporate target of 40 percent.

101. Allocation of costs by component: Out of the overall project costs, component 1-Climate-smart and market-led production has been allocated the biggest proportion of 52 percent, equivalent to US\$ 113.4 million. Component 2-Agri-business ecosystem development accounts for 34 percent equivalent to US\$ 74.1 million, while component 3-Support to vulnerable communities account for 10 percent which is equivalent to US\$ 20.7 million. The Project Management component has been allocated US\$ 9.0 million, (4 percent of the total costs).

102. The project legal documents will include retroactive financing provisions for US\$ 5 million to finance consultancy and other contracts. The retroactive financing facility will fund project activities for the period from PDR approval until entry into force.

c. Disbursement

1. GoJ&K will pre-finance JKCIP expenditures and request reimbursement from IFAD every quarter. DEA/CAAA (MOF) will maintain the project Designated Account (DA) at the federal level and use it to transmit funds from IFAD. A Project Account (PA) will be maintained by APD in a commercial bank operating in J&K with existing online banking services. JKCIP-PMU in ADP will have a specific sub-account of the PA for each implementing partner. Once all supporting documents sent by project partners are approved by the Head of Departments (HoD) of the APD, the JKCIP-PMU will release only necessary funds for that specific transaction via the relevant sub-account of the partner. Project partners will make the final payment to contractors and beneficiaries. There will be no advances to project partners.
2. Cost categories. The project will have six cost categories: (i) Training and Workshops; (ii) Consultancies; (iii) Goods, Services, and Inputs; (iv) Equipment and Materials; (v) Grants and Subsidies; and (vi) Salaries and Allowances and Operating expenses. For the IFAD loan, the ratio of recurrent expenditures to total project financing is 8 percent, which is within the 15 percent limit. The project management costs are only 5 percent of the total costs.
3. Interim Financial Reporting (IFR). Report-based disbursement modality will be applied to request funds from IFAD. The JKCIP-PMU will submit consolidated quarterly IFRs within 30 days from the end of the relevant quarter. CAAA (MoF) will submit a WA for reimbursement for the IFAD's share of the amount spent each quarter.
4. Supporting documentation. The most recent IFRs will be attached to each WA. IFAD may ask for additional supporting documents as deemed necessary.

d. Summary of benefits and economic analysis

103. **Economic and Financial Analysis (EFA):** The economic and financial analysis for JKCIP has been carried out mainly basing on the project development objective. The objective of JKCIP is to improve the competitiveness and climate resilience of the farmers through the value chain approach covering production, value addition and marketing of high-value niche commodities from agriculture, horticulture, and allied sectors of J&K. Therefore, the models that have been developed for this EFA have productivity metrics such as:

- Increase in yields because of implementation of outcome 1, climate-smart and market led production which aims at improving productivity and the quality of production.
- Increase in farm-gate prices as a result of implementation of outcome 2, Agribusiness ecosystem development,
- Reduction in post-harvest losses because of improved marketing linkages for wool and milk with enterprise creation for livelihood diversification of vulnerable communities. These metrics are also linked to the project theory of change (TOC)

104. **Beneficiary outreach & adoption rates:** The direct target household (HH) beneficiaries for JKCIP for the proposed investment are projected at 300,000 (HH) translating into 1,530,000 household members with an average HH size of 5.1 per HH. The endline adoption rate is assumed at 49 percent according to log-frame indicator 1.2.2, *Percentage of households reporting adoption of new/improved inputs and technologies or practices*. This corresponds to about 155,813 HH using gradual adoption in the initial project years. The summary is presented in the table below.

105. **Table 4: Aggregation No Phasing**

Household Phasing and aggregation	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Agri-niche and horticulture crops	300,000									
Cumulative Number of Beneficiaries	565	32,364	97,822	171,763	239,357	275,068	298,843	300,000	300,000	300,000
Beneficiary Aggregation	Adoption Rate	20%	30%	40%	50%	60%	70%	70%	70%	
Beneficiaries in Y1										
Beneficiaries in Y2		113	9,540	26,183	36,970	40,556	24,998	16,642	810	
Beneficiaries in Y3			113	9,540	26,183	40,556	24,998	16,642	810	
Beneficiaries in Y4				113	9,540	26,183	40,556	24,998	16,642	810
Beneficiaries in Y5					113	9,540	26,183	40,556	24,998	16,642
Beneficiaries in Y6						113	9,540	26,183	40,556	24,998
Beneficiaries in Y7							113	9,540	26,183	40,556
Beneficiaries in Y8								113	9,540	26,183
Beneficiaries in Y9									113	9,540
Beneficiaries in Y10										113
Total Beneficiaries	-	113	9,653	35,836	72,806	113,363	138,360	155,003	155,813	155,813

106. **Cost per beneficiary:** The cost per beneficiary has been derived from total project costs divided by the target number of households. The proposed total financing for JKCIP is US\$217.2 million, and the estimated number of beneficiary households is 300,000. The cost per beneficiary HH is therefore computed at US\$725 and US\$142 for each household member assuming 5.1 people per HH. The analysis is presented in a summary table below.

107. **Table 5: Programme costs and log-frame indicators**

PROGRAMME COSTS AND INDICATORS FOR LOGFRAME				
TOTAL PROGRAMME COSTS (in million USD)				
Beneficiaries	1,530,000	people	217.4	Million
Cost per beneficiary	142	USD x person	300,000	Households
				725
Components and Cost (USD million)				
A. Climate-smart and market-led production	113.6	Average increase in income per HH per year		
B. Agri-business ecosystem development	72.6	Premium prices paid to farmers		
C. Support to vulnerable communities	20.7			
D. Project Management	10.5			
Total	217.4			

108. **Summary of Financial Analysis:** The models for this EFA include: Saffron, aromatic rice and tomatoes (agri-niche crops), cherry, plum, pear, apricot, peach, walnut, almond and apple (horticulture crops). Only the production models have been considered without taking into account value addition. For crop models like apple, almond and walnut, analysis has been carried out for both high and medium density production. All models show an increase in financial returns (per hectare) resulting from the implementation of the proposed project intervention. Increased yields and farm-gate prices will be the key drivers for increasing cash-flows. In the with-project (WP) scenario, it is assumed that yields and prices will increase, thanks to the project, compared to the baseline (without project). The financial analysis demonstrates that all project scenario models are profitable from a farmer perspective illustrating the financial effectiveness of project investments aimed at supporting innovation adoption. The summary results are presented in Annex 4-Table 1. All models present positive financial viability in terms of measurement using benefits cost ratio, financial internal rate of return and financial net present value. All financial incremental cash-flows have been discounted for 10 years using a rate of 3.5 percent. [37]

109. **Economic analysis:** JKCIP is projected to yield a baseline Economic Rate of return of 24 percent with a positive Net Present Value of US\$480.4 million (INR 39.8 billion). All quantifiable economic benefits have been discounted over a period of 20 years including 7 years of project implementation using a rate of 7 percent which is the current interest rate on long term bonds/treasury bills in India. [38] The baseline ERR of 24 percent is higher than the discount rate used for economic analysis which confirms the justification of the proposed investment. The benefits/cost ratio for the whole investment is estimated at 13.3. The overall project economic analysis is provided in Annex 4-Table 5.

110. **Results of the sensitivity analysis:** A change in project benefits by 20 percent increase in costs and decrease in benefits using the same proportion yields an ERR of 23 percent and 22 percent with a positive NPV of US\$462.8 million and US\$366.7 million respectively. An increase in project benefits by 10 percent & 20 percent yields a higher level of NPV by 25 percent and 26 percent respectively. A delay in project benefits by 1 & 2 years still yields positive results as it yields 22 percent and 20 percent both posting positive net present values. Results of the sensitivity analysis indicate that the project remains economically viable under the various assumptions considered. The summary of the sensitivity analysis is presented in the table below.

111. **Table 6: Summary of sensitivity analysis**

Sensitivity analysis matrix			
	%	IRR	NPV (US\$) Million
Base Scenario		24%	480.49
Decrease of Project benefits	-10%	23%	423.60
	-20%	22%	366.70
	-30%	21%	309.81
Cost Increase	10%	23%	471.64
	20%	23%	462.80
	50%	21%	439.54
Delay of benefits	1 Year	22%	407.09
	2 Years	20%	338.29
Increase of benefits	10%	25%	537.38
	20%	26%	594.27

e. Exit Strategy and Sustainability

112. JKCIP's exit strategy revolves around the sustainability of three major activities of the project: (i) FPO promotion and support for collectivization; (ii) value chain support for niche agricultural and horticultural crops; and (iii) enterprise support for expanding value addition and marketing. As the first step, the project will support continuous training and capacity-building programs for FPO members to enhance their skills and knowledge related to sustainable agricultural practices, efficient resource management, and market trends. FPO mobilization will start around a business of interest to the community. The project will support the establishment of businesses with required market linkages. FPO support will be tied to the achievement of performance standards and continuous performance assessment with tapering support to drive sustainability. These measures are expected to make the FPOs sustainable thereby reducing the dependence on the government and the project.
113. The project will support production, productivity, and quality enhancement of niche agricultural crops such as Saffron, Black Cumin, Offseason vegetables, etc. The project will support area optimization, intensification and diversification and build the capacity of the farmers to introduce GAP. Similarly, the project will support the expansion of area under horticultural crops, introduce diversified horticultural crops and improve tree management practices of existing orchards. Systems will be built to recover the government matching grant support for revolving the same for the benefit of the community to develop self-reliance for making project exit easy. Similarly, in the case of agri-enterprise development, the project will support the provision of business development services, bank linkages and matching grant support for reducing the investment level risks. These efforts will make the progression of the enterprise towards profitability and sustainability easy and make exit seamless.

3. Risks

H. Project risks and mitigation measures

114. The overall project risk probability is rated "Moderate" and the residual risk is rated "Low" (Details in Annex 9). The risk probability from political and governance, macro-economic, sector strategies, technical soundness, Institutional capacity for implementation and sustainability, monitoring and evaluation arrangements, sector strategies and policies and environment are rated "Moderate" and the residual risk is rated "Low"
115. The Financial management (FM) arrangements for JKCIP were assessed and it concluded that the Inherent FM Risk is Substantial due to no previous experience of the APD in IFAD-funded projects and potential low FM staff capacity at APD to deal with projects funded by International Financial Institutions. JKCIP design will include recruiting two qualified consultants, developing PIM and Financial management Manual (FMM) with clear roles for supporting documents filing and accounting record keeping for all implementing partners and introducing and customizing Tally accounting software for accounting record keeping and financial reporting.
116. APD should undertake the following actions to ensure that solid FM arrangements are in place before the project enters into force: (i) Purchase and customize Tally accounting software for JKCIP needs, including automatic IFRs generation; (ii) Develop and finalize PIM and FMM which should include detailed roles and responsibilities for project partners and staff; and (iii) Complete the competitive selection of adequately qualified and experienced two FM consultants.
117. Another potential risk is that there could be unforeseen delays for implementing project activities after entry into force. The project legal documents will include retroactive financing provisions to finance contracts from PDR approval until entry into force. The amount of the retroactive financing will be US\$ 5.00 million, subject to adjustments during project negotiations. JKCIP-PMU consultants will prepare Annual Workplan and Budget (AWPB) and other procurement documents for the retroactive financing period and initial year of project activities.
1. The Financial management (FM) arrangements for JKCIP were assessed and it concluded that the Inherent FM Risk is Substantial due to no previous experience of the APD in IFAD-funded projects and potential low FM staff capacity at APD to deal with projects funded by International Financial Institutions. JKCIP design will include recruiting two qualified consultants, developing PIM and Financial management Manual (FMM) with clear roles for supporting documents filing and accounting record keeping for all implementing partners and introducing and customizing Tally accounting software for accounting record keeping and financial reporting.
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I. Environment and Social category

118. The environmental and social category for JKCIP is determined as moderate, based on the screening tool of SECAP 2021. The project aims to generate overall positive environmental and social benefits in a comprehensive manner. Good Agricultural Practices (GAP) will be promoted to improve agro-biodiversity and enhance farm health. JKCIP will a) capacitate FPOs and staff including from Krishi Vigyan Kendra (KVK) to regulate and reduce chemical inputs, b) promote inter and mix cropping, and integrated pest management to maintain soil health and minimize the damage of disease and pest outbreak, c) support water management and efficient water use technologies to reduce water stress, and d) minimize waste. The program targeted blocks don't have protected or conservation areas. JKCIP will strictly adhere 'zero' forest degradation and forest encroachment approach, ensuring that all project activities will be confined in private and non-forested lands. Since the project will not involve any construction activities, extensive screening questions exercise, consultations with communities and stakeholders, and field visits confirmed that the environmental and social impacts will remain at moderate level.
119. JKCIP is a youth sensitive project that places a significant emphasis on social inclusion. It adopts proactive measures to specifically target women, youth, and marginalized communities. The project will support Gujjars, Bakerwals, Gaddis, and other pastoralists, to improve their livelihood. A Free, Prior, and Informed Consent (FPIC) implementation plan has been developed as a part of this design and will be implemented as soon as the project becomes effective (Annex 5). The project will ensure the preparation of Environment and Social Management Plans (ESMP) and labour management plans in case of requirement to comply with SECAP requirements. JKCIP will not have any impact on cultural heritage, however, a national chance find procedure will be applied. Child labour, sexual harassment, and gender violence are not foreseen in value chain activities, although, these will be strictly prohibited and carefully monitored in all project activities. Moreover, the project, overall, will have positive impacts on community health, safety, and security. JKCIP will not create physical and economic resettlement.

J. Climate Risk classification

120. Following SECAP screening tool, the climate risk category of the program is determined as Moderate. Following are the key themes and steps followed to assess climate risks: (i) Hazard identification: As per the ThinkHazard tool and design field visits; JKCIP intervention area is likely to experience river flood, landslides, and hailstorm. Moreover, foreseen future climate scenario predicts changes in temperature, climate variability and alterations in intensity and frequency of extreme events. (ii) Exposure Assessment: The project targets agriculture and horticulture systems or livelihoods that are exposed to weather-related hazards. Agriculture system is often affected by the impact of climate change (iii) Sensitivity: Major income of the target population predominantly comes from agriculture, horticulture, and livestock. (iv) Adaptation capacity and climate resilience: India is good on disaster coping capacity and climate and weather information services are effectively being delivered to farmers, rural dwellers, and end users.
121. The project will capacitate and promote climate resilient farming practices. SECAP related responsibilities will be included in the terms of references of thematic specialists in PMU. The capacity of government line agencies and FPOs will be enhanced to access, interpret, and wisely implement weather-related information. SECAP-related responsibilities are included in the terms of references of thematic specialists. An Environmental, Social and Climate Management Plan (ESCMP) in Annex 5, a Stakeholder Engagement Plan in PIM Chapter 1, Appendix C1A2., and an FPIC implementation plan in Annex 12 are included in the design and will be implemented for relevant activities. During implementation, the project might encounter technological and process-related challenges such as infestation of new pests and diseases, a reduction in productivity, etc. In these instances, the project will conduct thematic assessments or studies to assess the issues and identify implementable solutions to address climate and environmental challenges, ensuring full adherence to SECAP compliances as needed.

4. Implementation

K. Organizational Framework

a. Project management and coordination

122. **Project Management:** At the central level, DEA will be the Principal Borrower for the IFAD Loan and the nodal agency for the project. DEA will undertake periodic tripartite review of the project to monitor progress and address any challenges. Jammu and Kashmir comes under the purview of the Ministry of Home Affairs (MHA). The budget of the GoJ&K forms part of the budget of MHA and is tabled in the Parliament. The Division of Jammu, Kashmir and Ladakh Affairs within MHA coordinates with various Ministries/ Departments for the accelerated implementation of various flagship schemes as well as major projects of economic and social importance in J&K. MHA will be engaged in the periodic monitoring and review of the progress of the project and will also participate in the Tri-partite Portfolio Review Meeting (TPRM). Additionally, the Ministry of Agriculture and Farmers Welfare and the NITI Aayog (the apex Policy making body in India) will also be invited to the TPRM. They will also be regularly apprised of the project innovations and developments. APD of GoJ&K would be the Lead Project Agency and responsible for project implementation.
123. The major project parties for the implementation of the JKCIP are: (i) Directorates of Agriculture - Jammu and Kashmir; (ii) Directorates of Horticulture - Jammu and Kashmir; and (iii) Sher e Kashmir Universities of Agricultural Science and Technology – Jammu and Kashmir. The other project parties with limited roles include: (i) Directorates of Sheep Husbandry; (ii) Directorates of Animal Husbandry; (iii) Indian Institute of Management, Jammu; and (iv) any other agency as decided by the GoJ&K in consultation with IFAD. An assessment of the capacity of these institutions has been carried out. These institutions have the required capacity to implement project activities. Incremental staff including staff for compliance-related (finance, procurement and M&E) tasks will be engaged.
124. Two broad principles would govern the management structure for this project. They include: (i) alignment to the existing government structure; and (ii) flexibility to make changes based on the requirements that may arise during the implementation phase. A schematic presentation of the project management structure is provided in PIM, Chapter 3-Appendix C3A1.
125. A PMU of JKCIP will be established within the PMU of HADP. The JKCIP-PMU will be responsible for overall technical, coordination and financial management support and other compliance requirements of the project comprising consolidated AWPB and procurement plan preparation, consolidated M&E and MIS, preparation of withdrawal application, audit, procurement guidance and support, overall project management and administration and co-ordination with GoI and IFAD. JKCIP-PMU will report to a Secretary-level officer of APD who will be nominated as the Mission Director reporting to the Principal Secretary, APD.
126. The JKCIP-PMU will be supported with staffing related to overall technical domains, financial management, Planning and M&E, Procurement and Knowledge management and other mainstreaming priorities. The terms of reference for incremental staff are provided in in PIM, Chapter 3-Appendix C3A2. Overall, JKCIP-PMU would be responsible for undertaking tasks related to compliance with the stipulation of the Financing Agreement to be signed between GoI and IFAD.
127. **Governance.** The project's governance will be harmonized with the existing four-tier project coordination structure of HADP comprising: (i) a Central Apex Committee; (ii) an Empowered Committee; (iii) an Executive Committee; and (iv) District Level Committees. The Central Apex Committee is chaired by the Lieutenant Governor of J&K, the Empowered Committee (EC) by the Chief Secretary, the Executive Committee by the Principal Secretary, APD and the district-level committees by the respective District Magistrate. The details of their membership and functions are provided in the PIM, Chapter 3-Section C.
128. Under JKCIP, the Executive Committee of HADP will convene a meeting on a quarterly basis and if necessary, by region/province. This committee will be vested with the responsibilities to provide strategic and policy guidance, approve PIM and its amendments, approve project staff selection, approve AWPB, procurement plan, fund allocation, review project progress, approval of manuals of procedures, coordination and communication with DEA and IFAD on project related matters including requesting changes loan allocation within the initially approved categories, oversee the external and internal audit process and take action on findings, ensure coordination among all stakeholders, and provide guidance to project management. The Chairperson, on the advice of the Member Secretary, may convene special meetings of the Executive Committee.
129. The DLC will be responsible for: (i) implementing JKCIP at the district level including its supervision and monitoring; (ii) ensuring convergence of activities with activities and interventions of other schemes and programs at the district level; and (iii) facilitating linkages with Banks/Financial Institutions to the beneficiaries.

b. Financial Management, Procurement and Governance

1. **Funds Flow and Disbursement:** GoJ&K will pre-finance project expenditures. The project will submit to IFAD through CAAA quarterly WAs to reimburse IFAD's share of project expenditures. Report-based disbursement modality will be applied to request funds from IFAD. The JKCIP-PMU will submit consolidated quarterly IFRs within 30 days from the end of the relevant quarter. CAAA (MOF) will submit WA for reimbursement for IFAD's share of the amount spent each quarter. The Federal Ministry of Finance will maintain the Designated Account at the Reserve Bank of India. The Project Account (PA) of the APD will be maintained in a commercial bank with existing online banking services. APD will have a specific sub-account of the PA for each implementing partner. Once all supporting documents sent by project parties are approved by the APD, the JKCIP-PMU will release only necessary funds for that specific transaction via the relevant sub-account of the project party. Project parties will make the final payment to contractors and beneficiaries.
 2. JKCIP will employ the existing FM staff of APD and its departments and other project partners for payments and record keeping at their level. However, JKCIP-PMU, to be established at the APD, will have two additional FM consultants with adequate experience and educational background to maintain project accounting records in the accounting software and financial reporting. The Finance Division of APD will lead the FM team for JKCIP. The responsibilities of the finance staff of implementing partners will be limited to collecting supporting documents, their submission to Head of Departments (HoDs), and the release of final payments to project contractors and beneficiaries.
 3. **Planning and Budgeting.** The budgeting for JKCIP will be fully integrated into the overall government budgeting process. The draft and final budgets for the GOJ&K will include JKCIP-related expenditures as a separate budget line item. JKCIP-PMU will collect data from project partners, prepare consolidated JKCIP budgets in IFAD-approved formats, and agree on them with IFAD. The draft AWPB, split by components, categories, and sources of funds, will be sent to IFAD 60 days before the start of the relevant FY for "No Objection."
 4. Upon approval of the project AWPB, the JKCIP-PMU will enter the AWPB activities of each Implementing Partner into Tally accounting software. The JKCIP-PMU will use an online banking system to allocate funds to each implementing partner based on approved AWPB.
 5. **Internal control.** JKCIP-related financial operations and transactions will be subject to GoJ&K's internal approval procedures, which are strong and duly followed by APD staff. In addition, JKCIP-specific internal controls and policies will be included in the Project Implementation Manual (PIM) and Financial Management Manual (FMM). Moreover, private sector internal auditors will prepare semi-annual internal audit reports to the Steering Committee. The project will provide Grants and Subsidies to agri-businesses in line with pre-agreed eligibility criteria and funds flow arrangements.
 6. **Accounting systems, policies, procedures, and financial reporting.** JKCIP will adhere to the Gol budgeting and accounting rules. Tally Accounting Software will be used for accounting record-keeping and financial reporting to meet IFAD requirements. The project will need to install and customize Tally accounting software that will include automatic IFRs generation. The JKCIP-PMU will apply Indian National Accounting Standards, compatible with International Accounting Standards and deemed acceptable to IFAD, to prepare project financial statements and reports.
 7. **External Audits.** The J&K level Comptroller and Auditor General (CAG) office will audit project annual financial statements to expand the use of country systems in India. CAG of J&K has been auditing World Bank-funded operations for the last five years, and their reports have been found to be acceptable to IFAD. The J&K's CAG office will issue audit reports within six months of the end of the FY.
 8. **Country systems.** Government staffing, budgeting, funds flow, accounting and audit standards, and the local statutory audit institution (CAG) will be used to implement JKCIP.
 9. **Lessons learned.** IFAD-funded projects in India have issues with maintaining accurate financial records and supporting documents for the accounting transactions of a multitude of implementing partners. However, JKCIP will have a central PA with a unique sub-account for each implementing partner to release funds for each transaction instead of advancing funds. As a result, there will be no outstanding advances with Implementing partners, and all supporting documents will be electronically collected at the JKCIP-PMU level, minimizing the risk of missing accounting supporting documents.
130. **Retroactive financing:** In addition, projects start very slowly in India due to a lack of adequate arrangements at the beginning of implementation. Therefore, JKCIP will have a retroactive financing facility to help with the start of the project implementation and fund project activities until the entry into force of the project. The maximum retroactive financing amount is US\$ 5 million. Specific activities to be financed under retroactive financing must be agreed upon with IFAD. The retroactive financing period start date should be from the date QA approves the project design until entry into force of the project. GoJ&K must pre-finance all retroactive financing amounts. Activities to be financed by retroactive financing and their procurement/selection methods will be prior reviewed by IFAD, irrespective of the value of the contract.

131. **Procurement:** The project procurement under JKCIP will be undertaken as per IFAD Procurement Guidelines, 2020 and Procurement Handbook, 2020 as amended and using IFAD Standard Bidding Documents and other document templates. J&K follows General Financial Rules of GoI. Department of Expenditure (DOE), MoF, GoI has issued procurement manuals and model tender documents with guidance that “Manuals issued by DOE are to be taken as generic guidelines, which have to be necessarily broad in nature. Ministries/ Departments are advised to supplement this manual to suit their local/specialized needs, by issuing their own detailed manuals (including customized formats); Standard Bidding Documents and Schedule of Procurement Powers to serve as detailed instructions for their own procuring officers”. J&K uses the manuals, standard bid documents, or standard contract documents prescribed by the funding agency but has not notified the standard bid documents or standard contract documents for public procurement in J&K so far.
132. Procurement arrangements under the project will be strengthened by establishing a Procurement unit headed by a Senior Procurement Specialist and assisted by a Procurement Officer and an Assistant. A procurement officer will be engaged for each of the implementing parties. The procurement risk assessment identified knowledge gaps at the APD and there is a need to orient the current and new staff on IFAD Procurement Guidelines and other systems. These gaps will be addressed through a comprehensive training programme. Other mitigation measures proposed include (i) procurement through GeM can be made up to a shopping limit of US\$ 35,000; (ii) adoption of e-procurement systems for receiving bids and proposals above a certain threshold for shopping (GoJ&K IT systems at <https://jktenders.gov.in/nicgep/app>); (iii) use of IFAD End-to-End procurement system (OPEN) for procurement planning, implementation and other subsequent upgrade modules; (iv) adopting an e-office suite for approvals and storing of documentation; (v) adopting community participation procurement only for low-value procurement of goods and works and (vi) IFAD prior review of engagement and appointment process of procurement staff.
133. The inherent risk rating for procurement at design is 'substantial'. (as per the assessment at design mainly on account of human resource capacity and non-exposure to IFAD's procurement compliance requirements). This risk will be largely mitigated by GoJ&K's agreement to assign staff experienced in multilateral agency-funded procurement from the Economic Reconstruction Agency to JKCIP. Procurement thresholds as per the risk assessment will be informed in the Project Procurement Arrangements letter. The procurement activities will be carried out at three levels – all high-value and technical assistance procurement will be conducted at JKCIP-PMU, low-value procurement of goods, works and non-consultancy services will be conducted at the implementing parties' level and the community participation procurement through community institutions with a maximum threshold of US\$ 5,000 equivalent. The procurement powers of JKCIP-PMU and implementing parties are indicated in the PIM. It is also recommended to undertake a procurement audit through a qualified service provider annually.
134. Qualified and experienced procurement staff will be engaged immediately following due process with no objection from IFAD. In compliance with the Project Readiness Checklist of the Ministry of Finance, at least 30 percent of the consultancy contracts should be awarded prior to entry into force. Hence, engagement of at least one procurement staff as per the organogram agreed is essential to comply with the requirement.
135. The project shall adhere to the IFAD Anti-corruption policy and Policy on preventing sexual harassment, exploitation and abuse (SH/EA) including contracted service providers, suppliers, and individual consultants. Other good governance measures are incorporated into the PIM. Procurement considerations for SECAP requirements are assessed and included in the PIM. GoJ&K should also designate and inform IFAD about the Independent Investigative Authority to receive, investigate and proceed for action, for the complaints of prohibitive practices in the project during Loan negotiations.

L. Planning, M&E, Learning, KM and Communication

a. Planning, M&E, Learning, Knowledge Management and Communication

136. **Monitoring and evaluation:** The project's M&E system will be designed to measure performance against the project logframe as well as show the contribution of project outcomes to the government's strategic objectives for the agriculture and allied sectors. The M&E system will offer comprehensive and reliable information to improve planning and decision-making for results-based management. The project will link the business plans of the FPOs and entrepreneurs with the computerized MIS system to introduce real time outcome based monitoring. The logical framework will constitute the basis for results-based M&E. The M&E system will have a three-tier structure: (i) output monitoring with a focus on physical and financial inputs, activities and outputs; (ii) outcome monitoring for the use of outputs and measurement of benefits at household and community levels; and (iii) impact assessment evaluating project impact for the target groups in comparison with objectives. All M&E data, analysis, and reporting will be disaggregated by gender, vulnerable groups (SC/ST) and youth.
137. Output monitoring will measure the progress of activities and achievement of outputs against annual targets in AWPB for each project component. This can be linked to the financial expenditure on the concerned activities. Data would be collected by the project parties and consolidated using a computerised MIS system.
138. Outcome monitoring measures the immediate changes coming about because of project interventions. A baseline survey will be conducted during the first year of project implementation to assess the socio-economic status of households and define the benchmark for the outcome indicators in general and the Core Outcome Indicators in particular against which project performance will be assessed. The baseline study will be a sample survey that will be based on a random selection of households from the target villages. These surveys will be repeated at mid-line and end-line to assess the impact of the project on the beneficiaries.
139. Core Outcome indicators: The Results and Impact Monitoring System of IFAD generates annual report tables on a few first and second-level results indicators that correspond to the output and core outcome indicators. The core Outcome indicators for this project are provided in the Logframe. Prior to the mid-term review, the project will report on only the first-level results (corresponding to outputs), but after the mid-term review, it will report on second-level indicators (corresponding to outcomes).
140. Management Information System (MIS): The project will establish an MIS system in the first year of project implementation. The project will integrate outcome monitoring into the overall M&E framework of the project. The MIS would generate, monthly, quarterly and annual progress reports on physical and financial progress and on project outputs and outcomes. The project will develop GIS tagging for ascertaining the location, ownership and other details.
141. Reporting: The project will develop a reporting system, with some reports used internally and for reporting to its partner agencies within J&K, and others to external stakeholders – GoJ&K and IFAD. Progress reports for GoJ&K and IFAD will be produced at six-monthly intervals. Reporting from Financial Institutions (Fis) will also be required on a six monthly basis as part of the MOUs between the project and the Fis.
142. **Learning and knowledge management:** The project's KM activities will support the effective flow of relevant information between project staff, beneficiaries and other stakeholders. A comprehensive KM action plan will be developed in the early stage of implementation. The objective of knowledge management is to ensure the project units can generate and document the knowledge that is useful to build practical know-how that helps to improve project performance and results. Output, outcome and impact data generated by the M&E system will inform high-quality case studies, briefs and reports.
143. The project operations are expected to create valuable knowledge on key development themes of relevance in India. It will be important for the JKCIP-PMU to document the emerging experiences, lessons and best practices and share them widely with public entities and development partners. The JKCIP-PMU will be supported with technical assistance in managing knowledge and producing knowledge products. It will organize a series of workshops on themes related to agri-horti sectors. The JKCIP-PMU will also disseminate knowledge and experiences with the wider community of agriculture development practitioners in Asia through the IFAD Asia knowledge management portal as well as through practitioners' international networks and publications.

b. Innovation and scaling up

144. Scaling up will be planned in line with the new IFAD's operational framework for scaling results (2023). The project will promote innovations primarily to address constraints in production productivity and marketing of the agricultural and allied sectors. These include business-centric FPO promotion, breed and varietal improvement, climate-smart crop selection and production technologies, creation of an agribusiness incubation and start-up ecosystem. Lessons learned and best practices from other IFAD-supported projects have been considered to formulate innovative strategies for this project. These include:
145. *Business-led FPO promotion*: The project will introduce a business-led FPO promotion strategy as against the target-led FPO expansion. The FPO promotion will be centred around the creation of a business in which the community is interested in participating and allow for an organic evolution of FPOs. Fund release to FPO will be linked to outcomes related to the establishment and promotion of viable businesses.
146. *Holistic production support*: The project will introduce a sub-project model of production expansion support particularly for agricultural crops wherein the community group/FPO will prepare a sub-project by subsuming (and modifying where needed) the existing government schemes and funding under JKCIP to fill in the gaps for the development of a comprehensive package for the community.
147. *Agri-business incubation and start-up support*: The project will introduce a hub and spoke model for developing an agribusiness ecosystem which will cover not only the educated youth but also the rural youth. This will be promoted by conducting boot camps/ideathons in rural areas and end to end support for promoting start-ups.
148. *Business leader-led enterprise promotion*: The project proposes a Business-led enterprise promotion. The emerging entrepreneurs will be linked to a lead entrepreneur with market access. This will enable the emerging rural entrepreneurs to initially focus on contract manufacturing/ production for lead entrepreneurs. Once the contract manufacturing business stabilizes, the entrepreneurs will be able to venture into independent marketing based on their investment ability and risk profile.
149. *Entrepreneur-led service delivery*: This modality will build efficient last-mile service delivery to farmers wherein the entrepreneur/FPO will be able to provide services related to tree management and pesticide management in collaboration with large agro-chemical companies such as UPL and Bayer who run the Unimart and Better Life Farming models respectively. These will be managed as businesses creating a mutually dependable relationship.
150. *Digital climate information and extension delivery*: The project will establish weather stations coupled with the delivery of climate warning systems to the farmers. Extension delivery to the smallholders remains a major challenge for the line departments. This will be addressed by developing user-friendly technology. Extension messages relevant to producers will be generated and sent to the field staff and farmers through phones.

M. Project Target Group Engagement and Feedback, and Grievance Redress

a. Project Target Group Engagement and Feedback.

151. Project target group Engagement and Feedback

152. In line with IFAD's Framework for Operational Feedback from Stakeholders, the project will promote transparency, governance, accountability, and full and effective participation of stakeholders throughout the project cycle. JKCIP will engage with a range of stakeholders including government line agencies, implementation partners, technical agencies for services, bank and financial institutions and private sector partners for market linkages and the beneficiaries. APD has established systems in place to check whether the resources of GoJ&K are spent in the targeted areas, transparency in the decision-making process is maintained, and public rights and entitlements are adhered to and effectively implemented with the participation of targeted beneficiaries and stakeholders.
153. JKCIP will establish Multi-stakeholders Platforms (MSP) which will facilitate the preparation production plan based on market demand ensuring the participation and concerns of women, poor, youth and IP. Moreover, JKCIP will regularly monitor the governance and accountability mechanisms of FPOs to facilitate compliance and improve governance, transparency and accountability. Participatory monitoring tools like focus group discussions and surveys, and environmental and social safeguard monitoring will be used for regular tracking of the problems and progress.
154. The project intends to work with the most vulnerable communities comprising SCs, STs and fishermen. In compliance with IFAD's guidelines on engagement with the Indigenous Peoples, JKCIP will conduct an awareness-raising campaign on FPIC to ensure mutual respect and full and effective participation in decision-making on the proposed investment and development interventions that may affect their rights, access to land and resources and the livelihoods of STs. Full details on FPIC are available in the FPIC implementation plan.

b. Grievance redress.

155. Grievance redress

156. GoJ&K in 2018 launched the Jammu and Kashmir Integrated Grievance Redress and Monitoring System (JK-IGRAMS) in a bid to create an interface with the public and focus on governance issues in J&K with a view to provide an effective grievance redressal mechanism. This Grievance redressal mechanism (GRM) is designed to make it easier for residents of J&K to register and track their complaints and grievances related to various government services and programs. IFAD has established procedures to receive and facilitate the resolution of grievances regarding alleged non-compliance with its environmental and social policies and the mandatory aspects of its Social, Environmental and Climate Change Assessment Procedures (SECAP), in the context of IFAD-financed projects.
157. The GRM of GoJ&K will be strengthened in line with IFAD requirements for processing complaints received from the community, aiming at identifying issues of conflict that may arise during project implementation. Issues to be channelled through the GRM include: (i) noncompliance with its environmental and social policies and mandatory aspects of its SECAP; and (ii) proven acts of sexual harassment and sexual exploitation and abuse (SEA). The GRM shall be shared with project stakeholders, and with the SCs/STs as part of the overall community engagement strategy and FPIC process.

158. Sexual harassment and sexual exploitation and abuse (SEA):

159. The project must immediately report to IFAD any allegations or reports of sexual harassment received in connection with the implementation of the project. If IFAD receives evidence based on substantiated and credible acts that project personnel have engaged in such conduct in connection with the implementation of the project, it may take appropriate measures, including immediate removal of the persons involved, pending further action. In such cases, IFAD may request investigations by national authorities for the purpose of initiating legal proceedings. All contracts of project staff, contractors, service providers and third parties receiving project financing must include provisions: (i) prohibiting acts of sexual harassment; (ii) establishing the obligation to immediately report incidents of harassment in connection with the actions and activities set forth in the contract; and (iii) allowing the termination of the contract based on proven acts of sexual harassment and or SEA.

N. Implementation plans

a. Supervision, Mid-term Review and Completion plans.

160. All activities under the project will be implemented by the officials of the Directorates and Universities under APD assisted by the technical assistance teams and Consultants procured using an open and transparent procedure and calls for proposals. The project will develop and support FIGs and FPOs who will implement grassroots-level project activities. The project will build on the existing FPOs and develop value chain-specific FIGs and FPOs who will be the direct partners in implementing value chain related project activities. The activities related to agri-enterprise promotion, markets and marketing and start-ups will be largely private-sector oriented and will be implemented through them. The project will be implemented in a phased manner. All capacity building activities have been front loaded and followed by institution building. Value chains and enterprise development activities will be implemented after capacity building and institution mobilization. The project implementation phasing is provided in PIM-Chapter 2 - Appendix C2A2.

161. This project implementation will be spread over seven (covering eight financial years) years. All the capacity-building efforts will be front-loaded. The project will start regular implementation during the FY 2024-25 with initial capacity building activities during 2023-24. The APD has shown its keenness for a rapid start-up and has set up a core team to be part of the detailed design mission. In addition, APD is in the process of engaging staff for the PMU of HADP who will do the groundwork for to the implementation of JKCIP. The project has incorporated substantial capacity-building efforts which will be front-loaded to ensure adequately trained human resources. JKCIP has made allocations for engaging staff required for mainstreaming priorities, finance, procurement and M&E in addition to technical staff. The cabinet constituted the J&K ERA (J&K Economic Reconstruction Agency) a society registered under the JK Societies Act in 2004 to implement externally aided projects. JKCIP proposes to onboard some staff for procurement, financial management and SECAP from JKERA for quick transition. Capacity will be reassessed at start up to check for any additional requirements.

162. **Implementation readiness:** The activities required to be completed for compliance with the readiness requirements of Gol and IFAD include:

- Obtain approval from the GoJ&K to implement this project by 15 December 2023.
- Allocation of INR 50 million to APD for start-up activities during 2023-24.
- Issuance of a notification nominating a Secretary level officer of APD as the Mission Director reporting to the Principal Secretary, APD.
- Finalizing terms of reference and Request for Proposals for baseline survey.
- Preparation and approval of implementation plan and project readiness check list and submission of the same to DEA by 15 February 2024
- Constitution of a delegation authorised by the Chief Secretary to negotiate and initial the negotiated text of the financing agreement on behalf of GoJ&K by 4 March 2024.
- There is a likelihood of providing project funding to financial intermediaries; it is necessary that these intermediaries have an ESMP before receiving project support. Gol has already issued instructions to Financial Institutions of J&K to prepare an ESMP and the preparation of ESMPs are expected to be completed before the project activities become operational. However, it was agreed that a suitable clause would be included in the Financing Agreement stipulating the flow of funds to financial intermediaries that have prepared and operationalized an ESMP.

163. **Start-up Plans:** IFAD will support APD to organize a start-up workshop. This opportunity will be used to provide training to the staff of the project parties on project implementation modalities, IFAD's financial management and procurement procedures, AWPB and M&E. IFAD will provide backstopping to APD during the first 18 months on project implementation through required technical assistance to streamline implementation modalities. Special attention will be provided to establish a robust financial management, procurement system, and planning, M&E and MIS systems.

164. **Supervision, Mid-term Review and Completion plans**

165. **Supervision:** The project will be directly supervised by IFAD. Annual Supervision Missions will be conducted, and the first supervision mission will take place towards the end of the first year from entry to enforce the project. It will include specialists in agriculture, horticulture, enterprise promotion, financial management and procurement.

166. **Mid-Term Review:** IFAD in cooperation with GoJ&K will undertake a mid-term review (MTR) by the end of the third year of the project to review project achievements and implementation constraints. It will review: (i) the performance of the Directorates/Universities in project implementation, (ii) the progress of the project in achieving the target outcomes; (iii) the impact of project interventions on production and productivity, (iii) progress in enterprise promotion and sustainability of FPOs; (iv) management, fiduciary and procurement performance of the project. The findings and recommendations of the MTR will be used to adjust the project design and improve the exit strategy and sustainability of the project.

167. **Project Completion Review:** As the project reaches the completion point, the JKCIP-PMU in collaboration with the project parties will be required to prepare a Project Completion Report. IFAD and GoJ&K will then carry out a Project Completion Review based on the information provided in the Project Completion Report and other data.

Footnotes

1. Census 2011
2. Human poverty is a term that defines that poverty in J&K is not just limited to the economic status of the people but rather spreads in various other sectors which include lack of education, negligence of health care system, discrimination and disparity
3. 2011 Census of India
4. Urbanization is salient to India's climate contribution for a variety of reasons including increase in traffic, increased use of energy, more infrastructure etc.
5. Average family size of 5.1 in J&K as per National health and family welfare survey, 2015-16.
6. In Feb 2021 the Ministry of Agriculture and Farmers Welfare, Govt of India launched a central sector scheme for Formation and Promotion of 10,000 FPOs across the country.
7. Refer to the report 'Jammu & Kashmir Towards Sustainable and Self reliant Agricultural Revolution. Dec 2023'.
More information in PIM.
8. This was rated as Substantial at PCN stage and has subsequently been reviewed by ECG and a downgrade is suggested based on desk review, findings from field visits and meetings with stakeholders. This needs to be validated by OPR.
9. This was rated as Substantial at PCN stage and has subsequently been reviewed by ECG and a downgrade is suggested based on desk review, findings from field visits and meetings with stakeholders. This needs to be validated by OPR
10. FIGs are generally a group of 10-20 persons undertaking similar activities residing close by. Several FIGs together will form an FPO to achieve economies of scale in factor and output markets.
11. India Development update, The World Bank, Spring 2023
12. The World Bank, Poverty and Inequality Portal and Macro Poverty Outlook, Spring 2023.
13. Global Multidimensional Poverty Index 2023, United Nations Development Programme, Human Development Reports.
14. Global Multidimensional Poverty Index 2022, Unpacking deprivation bundles to reduce multi-dimensional poverty, United Nations Development Programme and Oxford Poverty and Human Development Initiative
15. Source: Nutrition and Food Security, United Nations in India
16. NITI Aayog. Nourishing India. National Nutrition Strategy. Government of India. 2017.
17. Report of the Doubling of Farmers Income committee headed by Dr Ashok Dalwai, IAS, Additional Secretary, Ministry of Agriculture and Farmers Welfare, Government of India
18. [About Jammu and Kashmir: Information on Tourism, Industries, Economy & Geography \(ibef.org\)](#)
19. UNDP, Human Development Report, Oxford University Press, New York, 1997
20. SDG Gender Index 2022. <https://www.equalmeasures2030.org/2022-sdg-gender-index/>
21. Annual Periodic Labour Force Survey (PLFS) Report 2021-22.
22. International Institute for Population Sciences (IIPS) and ICF. 2021. *National Family Health Survey (NFHS-5), India, 2019-21: Jammu & Kashmir*. Mumbai: IIPS.
23. <https://kashmirscanmagazine.com/2023/09/nutrition-interventions-path-forward-for-jk/>
24. State Action Plan on Climate Change, Jammu and Kashmir, Department of Ecology Environment and Remote Sensing. GoJK
25. India, Country Strategic Opportunities Programme 2014-2024
26. The future of food and agriculture – Alternative pathways to 2050
27. Stimulating the Growth of Agribusiness Activities in India, joint report by The World Bank, IFC and ADB (2014)
28. Livelihood collective promotion under ILSP and FPO promotion under Nav Tejaswini followed the strategy of business focused mobilization.
29. Experience from the implementation of the Northeastern Region Community Resources Management Project (NERCOMP).
30. State Action Plans on climate change
31. Project Information Document- Concept stage, Report No. AB2171, The World bank
32. [The India Stack is Revolutionizing Access to Finance - IMF F&D](#)
33. Average family size of 5.1 in J&K as per National health and family welfare survey, 2015-16.
34. Food and Nutrition security related schemes being implemented in J&K include the National Food Security Program, Food Supplementation for Priority Households Schemes in J&K, the PM POSHAN, Supplementary Nutrition Programme, Integrated Child Development Services, Nutritional Rehabilitation Centres, Mid day Meals schemes etc .
35. Experience from other projects in India such as the Integrated Livelihoods Support Project in Uttarakhand (ILSP) show that the two stage group formation of grassroots institutions helps in forming strong and sustainable organisations. Smaller groups of farmers when organised into FIGs or Producer Groups can engage in input and output aggregation, be provided targeted interventions and develop cohesion which helps when organising them into larger groups such as Federations, FPOs or Cooperatives.
36. The new J&K Start up Policy 2023 will also provide guidance to the initiative.
37. [Interest rate on deposit accounts in India - Search \(bing.com\)](#)
38. [India IN: Long-Term Interest Rate: Government Bonds | Economic Indicators | CEIC \(ceicdata.com\)](#)

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 1: Logframe

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions				
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility					
Outreach	1 Persons receiving services promoted or supported by the project				M&E data (Results Framework)	Annual	M&E and KM Manager	(R) Political instability and terror related disruptions not impacting project implementation				
	Males		79500	159000								
	Females		70500	141000								
	Young		45000	90000								
	Not Young											
	Indigenous people		15000	30000								
	Non-Indigenous people											
	Total number of persons receiving services		150000	300000								
	Male		53	53								
	Female		47	47								
	Young		30	30								
	1.b Estimated corresponding total number of households members											
	Household members		765000	1530000								
	1.a Corresponding number of households reached											
	Women-headed households		13500	27000								
Non-women-headed households		136500	273000									
Households		150000	300000									
Project Goal Contribute to the sustained increase in incomes of rural households by improving the competitiveness of the farming operations	Households with more than 70 percent increase in income				Household Level Baseline, Mid-term Review, Impact Study, and Project Completion Study	At baseline, midterm and completion	PMU/ External agency	Relatively stable security and economic conditions exist and				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
			30	70				continued government support for the project
	Households		30	70				
	CI 1.2.4 - Households with an increase in production by more than 30% (niche field crops and horticultural crops)				Baseline survey, mid-term survey and end-line survey	At baseline, midterm and completion	PMU/ External agency	
	Household		30	70				
	Households with an increase in productivity by more than 15% - (niche field crops and horticultural crops)				Baseline survey, mid-term survey and end-line survey	At baseline, midterm and completion	PMU/ External agency	
Households		35	80					
Development Objective Improve the competitiveness of the famers through a value chain approach covering production, value addition of high value niche crops, spices and horticulture produce	Increase in productivity of crops, spices and horticultural produce				Baseline survey, mid-term survey	At baseline, midterm and completion	PMU/ External agency	Relatively stable security and economic conditions exist and continued government support for the project
	Saffron Kg/ha	3	5	7.5				
	Kashmiri Chilli Kg/ha	5000	8000	15000				
	Apple (MT/Ha)	12	14	16				
	Walnut (MT/Ha)	6.25	6.5	7				
	Mango (MT/Ha)	5.5	6	7				
	Citrus (MT/Ha)	2.5	3	4				
	Stone fruits(MT/Ha)	11.25	12	14				
	Percentage of select niche and horticulture produce marketed as A grade/premium product				Baseline survey, mid-term survey and end-line survey	At baseline, midterm and completion	PMU/ External agency	
	Saffron (percentage)		70	95				
	Vegetables (percentage)		50	65				
	Kashmiri Chilli (percentage)		50	65				
	Apple (percentage)	40	45	60				
	Stone fruits (percentage)	30	35	45				
Mango (percentage)	20	25	30					

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	Citrus (percentage)	20	25	30				
Outcome Outcome 1: Expansion and improved performance of Rural Producers' Organizations (FPOs)	2.2.1 Persons with new jobs/employment opportunities				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	Community support to collectivization efforts to reduce costs and increase production
	Males		1595	3190				
	Females		1415	2830				
	Indigenous people		625	1250				
	Young		900	1805				
	Total number of persons with new jobs/employment opportunities		3010	6020				
	Persons with disabilities		36	72				
	2.2.4 Supported rural producers' organizations providing new or improved services to their members				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	
	Number of POs	56	70	101				
	Total number of POs members	16800	21000	30300				
	Males POs members	8904	11130	16059				
	Females POs members	7896	9870	14241				
	Young POs members	5040	6300	9090				
2.2.5 Rural producers' organizations reporting an increase in sales				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency		
Percentage of rural POs		30	70					
Output Output 1.1: Scaling up collectivization	No. of FPOs supported				MIS	Monthly	PMU	Community support to collectivization efforts to reduce costs and increase production
	Number		50	101				
	2.1.4 Supported rural producers that are members of a rural producers' organization				MIS	Monthly	PMU	
	Total number of persons		15000	30300				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Outcome Outcome 2: Enhanced productivity and production (niche and horticultural crops)	3.2.2 Households reporting adoption of environmentally sustainable and climate-resilient technologies and practices				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	Households respond to opportunities in productivity and production expansion of niche and agricultural crop
	Total number of household members		4500	21210				
	Households		30	70				
	Households		4500	21210				
	Area expansion under niche crops				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	
	Hectares of land		1403	2805				
	Area expansion under horticultural crops				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	
Hectares of land		773	1545					
Output Output 2.1: GAP training	No. of farmers trained in GAP (niche and horticultural crops)				MIS	Monthly	PMU	
	Farmers		16200	32400				
Output Output 2.2: Access to inputs/technology packages	1.1.3 Rural producers accessing production inputs and/or technological packages				MIS	Monthly	PMU	
	Males		8029	16059				
	Females		7121	14241				
	Young		4545	9090				
	Total rural producers		15150	30300				
	3.1.4 Land brought under climate-resilient practices				MIS	Monthly	PMU	
	Hectares of land		773	1545				
Output Output 2.3: Water management systems established	No. of water management systems established				MIS	Monthly	PMU	
	Water systems		675	1350				
Output Output 2.4: Nurseries established	No. of Nurseries established				MIS	Monthly	PMU	
	Nurseries		160	320				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Outcome Outcome 3: Improved price realization of Agri and allied farmers	Percentage of farmers reporting increase in farm gate prices				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	Stable market conditions for domestic and export trade
	Farmers		30	70				
	2.2.2 Supported rural enterprises reporting an increase in profit				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	
	Percentage of enterprises		30	70				
	Percentage of supported enterprises benefiting from improved market linkages				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	
	Enterprises		30	70				
Percentage of start-ups supported with youth ownership				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency		
Start-ups		30	60					
Output Output 3.1: Enterprise promotion	Number of enterprises supported				MIS	Monthly	PMU	Stable market conditions for domestic and export trade
	Enterprises		602	1204				
	2.1.2 Persons trained in income-generating activities or business management				MIS	Monthly	PMU	
	Males		319	638				
	Females		283	566				
	Young		180	361				
	Persons trained in IGAs or BM (total)		602	1204				
Output Output 3.2: Market promotion	Number of MSP conducted				MIS	Monthly	PMU	Stable market conditions for domestic and export trade
	MSP		6	12				
	Number of Buyer-Seller meets conducted				MIS	Monthly	PMU	
	Meets		14	28				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output Output 3.3: Incubation and start-up	Number of start-ups supported with seed funds				MIS	Monthly	PMU	Stable market conditions for domestic and export trade
	Start-ups		175	350				
	Number of start-ups accessing scale up funds				MIS	Monthly	PMU	
	Start-ups		60	120				
Outcome Outcome 4: Improved resilience of vulnerable groups	Percentage of pastoralists reporting improvements in wool prices				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	Vulnerable households have the ability to diversify their livelihood options
	Percentage		25	50				
	Percentage of vulnerable households reporting diversification of livelihood options				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	
	Percentage		15	30				
	Percentage of youth clubs participating in community action related environment				MIS, Baseline survey, mid-term survey and end-line survey	Monthly and at baseline, midterm and completion	PMU/External agency	
	Percentage		30	60				
Output Output 4.1: Pastoralists support	Percentage of pastoralists reporting improvements in wool price				MIS	Monthly	PMU	
	Percentage		25	50				
Output Output 4.2: Support to other vulnerable groups	No. of persons from vulnerable community members supported for enterprise development				MIS	Monthly	PMU	Vulnerable households have the ability to diversify their livelihood options
	Number		625	1250				
	Number of youth clubs supported				MIS	Monthly	PMU	
	Number		1300	2700				
Outcome Outcome 5: Project Management systems strengthened	SF.2.1 Households satisfied with project-supported services							Adequate capacity within the implementing agencies to implement the project
	Household members		52500	105000				
	Indigenous households		5250	21000				
	Women-headed households		4725	18900				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	Households (%)		35	70				
	Households (number)		52500	105000				
	SF.2.2 Households reporting they can influence decision-making of local authorities and project-supported service providers							
	Household members		52500	105000				
	Indigenous households		5250	21000				
	Women-headed households		4725	18900				
	Households (%)		35	70				
	Households (number)		52500	105000				
Output Output 5.1: Policy engagement	Policy studies conducted				MIS	Monthly	PMU	Adequate capacity within the implementing agencies to implement the project
	Studies		2	4				
	Policy workshops conducted				MIS	Monthly	PMU	
	Workshops		2	4				
Output Output 5.2: Staff training of staff of Agri and allied Directorates	100 % recruitment of agreed human resources				MIS	Monthly	PMU	Adequate capacity within the implementing agencies to implement the project
	Positions in place		100	100				

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 2: Theory of change

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Annex 2: Theory of Change

Key challenges	Strategies to address challenges	Proposed Interventions	Outcomes	Impact	Goal /Objective
Small and marginal farmers with fragmented landholding and inadequate economies of scale.	Mobilize Community Institutions (Cis) to realise the potential of collectivisation.	Promotion of CIs, support for aggregation, storing and primary value addition and service delivery in business mode.	Collective purchase of inputs and sale of outputs and shift improved farming practices.	Improved farm gate price of outputs and reduction in input cost.	Sustained increase in incomes by improving competitiveness of the farmers through a value chain approach covering production, value addition and marketing of high value niche products from agriculture and allied sectors
Inadequate focus on comparative advantage due to self-sufficiency and food security focussed cereal-centric agriculture production systems.	Shift to climate-resilient high value niche crops to harness agroclimatic advantages.	Introduce good agriculture practices and expand high-value niche crops with support for addressing value chain constraints related to production expansion and productivity enhancement.	Expansion of area under niche crops and increase in productivity with climate resilient good agriculture practices.	Improved price realization from niche crops compared to regular cereal crops.	
Apple-centric horticulture coupled with poor management practices and limited focus on intensification, better management practices and diversification	Intensification with better management practices and diversification into other fruit and nut crops	Intensification and expansion of area under fruit and nut crops coupled with better management practices	Expansion of area under horticultural crops and increase in productivity with climate resilient good agriculture practices.	Improved price realization from horticultural crops	
Inadequate investments in post harvest activities with inadequate efforts for value addition, processing and enterprise promotion	Private sector-led support for enterprise development, provision of incubation and business development services to start-ups and entrepreneurs	Support for the establishment of enterprises in Agri Horti sectors and establishment of Business Incubators and Business Development Services for start-ups	Increased value addition and resultant increased demand for Agri-allied produce	Improved farm gate price and increased job opportunities	
Limited market development efforts, large number of marketing intermediaries, and inadequate aggregation, storing and transportation facilities	Market linkage establishment, market development and market promotion	Conduct MSP to establish market linkages, develop the Jammu and Kashmir brand and make foray into new markets	Improved marketing and better value realization	Improved demand for agriculture and horticulture products from Jammu and Kashmir	
Limited livelihood diversification opportunities coupled with low price of wool, breed deterioration of ponies and goats, milk marketing issues for vulnerable groups and low engagement with the youth	Private sector participation in marketing-related efforts and create opportunities for livelihood diversification	Support for the wool sector based on a feasibility study, breed improvement and enterprise support to vulnerable communities and support for environmental-related community action by youth.	Improved wool utilization, breed improvement of ponies and goats, and improved milk marketing channels, enterprise creation and youth engagement.	Improved price realization by vulnerable group for wool and milk, income diversification by enterprise promotion and improved youth action in environment related activities.	
Evolving sector strategies, and regulatory and policy framework	Develop and formulate appropriate sector strategies and regulatory and policy framework related to production, price and climate risks.	Support to policy dialogue, and policy and standards formulation	Formulation and review of policies, regulations, and standards	Improved stakeholder participation in policy formulation with improved focus on climate risks	

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 3: Project cost and financing: Detailed costs tables

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Annex 3: Project Costs and Financing

A. Introduction

1. This annex provides information on the assumptions made to estimate Project costs and presents the actual Project costs of JKCIP as well as the financing plan, prepared using the COSTAB software.
2. The summary tables of the total costs of the Project are available both in the PDR and annex. The detailed costs tables per component/sub-component are available in the annex, where each detailed table includes: (i) the quantities, unit costs (in US\$ and Rupee), and total costs including contingencies (in US\$'000).
3. **Project Components:** The project has been designed with 4 components: 1: Climate-smart and market-led production, 2: Agri-business ecosystem development, 3: Support to vulnerable communities and 4: Project Management.

B. Project costs:

4. The total JKCIP incremental investment and recurrent costs, including price and physical contingencies are estimated at US\$217.2 million. This includes base costs of US\$160.5 million and estimated price and physical contingencies of US\$56.6 million. The overall investment costs have been estimated at US\$153.1 million (95 per cent of base costs) with recurrent costs at US\$7.3 million (5 per cent of base costs). JKCIP will be implemented over a period of 7 years but spread over 8 financial years.

C. Price Contingencies

5. Price contingency allowances reflect expected increases in Project costs due to changes in unit prices for the various resources that the Project will require. They are taken into account by the COSTAB software in the calculation of the total costs of the Project. Price contingencies include the impact of expected inflation and alterations in the exchange rate.

D. Physical contingency

6. Physical contingency allowances reflect expected increases in the base cost estimates due to changes in quantities and/or methods of implementation.
7. The breakdown of the costs by component and sub-component showing base costs and contingencies both in US\$ and Rupee is shown in table 1 below. Table 2 shows the breakdown of the costs by expenditure category including base costs and contingencies both in US\$ and Rupee.

Table 1: Summary of costs by components & sub-components: base costs & contingencies

India
Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir
Components Project Cost Summary

	(INR '000)			(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
A. Climate-smart and market-led production								
Upscaling collectivization	471,672	36,280	507,952	5,666	436	6,102	7	4
Agri-niche crop promotion	2,650,482	229,242	2,879,724	31,841	2,754	34,595	8	22
Horticulture crop promotion	3,387,630	286,179	3,673,810	40,697	3,438	44,135	8	27
Subtotal	6,509,784	551,701	7,061,485	78,205	6,628	84,833	8	53
B. Agri-business ecosystem development								
Enterprise promotion support	3,051,309	265,331	3,316,640	36,657	3,188	39,844	8	25
Market promotion support	172,408	14,992	187,400	2,071	180	2,251	8	1
Incubation and start-up	893,848	72,832	966,680	10,738	875	11,613	8	7
Subtotal	4,117,565	353,155	4,470,720	49,466	4,243	53,709	8	33
C. Support to vulnerable communities								
Support for pastoralists	57,040	4,960	62,000	685	60	745	8	-
Support for other vulnerable communities	1,122,400	97,600	1,220,000	13,484	1,173	14,656	8	9
Subtotal	1,179,440	102,560	1,282,000	14,169	1,232	15,401	8	10
D. Project Management								
Project Management	451,965	1,920	453,885	5,430	23	5,453	-	3
M&E and MIS	54,809	4,766	59,575	658	57	716	8	-
KM and Policy	31,464	2,736	34,200	378	33	411	8	-
Subtotal	538,238	9,422	547,660	6,466	113	6,579	2	4
Total BASELINE COSTS	12,345,026	1,016,839	13,361,865	148,306	12,216	160,522	8	100
Physical Contingencies	1,209,912	100,734	1,310,646	14,535	1,210	15,745	8	10
Price Contingencies	3,139,818	265,681	3,405,499	37,720	3,192	40,912	8	25
Total PROJECT COSTS	16,694,756	1,383,254	18,078,010	200,562	16,618	217,179	8	135

Table 2: Summary of costs expenditure accounts: base costs & contingencies

India
Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir
Expenditure Accounts Project Cost Summary

	(INR '000)			(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
I. Investment Costs								
A. Training and Workshops	174,567	13,617	188,185	2,097	164	2,261	7	1
B. Consultancies	211,099	18,356	229,455	2,536	221	2,757	8	2
C. Goods, Services and Inputs	6,861,185	586,201	7,447,386	82,427	7,042	89,469	8	56
D. Equipment and Materials	307,085	25,540	332,625	3,689	307	3,996	8	2
E. Grants and Subsidies	4,187,633	364,142	4,551,775	50,308	4,375	54,683	8	34
Total Investment Costs	11,741,569	1,007,857	12,749,425	141,057	12,108	153,165	8	95
II. Recurrent Costs								
A. Salaries and Allowances	425,200	5,760	430,960	5,108	69	5,177	1	3
B. Operating Costs	178,258	3,222	181,480	2,141	39	2,180	2	1
Total Recurrent Costs	603,458	8,982	612,440	7,250	108	7,358	1	5
Total BASELINE COSTS	12,345,026	1,016,839	13,361,865	148,306	12,216	160,522	8	100
Physical Contingencies	1,209,912	100,734	1,310,646	14,535	1,210	15,745	8	10
Price Contingencies	3,139,818	265,681	3,405,499	37,720	3,192	40,912	8	25
Total PROJECT COSTS	16,694,756	1,383,254	18,078,010	200,562	16,618	217,179	8	135

E. Project financing/co-financing strategy and plan

- JKCIP will be financed as follows: IFAD financing is projected at US\$100 million (46 per cent of the total project costs); Domestic financing from GoJ&K and beneficiaries is US\$26.4 million & US\$ 45.7 million (12 per cent & 21 per cent respectively). Beneficiary contribution will be both in cash and in-kind (raw materials and labour). Convergence support is US\$3.4 million (2 per cent), Private Sector: US\$20.7 million. Contribution from the banks will be US\$20.8 million.
- Allocation of costs by component:** Out of the overall project costs, component 1; Climate-smart and market-led production has been allocated the biggest proportion of 52 percent, equivalent to US\$113.4 million. Component 2; Agri-business ecosystem development accounts for 34 percent equivalent to US\$74 million, while component 3; Support to vulnerable communities accounts for 10 per cent which is equivalent to US\$20.6 million. The Project Management component has been allocated US\$ 8.9 million, 4 percent of the total costs. The summary of

project financing by component, expenditure categories and component by year is presented in table 3,4&5 below.

Table 3: Total project costs by components & sub-components, and financier.

India
Competitiveness Improvement of the Agriculture and Allied
Sectors Project in Jammu and Kashmir
Components by Financiers
(US\$ '000)

	IFAD		GoJ&K		Convergence		Beneficiary		Private Sector		Bank		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Climate-smart and market-led production														
Upscaling collectivization	5,419	73	1,534	21	-	-	517	7	-	-	-	-	7,470	3
Agri-niche crop promotion	20,016	43	5,042	11	-	-	21,504	46	-	-	-	-	46,562	21
Horticulture crop promotion	24,246	41	6,062	10	-	-	22,945	39	6,162	10	-	-	59,415	27
Subtotal	49,681	44	12,638	11	-	-	44,966	40	6,162	5	-	-	113,446	52
B. Agri-business ecosystem development														
Enterprise promotion support	22,261	41	6,590	12	-	-	-	-	10,316	19	15,422	28	54,589	25
Market promotion support	2,249	80	562	20	-	-	-	-	-	-	-	-	2,811	1
Incubation and start-up	4,678	28	1,170	7	3,255	20	-	-	2,170	13	5,424	33	16,696	8
Subtotal	29,188	39	8,322	11	3,255	4	-	-	12,486	17	20,846	28	74,096	34
C. Support to vulnerable communities														
Support for pastoralists	453	49	113	12	195	21	-	-	171	18	-	-	931	0
Support for other vulnerable communities	13,504	68	3,555	18	-	-	785	4	1,893	10	-	-	19,737	9
Subtotal	13,957	68	3,669	18	195	1	785	4	2,064	10	-	-	20,668	10
D. Project Management														
Project Management	5,934	80	1,484	20	-	-	-	-	-	-	-	-	7,418	3
M&E and MIS	825	80	206	20	-	-	-	-	-	-	-	-	1,031	1
KM and Policy	416	80	104	20	-	-	-	-	-	-	-	-	520	0
Subtotal	7,175	80	1,794	20	-	-	-	-	-	-	-	-	8,969	4
Total PROJECT COSTS	100,000	46	26,422	12	3,449	2	45,751	21	20,711	10	20,846	10	217,179	100

Table 4: Total project costs by expenditure accounts and financier

India
Competitiveness Improvement of the Agriculture
and Allied Sectors Project in Jammu and Kashmir
Expenditure Accounts by Financiers
(US\$ '000)

	IFAD		GoJ&K		Convergence		Beneficiary		Private Sector		Bank		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs														
A. Training and Workshops	2,287	80	572	20	-	-	-	-	-	-	-	-	2,859	1
B. Consultancies	2,829	78	707	19	115	3	-	-	-	-	-	-	3,652	2
C. Goods, Services and Inputs	46,464	38	11,835	10	3,334	3	44,535	37	8,829	7	5,915	5	120,911	56
D. Equipment and Materials	3,452	69	935	19	-	-	634	13	-	-	-	-	5,020	2
E. Grants and Subsidies	36,944	50	10,368	14	-	-	581	1	11,882	16	14,932	20	74,707	34
Total Investment Costs	91,976	44	24,416	12	3,449	2	45,751	22	20,711	10	20,846	10	207,149	95
II. Recurrent Costs														
A. Salaries and Allowances	5,648	80	1,412	20	-	-	-	-	-	-	-	-	7,060	3
B. Operating Costs	2,376	80	594	20	-	-	-	-	-	-	-	-	2,970	1
Total Recurrent Costs	8,024	80	2,006	20	-	-	-	-	-	-	-	-	10,030	5
Total PROJECT COSTS	100,000	46	26,422	12	3,449	2	45,751	21	20,711	10	20,846	10	217,179	100

Table 5: Total project costs by component & sub-component and by year

India
Competitiveness Improvement of the Agriculture and Allied Sectors Project in
Jammu and Kashmir
Project Components by Year -- Totals Including Contingencies
(US\$ '000)

	Totals Including Contingencies								
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
A. Climate-smart and market-led production									
Upscaling collectivization	23	1,493	2,430	1,896	1,035	288	303	-	7,470
Agri-niche crop promotion	38	3,462	8,672	9,743	9,982	8,442	6,184	39	46,562
Horticulture crop promotion	70	7,118	13,931	14,295	14,624	6,166	3,210	-	59,415
Subtotal	132	12,073	25,034	25,934	25,641	14,896	9,698	39	113,446
B. Agri-business ecosystem development									
Enterprise promotion support	-	6,206	13,323	17,459	14,026	2,107	1,467	-	54,589
Market promotion support	-	363	1,012	1,113	217	51	54	-	2,811
Incubation and start-up	5	750	2,936	3,833	3,791	3,857	1,348	176	16,696
Subtotal	5	7,318	17,272	22,406	18,034	6,015	2,869	176	74,096
C. Support to vulnerable communities									
Support for pastoralists	-	194	328	161	162	85	-	-	931
Support for other vulnerable communities	-	2,087	3,551	3,743	3,912	3,666	2,779	-	19,737
Subtotal	-	2,281	3,879	3,904	4,074	3,752	2,779	-	20,668
D. Project Management									
Project Management	230	1,063	1,041	1,090	1,068	1,126	1,186	614	7,418
M&E and MIS	10	98	75	79	50	53	667	-	1,031
KM and Policy	32	192	92	104	27	35	28	10	520
Subtotal	272	1,352	1,208	1,273	1,145	1,213	1,881	624	8,969
Total PROJECT COSTS	410	23,024	47,392	53,517	48,894	25,876	17,227	839	217,179

F. IFAD Financing

10. IFAD financing of US\$100 million (46% of total project costs) will be spread among all the four components and the various activities. Component 1; Climate-smart and market-led production accounts for US\$49.6 million of the IFAD financing while component 2; Agri-business ecosystem development takes US\$29.1 million. Component 3; Support to vulnerable communities has been allocated US\$14 million and component 4; Project Management, US\$7.1 million.

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir

Components by Financiers

(US\$ '000)

	IFAD	
	Amount	%
A. Climate-smart and market-led production		
Upscaling collectivization	5,419	73
Agri-niche crop promotion	20,016	43
Horticulture crop promotion	24,246	41
Subtotal	49,681	44
B. Agri-business ecosystem development		
Enterprise promotion support	22,261	41
Market promotion support	2,249	80
Incubation and start-up	4,678	28
Subtotal	29,188	39
C. Support to vulnerable communities		
Support for pastoralists	453	49
Support for other vulnerable communities	13,504	68
Subtotal	13,957	68
D. Project Management		
Project Management	5,934	80
M&E and MIS	825	80
KM and Policy	416	80
Subtotal	7,175	80
Total PROJECT COSTS	100,000	46

APPENDIX A: Summary of Cost Tables

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Table 1: Components by Financiers

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir

Components by Financiers

(US\$ '000)

	IFAD		GoJ&K		Convergence		Beneficiary		Private Sector		Bank		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
A. Climate-smart and market-led production																	
Upscaling collectivization	5,419	73	1,534	21	-	-	517	7	-	-	-	-	7,470	3	533	6,508	429
Agri-niche crop promotion	20,016	43	5,042	11	-	-	21,504	46	-	-	-	-	46,562	21	3,727	42,834	-
Horticulture crop promotion	24,246	41	6,062	10	-	-	22,945	39	6,162	10	-	-	59,415	27	4,659	54,756	-
Subtotal	49,681	44	12,638	11	-	-	44,966	40	6,162	5	-	-	113,446	52	8,919	104,098	429
B. Agri-business ecosystem development																	
Enterprise promotion support	22,261	41	6,590	12	-	-	-	-	10,316	19	15,422	28	54,589	25	4,386	43,652	6,551
Market promotion support	2,249	80	562	20	-	-	-	-	-	-	-	-	2,811	1	226	2,585	-
Incubation and start-up	4,678	28	1,170	7	3,255	20	-	-	2,170	13	5,424	33	16,696	8	1,268	15,302	127
Subtotal	29,188	39	8,322	11	3,255	4	-	-	12,486	17	20,846	28	74,096	34	5,880	61,539	6,678
C. Support to vulnerable communities																	
Support for pastoralists	453	49	113	12	195	21	-	-	171	18	-	-	931	0	75	856	-
Support for other vulnerable communities	13,504	68	3,555	18	-	-	785	4	1,893	10	-	-	19,737	9	1,588	17,851	299
Subtotal	13,957	68	3,669	18	195	1	785	4	2,064	10	-	-	20,668	10	1,663	18,707	299
D. Project Management																	
Project Management	5,934	80	1,484	20	-	-	-	-	-	-	-	-	7,418	3	31	7,374	13
M&E and MIS	825	80	206	20	-	-	-	-	-	-	-	-	1,031	1	83	939	9
KM and Policy	416	80	104	20	-	-	-	-	-	-	-	-	520	0	42	478	-
Subtotal	7,175	80	1,794	20	-	-	-	-	-	-	-	-	8,969	4	156	8,791	22
Total PROJECT COSTS	100,000	46	26,422	12	3,449	2	45,751	21	20,711	10	20,846	10	217,179	100	16,618	193,135	7,426

Table 2: Expenditure Accounts by Financiers

India

Competitiveness Improvement of the Agriculture
and Allied Sectors Project in Jammu and Kashmir

Expenditure Accounts by Financiers

(US\$ '000)

	IFAD		GoJ&K		Convergence		Beneficiary		Private Sector		Bank		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
I. Investment Costs																	
A. Training and Workshops	2,287	80	572	20	-	-	-	-	-	-	-	-	2,859	1	209	2,606	44
B. Consultancies	2,829	78	707	19	115	3	-	-	-	-	-	-	3,652	2	294	3,342	16
C. Goods, Services and Inputs	46,464	38	11,835	10	3,334	3	44,535	37	8,829	7	5,915	5	120,911	56	9,576	110,664	671
D. Equipment and Materials	3,452	69	935	19	-	-	634	13	-	-	-	-	5,020	2	387	4,313	320
E. Grants and Subsidies	36,944	50	10,368	14	-	-	581	1	11,882	16	14,932	20	74,707	34	6,005	62,411	6,291
Total Investment Costs	91,976	44	24,416	12	3,449	2	45,751	22	20,711	10	20,846	10	207,149	95	16,471	183,337	7,341
II. Recurrent Costs																	
A. Salaries and Allowancies	5,648	80	1,412	20	-	-	-	-	-	-	-	-	7,060	3	94	6,900	66
B. Operating Costs	2,376	80	594	20	-	-	-	-	-	-	-	-	2,970	1	52	2,898	19
Total Recurrent Costs	8,024	80	2,006	20	-	-	-	-	-	-	-	-	10,030	5	147	9,798	85
Total PROJECT COSTS	100,000	46	26,422	12	3,449	2	45,751	21	20,711	10	20,846	10	217,179	100	16,618	193,135	7,426

Table 3: Disbursements by Semesters and Government Cash Flow

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project
in Jammu and Kashmir

Disbursements by Semesters and Government Cash Flow

(US\$ '000)

	Financing Available						Costs to be		GoJ&K	
	IFAD	Convergence	Beneficiary	Private	Bank	Total	Financed	Project	Cash Flow	Cumulative
				Sector						
Amount	Amount	Amount	Amount	Amount		Costs	Cash Flow	Cash Flow		
1	164	-	-	-	-	164	205	-41	-41	
2	164	-	-	-	-	164	205	-41	-82	
3	5,733	-	1,867	1,508	876	9,985	11,512	-1,527	-1,609	
4	5,733	-	1,867	1,508	876	9,985	11,512	-1,527	-3,137	
5	11,071	273	4,721	2,395	2,292	20,752	23,696	-2,944	-6,080	
6	11,071	273	4,721	2,395	2,292	20,752	23,696	-2,944	-9,024	
7	12,036	417	5,079	2,888	3,115	23,536	26,758	-3,223	-12,247	
8	12,036	417	5,079	2,888	3,115	23,536	26,758	-3,223	-15,470	
9	10,627	440	5,266	2,629	2,663	21,625	24,447	-2,822	-18,292	
10	10,627	440	5,266	2,629	2,663	21,625	24,447	-2,822	-21,114	
11	5,693	442	3,623	696	1,018	11,473	12,938	-1,465	-22,580	
12	5,693	442	3,623	696	1,018	11,473	12,938	-1,465	-24,045	
13	4,341	152	2,318	239	459	7,509	8,614	-1,105	-25,150	
14	4,341	152	2,318	239	459	7,509	8,614	-1,105	-26,255	
15	335	-	-	-	-	335	419	-84	-26,338	
16	335	-	-	-	-	335	419	-84	-26,422	
Total	100,000	3,449	45,751	20,711	20,846	190,757	217,179	-26,422	-26,422	

Table 4: Components Project Cost Summary

India

Competitiveness Improvement of the Agriculture and Allied
Sectors Project in Jammu and Kashmir**Components Project Cost Summary**

	(INR '000)			(US\$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange	Base Costs
A. Climate-smart and market-led production								
Upscaling collectivization	471,672	36,280	507,952	5,666	436	6,102	7	4
Agri-niche crop promotion	2,650,482	229,242	2,879,724	31,841	2,754	34,595	8	22
Horticulture crop promotion	3,387,630	286,179	3,673,810	40,697	3,438	44,135	8	27
Subtotal	6,509,784	551,701	7,061,485	78,205	6,628	84,833	8	53
B. Agri-business ecosystem development								
Enterprise promotion support	3,051,309	265,331	3,316,640	36,657	3,188	39,844	8	25
Market promotion support	172,408	14,992	187,400	2,071	180	2,251	8	1
Incubation and start-up	893,848	72,832	966,680	10,738	875	11,613	8	7
Subtotal	4,117,565	353,155	4,470,720	49,466	4,243	53,709	8	33
C. Support to vulnerable communities								
Support for pastoralists	57,040	4,960	62,000	685	60	745	8	-
Support for other vulnerable communities	1,122,400	97,600	1,220,000	13,484	1,173	14,656	8	9
Subtotal	1,179,440	102,560	1,282,000	14,169	1,232	15,401	8	10
D. Project Management								
Project Management	451,965	1,920	453,885	5,430	23	5,453	-	3
M&E and MIS	54,809	4,766	59,575	658	57	716	8	-
KM and Policy	31,464	2,736	34,200	378	33	411	8	-
Subtotal	538,238	9,422	547,660	6,466	113	6,579	2	4
Total BASELINE COSTS	12,345,026	1,016,839	13,361,865	148,306	12,216	160,522	8	100
Physical Contingencies	1,209,912	100,734	1,310,646	14,535	1,210	15,745	8	10
Price Contingencies	3,139,818	265,681	3,405,499	37,720	3,192	40,912	8	25
Total PROJECT COSTS	16,694,756	1,383,254	18,078,010	200,562	16,618	217,179	8	135

Table 5: Expenditure Accounts Project Cost Summary

India

Competitiveness Improvement of the Agriculture and Allied
Sectors Project in Jammu and Kashmir**Expenditure Accounts Project Cost Summary**

	(INR '000)			(US\$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange	Base Costs
I. Investment Costs								
A. Training and Workshops	174,567	13,617	188,185	2,097	164	2,261	7	1
B. Consultancies	211,099	18,356	229,455	2,536	221	2,757	8	2
C. Goods, Services and Inputs	6,861,185	586,201	7,447,386	82,427	7,042	89,469	8	56
D. Equipment and Materials	307,085	25,540	332,625	3,689	307	3,996	8	2
E. Grants and Subsidies	4,187,633	364,142	4,551,775	50,308	4,375	54,683	8	34
Total Investment Costs	11,741,569	1,007,857	12,749,425	141,057	12,108	153,165	8	95
II. Recurrent Costs								
A. Salaries and Allowancies	425,200	5,760	430,960	5,108	69	5,177	1	3
B. Operating Costs	178,258	3,222	181,480	2,141	39	2,180	2	1
Total Recurrent Costs	603,458	8,982	612,440	7,250	108	7,358	1	5
Total BASELINE COSTS	12,345,026	1,016,839	13,361,865	148,306	12,216	160,522	8	100
Physical Contingencies	1,209,912	100,734	1,310,646	14,535	1,210	15,745	8	10
Price Contingencies	3,139,818	265,681	3,405,499	37,720	3,192	40,912	8	25
Total PROJECT COSTS	16,694,756	1,383,254	18,078,010	200,562	16,618	217,179	8	135

Table 6: Expenditure Accounts by Components - Totals Including Contingencies

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir

Expenditure Accounts by Components - Totals Including Contingencies

(US\$ '000)

	Climate-smart and market-led production			Agri-business ecosystem development			Support to vulnerable communities		Project Management			Total
	Upscaling collectivization	Agri-niche crop promotion	Horticulture crop promotion	Enterprise promotion support	Market promotion support	Incubation and start-up	Support for pastoralists	Support for other vulnerable communities	Project	M&E and	KM and	
									Management	MIS	Policy	
I. Investment Costs												
A. Training and Workshops	146	357	545	363	88	922	15	-	-	-	422	2,859
B. Consultancies	173	1,259	140	132	88	226	259	-	314	965	97	3,652
C. Goods, Services and Inputs	3,515	42,890	57,667	1,672	1,760	10,966	657	1,695	27	62	-	120,911
D. Equipment and Materials	1,571	661	841	-	876	230	-	793	44	4	-	5,020
E. Grants and Subsidies	461	1,163	-	52,422	-	3,413	-	17,249	-	-	-	74,707
Total Investment Costs	5,867	46,330	59,193	54,589	2,811	15,756	931	19,737	385	1,031	520	207,149
II. Recurrent Costs												
A. Salaries and Allowancies	1,174	-	-	-	-	662	-	-	5,225	-	-	7,060
B. Operating Costs	429	232	223	-	-	279	-	-	1,808	-	-	2,970
Total Recurrent Costs	1,602	232	223	-	-	941	-	-	7,033	-	-	10,030
Total PROJECT COSTS	7,470	46,562	59,415	54,589	2,811	16,696	931	19,737	7,418	1,031	520	217,179
Taxes	429	-	-	6,551	-	127	-	299	13	9	-	7,426
Foreign Exchange	533	3,727	4,659	4,386	226	1,268	75	1,588	31	83	42	16,618

Table 7: Project Components by Year -- Totals Including Contingencies

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir

Project Components by Year -- Totals Including Contingencies

(US\$ '000)

	Totals Including Contingencies								
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
A. Climate-smart and market-led production									
Upscaling collectivization	23	1,493	2,430	1,896	1,035	288	303	-	7,470
Agri-niche crop promotion	38	3,462	8,672	9,743	9,982	8,442	6,184	39	46,562
Horticulture crop promotion	70	7,118	13,931	14,295	14,624	6,166	3,210	-	59,415
Subtotal	132	12,073	25,034	25,934	25,641	14,896	9,698	39	113,446
B. Agri-business ecosystem development									
Enterprise promotion support	-	6,206	13,323	17,459	14,026	2,107	1,467	-	54,589
Market promotion support	-	363	1,012	1,113	217	51	54	-	2,811
Incubation and start-up	5	750	2,936	3,833	3,791	3,857	1,348	176	16,696
Subtotal	5	7,318	17,272	22,406	18,034	6,015	2,869	176	74,096
C. Support to vulnerable communities									
Support for pastoralists	-	194	328	161	162	85	-	-	931
Support for other vulnerable communities	-	2,087	3,551	3,743	3,912	3,666	2,779	-	19,737
Subtotal	-	2,281	3,879	3,904	4,074	3,752	2,779	-	20,668
D. Project Management									
Project Management	230	1,063	1,041	1,090	1,068	1,126	1,186	614	7,418
M&E and MIS	10	98	75	79	50	53	667	-	1,031
KM and Policy	32	192	92	104	27	35	28	10	520
Subtotal	272	1,352	1,208	1,273	1,145	1,213	1,881	624	8,969
Total PROJECT COSTS	410	23,024	47,392	53,517	48,894	25,876	17,227	839	217,179

Table 8: Project Components by Year -- Investment/Recurrent Costs

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project
in Jammu and Kashmir

Project Components by Year -- Investment/Recurrent Costs

(US\$ '000)

	Totals Including Contingencies								Total
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	
A. Climate-smart and market-led production									
Upscaling collectivization									
Investment Costs	23	1,260	2,184	1,637	762	-	-	-	5,867
Recurrent Costs	-	233	246	259	273	288	303	-	1,602
Subtotal	23	1,493	2,430	1,896	1,035	288	303	-	7,470
Agri-niche crop promotion									
Investment Costs	38	3,434	8,642	9,711	9,949	8,407	6,148	-	46,330
Recurrent Costs	-	28	30	31	33	35	37	39	232
Subtotal	38	3,462	8,672	9,743	9,982	8,442	6,184	39	46,562
Horticulture crop promotion									
Investment Costs	44	7,089	13,901	14,263	14,591	6,131	3,173	-	59,193
Recurrent Costs	27	28	30	32	33	35	37	-	223
Subtotal	70	7,118	13,931	14,295	14,624	6,166	3,210	-	59,415
Subtotal	132	12,073	25,034	25,934	25,641	14,896	9,698	39	113,446
B. Agri-business ecosystem development									
Enterprise promotion support									
Investment Costs	-	6,206	13,323	17,459	14,026	2,107	1,467	-	54,589
Recurrent Costs	-	-	-	-	-	-	-	-	-
Subtotal	-	6,206	13,323	17,459	14,026	2,107	1,467	-	54,589
Market promotion support									
Investment Costs	-	363	1,012	1,113	217	51	54	-	2,811
Recurrent Costs	-	-	-	-	-	-	-	-	-
Subtotal	-	363	1,012	1,113	217	51	54	-	2,811
Incubation and start-up									
Investment Costs	-	635	2,816	3,706	3,657	3,715	1,199	27	15,756
Recurrent Costs	5	114	121	127	134	141	149	149	941
Subtotal	5	7,318	17,272	22,406	18,034	6,015	2,869	176	74,096
C. Support to vulnerable communities									
Support for pastoralists									
Investment Costs	-	194	328	161	162	85	-	-	931
Recurrent Costs	-	-	-	-	-	-	-	-	-
Subtotal	-	194	328	161	162	85	-	-	931
Support for other vulnerable communities									
Investment Costs	-	2,087	3,551	3,743	3,912	3,666	2,779	-	19,737
Recurrent Costs	-	-	-	-	-	-	-	-	-
Subtotal	-	2,281	3,879	3,904	4,074	3,752	2,779	-	20,668
D. Project Management									
Project Management									
Investment Costs	64	46	40	42	44	47	49	52	385
Recurrent Costs	166	1,017	1,001	1,047	1,023	1,079	1,137	562	7,033
Subtotal	230	1,063	1,041	1,090	1,068	1,126	1,186	614	7,418
M&E and MIS									
Investment Costs	10	98	75	79	50	53	667	-	1,031
Recurrent Costs	-	-	-	-	-	-	-	-	-
Subtotal	10	98	75	79	50	53	667	-	1,031
KM and Policy									
Investment Costs	32	192	92	104	27	35	28	10	520
Recurrent Costs	-	-	-	-	-	-	-	-	-
Subtotal	32	192	92	104	27	35	28	10	520
Subtotal	272	1,352	1,208	1,273	1,145	1,213	1,881	624	8,969
Total PROJECT COSTS	410	23,024	47,392	53,517	48,894	25,876	17,227	839	217,179
Total Investment Costs	212	21,603	45,965	52,020	47,397	24,299	15,564	89	207,149
Total Recurrent Costs	198	1,421	1,427	1,497	1,497	1,578	1,663	750	10,030

Table 9: Expenditure Accounts by Years -- Totals Including Contingencies

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in
Jammu and Kashmir

Expenditure Accounts by Years -- Totals Including Contingencies
(US\$ '000)

	Totals Including Contingencies								
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs									
A. Training and Workshops	137	706	745	567	236	226	231	10	2,859
B. Consultancies	20	406	680	1,018	591	141	739	56	3,652
C. Goods, Services and Inputs	7	11,502	25,853	28,126	28,159	17,213	10,028	23	120,911
D. Equipment and Materials	47	1,103	1,953	1,492	250	176	-	-	5,020
E. Grants and Subsidies	-	7,886	16,733	20,817	18,161	6,543	4,567	-	74,707
Total Investment Costs	212	21,603	45,965	52,020	47,397	24,299	15,564	89	207,149
II. Recurrent Costs									
A. Salaries and Allowancies	71	1,045	1,031	1,078	1,056	1,113	1,173	495	7,060
B. Operating Costs	127	377	397	418	441	465	490	255	2,970
Total Recurrent Costs	198	1,421	1,427	1,497	1,497	1,578	1,663	750	10,030
Total PROJECT COSTS	410	23,024	47,392	53,517	48,894	25,876	17,227	839	217,179

Appendix B: Detailed Cost Tables

Component A: Climate-smart and market-led production

- Table 1: Up-scaling collectivization
- Quantities and Costs
 - Financing Rule

- Table 2: Agri-niche crop promotion
- Quantities and Costs
 - Financing Rule

- Table 3: Horticulture crop promotion
- Quantities and Costs
 - Financing Rule

Component B: Agri-business ecosystem development

- Table 4: Enterprise promotion support
- Quantities and Costs
 - Financing Rule

- Table 5: Market promotion support
- Quantities and Costs
 - Financing Rule

- Table 6: Incubation and start-up
- Quantities and Costs
 - Financing Rule

Component C: Support to vulnerable communities

- Table 7: Support for pastoralists
- Quantities and Costs
 - Financing Rule

- Table 8: Support for other vulnerable communities
- Quantities and Costs
 - Financing Rule

Component D: Support to vulnerable communities

- Table 9: Project Management, M&E and MIS, and KM & Policy
- Quantities and Costs
 - Financing Rule

Component 1 :Climate-smart and market-led production

Table 1A: Up-scaling collectivization – Quantities and Unit Costs

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and K

Table 1.1. Upscaling collectivization

Detailed Costs

	Unit	Quantities										Unit Cost		Totals Including Contingencies (US\$ '000)									
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	(INR '000)	(US\$)	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total		
I. Investment Costs																							
A. Capacity building of FPO Development Officer																							
Exposure visit to well managed FPOs /a	per person	10	10	-	-	-	-	-	-	-	20	60	721	8	8	-	-	-	-	-	16		
Assessment of FPO business opportunities /b	Person Days	20	10	10	-	-	-	-	-	-	40	24	288	6	3	4	-	-	-	-	13		
Preparation of curriculum for training of FPO-DO /c	Ls	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	7		
Capacity building of FPO-DO (sessions of 5 days and two sessions per person) /d	Person Days	100	200	100	100	-	-	-	-	-	500	2	24	3	6	3	3	-	-	-	14		
Training of FPO staff /e	Per Person	-	1,010	1,010	-	-	-	-	-	-	2,020	1	12	-	14	15	-	-	-	-	29		
Training of FPO leaders /d (4 per FPO for 1 day and three sessions) /f	Per Person	-	404	404	404	-	-	-	-	-	1,212	1	12	-	6	6	6	-	-	-	18		
Training in fruit tree management /e (5 per FPO for 5 days for 60 FPOs) /g	per FPO	-	30	40	-	-	-	-	-	-	70	28	336	-	12	16	-	-	-	-	28		
FPO Business plan preparation	per FPO	-	101	101	-	-	-	-	-	-	202	25	300	-	35	37	-	-	-	-	72		
Technical Assistance - FPO Support /h	Ls	-	-	-	-	-	-	-	-	-	-	-	-	-	17	18	-	-	-	-	35		
FPO-bankable sub-project preparation /i	Per FPO	-	101	101	101	-	-	-	-	-	303	15	180	-	21	22	23	-	-	-	66		
FPO-Bank/ Insurance interaction	Per FPO	-	101	101	101	-	-	-	-	-	303	5	60	-	7	7	8	-	-	-	22		
Subtotal														23	128	128	40	-	-	-	319		
B. FPO Support																							
FPO mobilization support /j	Per FPO	-	15	30	-	-	-	-	-	-	45	100	1,201	-	21	45	-	-	-	-	66		
Management cost support - first three year /k	Per FPO	-	15	45	45	-	-	-	-	-	105	400	4,805	-	85	270	285	-	-	-	640		
Management cost support - fourth year	Per FPO	-	-	-	-	45	-	-	-	-	45	200	2,403	-	-	-	150	-	-	-	150		
Office equipments	Per FPO	-	15	30	-	-	-	-	-	-	45	200	2,403	-	43	90	-	-	-	-	133		
Matching Equity support /l	Per FPO	-	15	30	-	-	-	-	-	-	45	750	9,010	-	148	313	-	-	-	-	461		
Apex Cooperative Support /m	Ls	-	2	2	2	2	2	-	-	-	8	15,000	180,202	-	379	379	379	379	-	-	1,515		
Subtotal														-	676	1,096	663	529	-	-	2,965		
C. Business vertical support																							
Farm mechanization and drudgery reduction	Per FPO	-	10	20	20	-	-	-	-	-	50	200	2,403	-	28	60	63	-	-	-	152		
Water management support	Per FPO	-	10	20	20	-	-	-	-	-	50	1,000	12,013	-	142	300	316	-	-	-	759		
Aggregation support	Per FPO	-	10	20	20	-	-	-	-	-	50	300	3,604	-	43	90	95	-	-	-	228		
FPO managed ASC	Per FPO	-	10	20	15	-	-	-	-	-	45	1,000	12,013	-	142	300	237	-	-	-	680		
FPO Orchard Management Business	Per FPO	-	10	20	20	20	-	-	-	-	70	400	4,805	-	57	120	127	133	-	-	437		
Other emerging businesses	Per FPO	-	10	20	20	20	-	-	-	-	70	300	3,604	-	43	90	95	100	-	-	328		
Subtotal														-	456	960	933	233	-	-	2,583		
Total Investment Costs														23	1,260	2,184	1,637	762	-	-	5,867		
II. Recurrent Costs																							
A. Capacity building of FPO Development Officer																							
Salary of FPO Development Officer	Per Month	-	240	240	240	240	240	240	240	-	1,440	50	601	-	171	180	190	200	211	222	1,174		
FPO Development Officer Operating costs	Per Month	-	240	240	240	240	240	240	240	-	1,440	12	144	-	41	43	46	48	51	53	282		
PO Management costs	Lumpsum	-	1	1	1	1	1	1	1	-	6	1,500	18,020	-	21	23	24	25	26	28	147		
Total Recurrent Costs														-	233	246	259	273	288	303	1,602		
Total														23	1,493	2,430	1,896	1,035	288	303	7,470		

la 5 day visit within the country for the persons responsible for developing curriculum for FPO Dev Officer training

lb A team of two consultants for each province

lc to be undertaken by the Universities for capacity building of FPO Development Officers

ld 20 FPO Dev Officer, 2 sessions of 5 days for first two years and one session per year for next 2 years

le 2 per FPO for 101 FPOs - session of 5 days and two sessions per person

lf 4 per FPO to be conducted a KVKs

lg 5 persons per FPO, 1 week training

lh for developing an approach and process for training, technical assistance, investment proposal design and developing linkages for FPOs. This would include FPO assessment methodology .

li To be prepared in collaboration with the respective line department

lj Mobilization support for 45 New FPO including registration expenses

lk 45 New FPO - 15 to be mobilized during the 24-25 and 30 during 25-26

ll 300 members per FPO, Rs 2000 per member and Rs 3000 per youth and women assuming 50% youth and women

lm To establish Multi-state cooperatives as Apex of FPOs

Table 1B: Up-scaling collectivization – Financing Rule

India
Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and K
Table 1.1. Upscaling collectivization

Detailed Costs	accounts	Fin. Rule	Expenditures by Financiers (US\$ '000)																									
			IFAD										GoJ&K					Beneficiary										
			2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
I. Investment Costs																												
A. Capacity building of FPO Development Officer																												
Exposure visit to well managed FPOs /a	IFAD (80%)		6	7	-	-	-	-	-	-	13	2	2	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Assessment of FPO business opportunities /b	IFAD (80%)		5	3	3	-	-	-	-	-	10	1	1	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Preparation of curriculum for training of FPO-DO /c	IFAD (80%)		5	-	-	-	-	-	-	-	5	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Capacity building of FPO-DO (sessions of 5 days and two sessions per person) /d	IFAD (80%)		2	4	2	2	-	-	-	-	11	1	1	1	1	-	-	-	-	3	-	-	-	-	-	-	-	-
Training of FPO staff /e	IFAD (80%)		-	11	12	-	-	-	-	-	23	-	3	3	-	-	-	-	-	6	-	-	-	-	-	-	-	-
Training of FPO leaders /d (4 per FPO for 1 day and three sessions) /f	IFAD (80%)		-	4	5	5	-	-	-	-	14	-	1	1	1	-	-	-	4	-	-	-	-	-	-	-	-	
Training in fruit tree management /e (5 per FPO for 5 days for 60 FPOs) /g	IFAD (80%)		-	9	13	-	-	-	-	-	22	-	2	3	-	-	-	-	6	-	-	-	-	-	-	-	-	
FPO Business plan preparation	IFAD (80%)		-	28	29	-	-	-	-	-	57	-	7	7	-	-	-	-	14	-	-	-	-	-	-	-	-	
Technical Assistance - FPO Support /h	IFAD (80%)		-	14	14	-	-	-	-	-	28	-	3	4	-	-	-	-	7	-	-	-	-	-	-	-	-	
FPO-bankable sub-project preparation /i	IFAD (80%)		-	17	18	19	-	-	-	-	53	-	4	4	5	-	-	-	13	-	-	-	-	-	-	-	-	
FPO-Bank/ Insurance interaction	IFAD (80%)		-	6	6	6	-	-	-	-	18	-	1	1	2	-	-	-	4	-	-	-	-	-	-	-	-	
Subtotal			19	103	102	32	-	-	-	-	256	5	26	26	8	-	-	-	64	-	-	-	-	-	-	-	-	
B. FPO Support																												
FPO mobilization support /j	IFAD (80%)		-	17	36	-	-	-	-	-	53	-	4	9	-	-	-	-	13	-	-	-	-	-	-	-	-	
Management cost support - first three year /k	IFAD (80%)		-	68	216	228	-	-	-	-	512	-	17	54	57	-	-	-	128	-	-	-	-	-	-	-	-	
Management cost support - fourth year	IFAD (80%)		-	-	-	-	120	-	-	-	120	-	-	-	-	30	-	-	30	-	-	-	-	-	-	-	-	
Office equipments	IFAD (80%)		-	34	72	-	-	-	-	-	106	-	9	18	-	-	-	-	27	-	-	-	-	-	-	-	-	
Matching Equity support /l	IFAD (80%)		-	119	250	-	-	-	-	-	369	-	30	63	-	-	-	-	92	-	-	-	-	-	-	-	-	
Apex Cooperative Support /m	IFAD (80%)		-	293	293	293	293	-	-	-	1,172	-	86	86	86	86	-	-	343	-	-	-	-	-	-	-	-	
Subtotal			-	531	867	521	413	-	-	-	2,332	-	145	229	143	116	-	-	633	-	-	-	-	-	-	-	-	
C. Business vertical support																												
Farm mechanization and drudgery reduction	IFAD (60%), BENEFICIARY (20%)		-	17	36	38	-	-	-	-	91	-	6	12	13	-	-	-	30	-	6	12	13	-	-	-	30	
Water management support	IFAD (60%), BENEFICIARY (20%)		-	85	180	190	-	-	-	-	455	-	28	60	63	-	-	-	152	-	28	60	63	-	-	-	152	
Aggregation support	IFAD (60%), BENEFICIARY (20%)		-	26	54	57	-	-	-	-	137	-	9	18	19	-	-	-	46	-	9	18	19	-	-	-	46	
FPO managed ASC	IFAD (60%), BENEFICIARY (20%)		-	85	180	142	-	-	-	-	408	-	28	60	47	-	-	-	136	-	28	60	47	-	-	-	136	
FPO Orchard Management Business	IFAD (60%), BENEFICIARY (20%)		-	34	72	76	80	-	-	-	262	-	11	24	25	27	-	-	87	-	11	24	25	27	-	-	87	
Other emerging businesses	IFAD (60%), BENEFICIARY (20%)		-	26	54	57	60	-	-	-	197	-	9	18	19	20	-	-	66	-	9	18	19	20	-	-	66	
Subtotal			-	273	576	560	140	-	-	-	1,550	-	91	192	187	47	-	-	517	-	91	192	187	47	-	-	517	
Total Investment Costs			19	907	1,545	1,113	553	-	-	-	4,137	5	262	447	337	162	-	-	1,214	-	91	192	187	47	-	-	517	
II. Recurrent Costs																												
A. Capacity building of FPO Development Officer																												
Salary of FPO Development Officer	IFAD (80%)		-	137	144	152	160	169	178	-	939	-	34	36	38	40	42	44	235	-	-	-	-	-	-	-	-	
FPO Development Officer Operating costs	IFAD (80%)		-	33	35	36	38	40	43	-	225	-	8	9	9	10	10	11	56	-	-	-	-	-	-	-	-	
PO Management costs	IFAD (80%)		-	17	18	19	20	21	22	-	117	-	4	5	5	5	5	6	29	-	-	-	-	-	-	-	-	
Total Recurrent Costs			-	187	197	207	218	230	243	-	1,282	-	47	49	52	55	58	61	320	-	-	-	-	-	-	-	-	
Total			19	1,094	1,742	1,320	771	230	243	-	5,419	5	309	496	389	217	98	61	1,534	-	91	192	187	47	-	-	517	

Table 2A: Agri-niche crop promotion Quantities and Costs

India

Competitiveness Improvement of the Agriculture and Allie

Table 1.2. Agri-niche crop promotion

Detailed Costs

Unit	Quantities										Unit Cost		Totals Including Contingencies (US\$ '000)									
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	(INR '000)	Unit Cost (US\$)	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total		
I. Investment Costs																						
A. Training in CSA and GAP																						
Training curriculum development	Lumpsum	1	-	-	-	-	-	-	1	200	2,403	2	-	-	-	-	-	-	-	2		
Training for Trainers - Within State /a	Per Person	48	48	-	-	-	-	-	96	8	90	5	5	-	-	-	-	-	-	10		
Training for Trainers - National /b	Per Person	40	80	40	-	-	-	-	160	60	721	31	66	35	-	-	-	-	-	133		
Subtotal												38	71	35	-	-	-	-	-	145		
B. Field Staff training /c	Man Days	-	1,000	1,000	1,000	-	-	-	3,000	1	12	-	14	15	15	-	-	-	-	44		
C. Training for Farmers /d	Per Block/FPPO	-	180	180	180	-	-	-	540	5	60	-	12	13	14	-	-	-	-	39		
D. Exposure visits to staff - National /e	Per Person	-	-	16	16	-	-	-	32	60	721	-	-	14	15	-	-	-	-	29		
E. Exposure visit - International /f	Per Person	-	-	5	5	-	-	-	10	400	4,805	-	-	29	31	-	-	-	-	60		
F. Planting material development																						
1. CoE Support																						
Saffron CoE business plan development	Consultancy	-	1	-	-	-	-	-	1	1,000	12,013	-	14	-	-	-	-	-	-	14		
CoE Tulip feasibility study	Consultancy	-	1	-	-	-	-	-	1	1,000	12,013	-	14	-	-	-	-	-	-	14		
CoE -Tulip/Floriculture	Ls	-	-	0.25	0.5	0.25	-	-	1	80,000	961,076	-	-	292	615	324	-	-	-	1,231		
Subtotal												-	28	292	615	324	-	-	-	1,259		
2. Seed system development																						
Seed Village Promotion /g	Per FPO	-	-	10	20	20	-	-	50	300	3,604	-	-	44	92	97	-	-	-	233		
Seed Business /h	Per FPO	-	4	4	4	4	-	-	16	500	6,007	-	28	29	31	32	-	-	-	120		
Subtotal												-	28	73	123	130	-	-	-	353		
Subtotal												-	55	365	738	454	-	-	-	1,612		
G. Entrepreneur managed ASC	Number	-	10	20	15	-	-	-	45	1,000	12,013	-	138	292	231	-	-	-	-	661		
H. Crop Management and Expansion																						
1. Rural Credit Workshops /i																						
	Number	-	90	90	90	-	-	-	270	10	120	-	13	14	14	-	-	-	-	41		
2. SAFFRON /j																						
Farms in their year 1	per Kanal	-	500	2,000	2,000	2,000	-	-	6,500	34	412	-	244	1,030	1,085	1,144	-	-	-	3,503		
Farms in their year 2	per Kanal	-	-	500	2,000	2,000	2,000	-	6,500	19	222	-	-	139	585	617	650	-	-	1,991		
Farms in their year 3	per Kanal	-	-	-	500	2,000	2,000	2,000	6,500	10	123	-	-	-	81	342	360	380	-	1,163		
Subtotal												-	244	1,168	1,752	2,103	1,011	380	-	6,657		
3. Aromatic Rice /k	per Kanal	-	2,500	2,500	2,500	2,500	-	-	10,000	5	60	-	178	188	198	208	-	-	-	772		
4. Vegetables	per Kanal	-	2,000	6,000	6,000	6,000	6,000	-	26,000	12	144	-	342	1,080	1,139	1,200	1,265	-	-	5,027		
5. Aromatic and Medicinal Plants /l	Per Kanal	-	200	200	200	-	-	-	600	15	180	-	43	45	47	-	-	-	-	135		
6. Others /m	Kanal	-	1,000	3,000	3,000	3,000	3,000	-	13,000	13	150	-	178	563	593	625	659	-	-	2,618		
Subtotal												-	997	3,058	3,743	4,137	2,935	380	-	15,250		
I. Water Management systems	No	-	50	150	150	150	150	150	600	600	7,208	-	427	1,351	1,424	1,501	1,582	1,667	-	7,951		
J. Protected Cultivation	No	-	150	300	300	300	300	300	1,650	750	9,010	-	1,576	3,322	3,501	3,691	3,890	4,101	-	20,080		
K. Research Development /n	Lumpsum	-	2	2	-	2	-	-	6	5,000	60,067	-	142	150	-	167	-	-	-	459		
Total Investment Costs												38	3,434	8,642	9,711	9,949	8,407	6,148	-	46,330		
II. Recurrent Costs																						
A. Supervision costs	per Directorate	-	2	2	2	2	2	2	2	14	1,000	12,013	-	28	30	31	33	35	37	39		
Total Recurrent Costs												-	28	30	31	33	35	37	39	232		
Total												38	3,462	8,672	9,743	9,982	8,442	6,184	39	46,562		

la 2 Per district and 4 per Directorate HO for 5 days

lb 8 per province

lc 10 per district for 5 days

ld 30 persons per session and 2 sessions per Block/FPPO

le 8 per province for 7 days

lf for researchers and Directorate staff to be selected based on a challenge to be selected competitively and transparently

lg Seed system for cereals and pulses

lh Vegetable seed production with private sector

li Block level workshops

lj 5000 farmers, 4 Kanals land area,

lk includes mushk budji, basmati rice and other premium rice varieties

ll 10000 farmers, 4 Kanals land area,

lm includes floriculture,pulses and legumes, spices, willos and Bamboo

ln For both universities

Table 2B: Agri-niche crop promotion: Financing Rule

India

Competitiveness Improvement of the Agriculture and Allied

Table 1.2. Agri-niche crop promotion

Detailed Costs	Accounts	Fin. Rule	Expenditures by Financiers (US\$ '000)																	
			IFAD								GoJ&K									
			2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																				
A. Training in CSA and GAP																				
Training curriculum development	IFAD (80%)		2	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	0	
Training for Trainers - Within State /a	IFAD (80%)		4	4	-	-	-	-	-	-	8	1	1	-	-	-	-	-	2	
Training for Trainers - National /b	IFAD (80%)		25	53	28	-	-	-	-	-	106	6	13	7	-	-	-	-	27	
Subtotal			31	57	28	-	-	-	-	-	116	8	14	7	-	-	-	-	29	
B. Field Staff training /c	IFAD (80%)		-	11	12	12	-	-	-	-	35	-	3	3	3	-	-	-	9	
C. Training for Farmers /d	IFAD (80%)		-	10	11	11	-	-	-	-	32	-	2	3	3	-	-	-	8	
D. Exposure visits to staff - National /e	IFAD (80%)		-	-	11	12	-	-	-	-	23	-	-	3	3	-	-	-	6	
E. Exposure visit - International /f	IFAD (80%)		-	-	23	25	-	-	-	-	48	-	-	6	6	-	-	-	12	
F. Planting material development																				
1. CoE Support																				
Saffron CoE business plan development	IFAD (80%)		-	11	-	-	-	-	-	-	11	-	3	-	-	-	-	-	3	
CoE Tulip feasibility study	IFAD (80%)		-	11	-	-	-	-	-	-	11	-	3	-	-	-	-	-	3	
CoE -Tulip/Floriculture	IFAD (80%)		-	-	233	492	259	-	-	-	985	-	-	58	123	65	-	-	246	
Subtotal			-	22	233	492	259	-	-	-	1,007	-	6	58	123	65	-	-	252	
2. Seed system development																				
Seed Village Promotion /g	IFAD (80%)		-	-	35	74	78	-	-	-	187	-	-	9	18	19	-	-	47	
Seed Business /h	IFAD (80%)		-	22	23	25	26	-	-	-	96	-	6	6	6	6	-	-	24	
Subtotal			-	22	58	98	104	-	-	-	283	-	6	15	25	26	-	-	71	
Subtotal			-	44	292	591	363	-	-	-	1,290	-	11	73	148	91	-	-	322	
G. Entrepreneur managed ASC	IFAD (80%)		-	111	233	185	-	-	-	-	529	-	28	58	46	-	-	-	132	
H. Crop Management and Expansion																				
1. Rural Credit Workshops /i	IFAD(80%)		-	10	11	11	-	-	-	-	32	-	3	3	3	-	-	-	8	
2. SAFFRON /j																				
Farms in their year 1	IFAD (40%), BENEFICIARY (50%)		-	98	412	434	458	-	-	-	1,401	-	24	103	109	114	-	-	350	
Farms in their year 2	IFAD (40%), BENEFICIARY (50%)		-	-	56	234	247	260	-	-	796	-	-	14	59	62	65	-	199	
Farms in their year 3	IFAD (40%), BENEFICIARY (50%)		-	-	-	32	137	144	152	-	465	-	-	-	8	34	36	38	116	
Subtotal			-	98	467	701	841	404	152	-	2,663	-	24	117	175	210	101	38	666	
3. Aromatic Rice /k	IFAD (40%), BENEFICIARY (50%)		-	71	75	79	83	-	-	-	309	-	18	19	20	21	-	-	77	
4. Vegetables	IFAD (40%), BENEFICIARY (50%)		-	137	432	456	480	506	-	-	2,011	-	34	108	114	120	127	-	503	
5. Aromatic and Medicinal Plants /l	IFAD (40%), BENEFICIARY (50%)		-	17	18	19	-	-	-	-	54	-	4	5	5	-	-	-	14	
6. Others /m	IFAD (40%), BENEFICIARY (50%)		-	71	225	237	250	264	-	-	1,047	-	18	56	59	63	66	-	262	
Subtotal			-	404	1,228	1,503	1,655	1,174	152	-	6,116	-	101	307	376	414	294	38	1,529	
I. Water Management systems	IFAD (40%), BENEFICIARY (50%)		-	171	540	569	600	633	667	-	3,180	-	43	135	142	150	158	167	795	
J. Protected Cultivation	IFAD (40%), BENEFICIARY (50%)		-	635	1,339	1,411	1,488	1,568	1,653	-	8,094	-	162	341	360	379	399	421	2,062	
K. Research Development /n	IFAD(80%)		-	114	120	-	133	-	-	-	367	-	28	30	-	33	-	-	92	
Total Investment Costs			31	1,557	3,838	4,319	4,239	3,375	2,472	-	19,830	8	392	966	1,086	1,067	851	626	4,996	
II. Recurrent Costs																				
A. Supervision costs	IFAD (80%)		-	23	24	25	26	28	29	31	186	-	6	6	6	7	7	7	8	46
Total Recurrent Costs			-	23	24	25	26	28	29	31	186	-	6	6	6	7	7	7	8	46
Total			31	1,580	3,861	4,344	4,266	3,403	2,501	31	20,016	8	398	972	1,093	1,073	858	633	8	5,042

Table 3A: Horticulture crop promotion: Quantities and Costs

India
Competitiveness Improvement of the Agriculture and Allied Sec
Table 1.3. Horticulture crop promotion

Detailed Costs	Unit	Quantities										Unit Cost		Totals Including Contingencies (US\$ '000)									
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	(INR '000)	(US\$)	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total		
I. Investment Costs																							
A. Horticultural crop support																							
1. Training in CSA and GAP																							
Training curriculum development /a	Lumpsum	1	-	-	-	-	-	-	-	1	500	6,007	7	-	-	-	-	-	-	-	7		
Training for Trainers - Within State /b	Per Person	48	48	-	-	-	-	-	-	96	8	96	5	5	-	-	-	-	-	-	11		
Training for Trainers - National /c	Per Person	40	80	40	-	-	-	-	-	160	60	721	32	68	36	-	-	-	-	-	135		
Field Staff training /d	Man Days	-	1,000	1,000	1,000	-	-	-	-	3,000	1	12	-	14	15	16	-	-	-	-	45		
Training for Farmers /e	Per Block/FPO	-	180	180	180	-	-	-	-	540	5	60	-	13	13	14	-	-	-	-	40		
Exposure visits to staff - National /f	Per Person	-	-	16.16	-	-	-	-	-	16.16	60	721	-	-	14	-	-	-	-	-	14		
Exposure visit - International /g	Per Person	-	-	5	5	-	-	-	-	10	400	4,805	-	-	29	31	-	-	-	-	60		
Subtotal													44	100	107	60	-	-	-	-	311		
2. Research Development	Lumpsum	-	2	2	2	2	-	-	-	8	7,500	90,101	-	214	225	237	250	-	-	-	926		
3. Weather forecast and crop advisory																							
Weather stations /h	No	-	-	20	-	-	-	-	-	20	500	6,007	-	-	148	-	-	-	-	-	148		
Software for weather forecasting	Ls	-	-	-	-	-	-	-	-	-	-	-	-	70	74	-	-	-	-	-	145		
Subtotal														70	223	-	-	-	-	-	293		
4. Planting material development- COE support																							
CoE business plan development	Consultancy	-	1	-	-	-	-	-	-	1	1,000	12,013	-	14	-	-	-	-	-	-	14		
CoE - Business executives /i	Per Month	-	48	48	48	-	-	-	-	144	50	601	-	33	35	37	-	-	-	-	105		
Study of Apple crop expansion system	Is	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	21		
Subtotal														68	35	37	-	-	-	-	140		
5. Planting Materials -Nursery development																							
Nurseries - Apple and Pear	Number	-	25	25	25	25	-	-	-	100	2,600	31,235	-	942	993	1,047	1,104	-	-	-	4,087		
Nurseries - Walnuts	Number	-	20	20	20	20	-	-	-	80	2,000	24,027	-	580	611	644	679	-	-	-	2,515		
Nurseries - Stonefruits	Number	-	25	25	25	25	-	-	-	100	2,600	31,235	-	942	993	1,047	1,104	-	-	-	4,087		
Nurseries - Mango, Litchis, Citrus	Number	-	10	10	10	10	-	-	-	40	2,600	31,235	-	377	397	419	442	-	-	-	1,635		
Subtotal														2,842	2,996	3,158	3,328	-	-	-	12,323		
6. Crop Management and expansion																							
Rural Credit Workshops /j	Number	-	90	90	90	-	-	-	-	270	10	120	-	13	14	14	-	-	-	-	41		
Solar Fencing	Ha	-	20	60	60	60	-	-	-	200	200	2,403	-	58	183	193	204	-	-	-	639		
Entrepreneur managed ASC	Number	-	10	20	15	-	-	-	-	45	1,000	12,013	-	145	306	242	-	-	-	-	692		
Training in fruit tree management /k	Number	-	100	200	150	-	-	-	-	450	28	336	-	41	86	68	-	-	-	-	194		
Entrepreneur led Orchard Management Business	Number	-	10	20	20	20	-	-	-	70	400	4,805	-	58	122	129	136	-	-	-	445		
Water management	Number	-	50	100	100	100	100	100	-	550	600	7,208	-	435	917	967	1,019	1,074	1,132	-	5,544		
Apple	Per Kanal	-	500	1,500	1,500	1,500	-	-	-	5,000	200	2,403	-	1,450	4,585	4,833	5,095	-	-	-	15,963		
Walnut	Per Kanal	-	200	1,500	1,500	1,500	2,000	2,000	-	8,700	28	336	-	81	642	677	713	1,002	1,057	-	4,172		
Mango	Per Kanal	-	300	600	600	600	600	600	-	3,300	21	250	-	90	191	201	212	223	235	-	1,153		
Litchis	Per Kanal	-	400	600	600	600	600	600	-	3,400	20	245	-	118	187	197	208	219	231	-	1,160		
Citrus	Per Kanal	-	200	500	500	500	500	500	-	2,700	21	250	-	60	159	168	177	186	196	-	946		
Kiwi	Per Kanal	-	200	1,000	1,000	1,000	1,000	-	-	4,200	125	1,502	-	362	1,910	2,014	2,123	2,238	-	-	8,647		
Guava	Per Kanal	-	400	600	600	600	600	600	-	3,400	25	300	-	145	229	242	255	269	283	-	1,422		
Dragonfruit	Per Kanal	-	40	40	40	40	40	-	-	200	108	1,302	-	63	66	70	74	78	-	-	350		
Others	Per Kanal	-	800	1,000	1,000	1,000	1,000	1,000	-	5,800	2	25	-	24	31	33	35	37	38	-	197		
Rejuvenation	Per Kanal	-	1,500	1,500	1,500	1,500	1,500	-	-	7,500	30	360	-	652	688	725	764	806	-	-	3,635		
Subtotal														3,796	10,316	10,771	11,013	6,131	3,173	-	45,200		
Total Investment Costs														44	7,089	13,901	14,263	14,591	6,131	3,173	-	59,193	
II. Recurrent Costs																							
A. Supervision costs																							
per Directorate		2	2	2	2	2	2	2	2	14	1,000	12,013	27	28	30	32	33	35	37	-	223		
Total Recurrent Costs														27	28	30	32	33	35	37	-	223	
Total														70	7,118	13,931	14,295	14,624	6,166	3,210	-	59,415	

^a Higher unit cost compared to niche crops due to larger number of crops
^b 2 Per district and 4 per Directorate HO for 5 days
^c 5 day training 8 per province for first year, and 16 per province during second year and 8 per province for third year
^d 10 per district for 5 days
^e 30 persons per session and 2 sessions per Block/FPO
^f 8 per province for 7 days
^g for only researchers and Directorate staff based on a challenge to be selected competitively and transparently
^h For KVVKs in Jammu & Kashmir regions
^i 2 per COE
^j Block level workshops
^k 1 week training

Table 4B: Enterprise promotion support – Financing Rule

India

Competitiveness Improvement of the Agriculture and

Table 2.1. Enterprise promotion support

Detailed Costs

I. Investment Costs

A. Enterprise Promotion Support

1. Business led enterprise promotion

Business Plan Review/DPR Appraisal

Mini CA Stores

Integrated pack-house

Processing unit - Large

Others

Subtotal

2. Individual Enterprise Promotion

Jammu/Kashmir branded kiosks

Mini Grading Line

Grading lines with washer

Processing unit - Mini

Agri-Tourism

Mushroom Production /a

Honey Production and Marketing /b

MAP processing /c

Other Enterprise

Subtotal

3. Access to financial services

Bankable proposal development

Innovative Pilots /d

Subtotal

Total

ccounts	Fin. Rule	IFAD										GoJ&K						Expenditures by Fi	
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
	IFAD(80%)	-	6	28	32	31	9	-	-	106	-	2	7	8	8	2	-	-	26
	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)	-	1,935	4,080	5,735	4,534	-	-	-	16,285	-	568	1,198	1,683	1,331	-	-	-	4,779
	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)	-	29	186	196	207	218	-	-	835	-	9	57	60	63	67	-	-	256
	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)	-	118	248	261	275	-	-	-	902	-	36	76	80	84	-	-	-	277
	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)	-	47	50	52	55	-	-	-	204	-	14	15	16	17	-	-	-	63
		-	2,135	4,592	6,276	5,102	227	-	-	18,332	-	629	1,353	1,847	1,503	69	-	-	5,401
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	28	29	-	-	-	-	-	57	-	9	9	-	-	-	-	-	18
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	50	141	148	157	165	174	-	835	-	15	43	46	48	51	53	-	256
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	45	235	247	261	275	290	-	1,352	-	14	72	76	80	84	89	-	415
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	67	70	74	78	82	87	-	459	-	20	22	23	24	25	27	-	141
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	14	15	15	16	-	-	-	60	-	4	5	5	5	-	-	-	19
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	3	4	4	-	-	-	-	11	-	1	1	1	-	-	-	-	3
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	-	4	4	4	-	-	-	11	-	-	1	1	1	-	-	-	3
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	-	4	4	4	-	-	-	11	-	-	1	1	1	-	-	-	3
	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)	-	45	47	49	52	55	-	-	248	-	14	14	15	16	17	-	-	76
		-	251	548	546	572	577	551	-	3,045	-	77	168	168	175	177	169	-	934
	IFAD(80%)	-	34	59	49	51	51	47	-	290	-	8	15	12	13	13	12	-	73
	IFAD (40%),BANK(30%),PRIVATE_SECTOR(20%)	-	111	235	247	-	-	-	-	594	-	34	72	76	-	-	-	-	182
		-	145	293	297	51	51	47	-	884	-	43	87	88	13	13	12	-	255
		-	2,532	5,432	7,119	5,725	855	598	-	22,261	-	749	1,607	2,103	1,691	259	181	-	6,590

Continued

India
Competitiveness Improvement of the Agriculture and
Table 2.1. Enterprise promotion support

Detailed Costs	inanciers (US\$ '000)																	
	Private Sector								Bank									
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																		
A. Enterprise Promotion Support																		
1. Business led enterprise promotion																		
Business Plan Review/DPR Appraisal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mini CA Stores	-	894	1,886	2,650	2,095	-	-	-	7,526	-	1,336	2,816	3,957	3,129	-	-	-	11,237
Integrated pack-house	-	15	93	98	103	109	-	-	418	-	22	139	147	155	163	-	-	627
Processing unit - Large	-	59	124	131	138	-	-	-	451	-	88	186	196	207	-	-	-	676
Others	-	24	25	26	28	-	-	-	102	-	35	37	39	41	-	-	-	153
Subtotal	-	991	2,127	2,905	2,364	109	-	-	8,496	-	1,481	3,178	4,339	3,531	163	-	-	12,693
2. Individual Enterprise Promotion																		
Jammu/Kashmir branded kiosks	-	14	15	-	-	-	-	-	29	-	21	22	-	-	-	-	-	43
Mini Grading Line	-	25	70	74	78	82	87	-	417	-	38	106	111	117	124	130	-	626
Grading lines with washer	-	22	117	124	130	137	145	-	676	-	33	176	186	196	206	217	-	1,014
Processing unit - Mini	-	33	35	37	39	41	43	-	230	-	50	53	56	59	62	65	-	344
Agri-Tourism	-	7	7	8	8	-	-	-	30	-	10	11	12	12	-	-	-	45
Mushroom Production /a	-	2	2	2	-	-	-	-	5	-	3	3	3	-	-	-	-	8
Honey Production and Marketing /b	-	-	2	2	2	-	-	-	6	-	-	3	3	3	-	-	-	8
MAP processing /c	-	-	2	2	2	-	-	-	6	-	-	3	3	3	-	-	-	8
Other Enterprise	-	22	23	25	26	27	-	-	124	-	33	35	37	39	41	-	-	186
Subtotal	-	126	274	273	286	289	275	-	1,523	-	188	411	410	429	433	413	-	2,284
3. Access to financial services																		
Bankable proposal development	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Innovative Pilots /d	-	56	117	124	-	-	-	-	297	-	84	176	186	-	-	-	-	445
Subtotal	-	56	117	124	-	-	-	-	297	-	84	176	186	-	-	-	-	445
Total	-	1,173	2,519	3,302	2,650	398	275	-	10,316	-	1,753	3,765	4,935	3,960	596	413	-	15,422

Table 5A:Market promotion support–Quantities and costs

India

Competitiveness Improvement of the Agriculture and Allied Sectors I

Table 2.2. Market promotion support

Detailed Costs

Unit	Quantities									Unit Cost		Totals Including Contingencies (US\$ '000)								
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	(INR '000)	(US\$ '000)	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																				
A. Market Promotion Support																				
MSPs at state level /a	Number	-	4	4	4	-	-	-	-	12	500	6	-	28	29	31	-	-	-	88
Participation in trade fairs	Per Entrepreneur	-	10	20	30	30	30	30	-	150	100	1	-	14	29	46	49	51	54	243
Buyer Seller Meet /b	Per Event	-	4	8	8	8	-	-	-	28	300	4	-	17	35	37	39	-	-	127
Quality control lab /c	Ls	-	2	2	2	-	-	-	-	6	10,000	120	-	277	292	308	-	-	-	876
J&K Product Development	Consultancy	-	-	2	2	-	-	-	-	4	1,000	12	-	-	29	31	-	-	-	60
J&K brand development	Consultancy	-	-	1	2	2	-	-	-	5	2,000	24	-	-	29	62	65	-	-	156
Brand promotion	Ls	-	-	2	2	2	-	-	-	6	2,000	24	-	-	58	62	65	-	-	185
Marketing outlets	No	-	-	20	20	-	-	-	-	40	500	6	-	-	146	154	-	-	-	300
Subtotal													-	335	648	729	217	51	54	2,034
B. Export / Logistic Hub																				
Study on feasibility and management of export/Logistic Hubs	Ls	-	-	-	-	-	-	-	-	-	-	-	-	28	-	-	-	-	-	28
Support for export/logistic hub	Ls	-	-	-	-	-	-	-	-	-	-	-	-	-	365	384	-	-	-	749
Total													-	363	1,012	1,113	217	51	54	2,811

^a State Level

^b 2 Per province per year

^c Quality control lab in SKUAST-J and SKUAST-K

Table 5B: Market promotion support – Financing Rule

India

Competitiveness Improvement of the Agriculture and Allied Sectors I

Table 2.2. Market promotion support

Detailed Costs

Accounts	Fin. Rule	Expenditures by Financiers (US\$ '000)																	
		IFAD									GoJ&K								
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																			
A. Market Promotion Support																			
MSPs at state level /a	IFAD (80%)	-	22	23	25	-	-	-	-	70	-	6	6	6	-	-	-	-	18
Participation in trade fairs	IFAD (80%)	-	11	23	37	39	41	43	-	194	-	3	6	9	10	10	11	-	49
Buyer Seller Meet /b	IFAD (80%)	-	13	28	30	31	-	-	-	102	-	3	7	7	8	-	-	-	25
Quality control lab /c	IFAD (80%)	-	221	233	246	-	-	-	-	701	-	55	58	62	-	-	-	-	175
J&K Product Development	IFAD (80%)	-	-	23	25	-	-	-	-	48	-	-	6	6	-	-	-	-	12
J&K brand development	IFAD (80%)	-	-	23	49	52	-	-	-	124	-	-	6	12	13	-	-	-	31
Brand promotion	IFAD (80%)	-	-	47	49	52	-	-	-	148	-	-	12	12	13	-	-	-	37
Marketing outlets	IFAD (80%)	-	-	117	123	-	-	-	-	240	-	-	29	31	-	-	-	-	60
Subtotal		-	268	518	583	174	41	43	-	1,627	-	67	130	146	43	10	11	-	407
B. Export / Logistic Hub																			
Study on feasibility and management of export/Logistic Hubs	IFAD (80%)	-	22	-	-	-	-	-	-	22	-	6	-	-	-	-	-	-	6
Support for export/logistic hub	IFAD (80%)	-	-	292	308	-	-	-	-	599	-	-	73	77	-	-	-	-	150
Total		-	290	810	891	174	41	43	-	2,249	-	73	202	223	43	10	11	-	562

Table 6A: Incubation and start-up – Quantities and Costs

India

Competitiveness Improvement of the Agriculture and Allied Sectors Pr

Table 2.3. Incubation and start-up

Detailed Costs

Detailed Costs	Unit	Quantities								Unit Cost		Totals Including Contingencies (US\$ '000)										
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	(INR '000)	(US\$)	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	
I. Investment Costs																						
A. Development of Incubation & Startup Ecosystem for Agri & All																						
Outreach Events-Yearly Basis	Per Event	-	6	10	10	10	10	10	-	56	100	1,201	-	8	15	15	16	17	18	-	90	
Mentoring Support to Incubation Centres	Ls	-	2	2	2	2	-	-	-	8	1,500	18,020	-	42	44	46	49	-	-	-	180	
Ideathons/Bootcamps-Physical	Per Event	-	20	20	20	20	20	20	-	120	200	2,403	-	55	58	62	65	68	72	-	380	
Incubation Training for start-ups	Per Hub Per Year Event	-	2	2	2	2	2	2	-	12	2,000	24,027	-	55	58	62	65	68	72	-	380	
Development of Bankable Proposals for Start-ups	Lumpsum	-	2	2	2	2	2	2	2	14	200	2,403	-	6	6	6	6	7	7	8	46	
Seed Capital/ Challenge Fund	Per start-up	-	50	75	75	75	75	-	-	350	500	6,007	-	356	563	593	625	659	-	-	2,796	
Credit Risk Mitigation Measures	Ls	-	-	-	-	-	-	-	-	-	-	-	-	300	316	-	-	-	-	-	616	
Scale-up Capital	Per start-up	-	-	20	30	30	30	10	-	120	5,000	60,067	-	-	1,638	2,590	2,730	2,878	1,011	-	10,848	
Capacity Building of Incubation Staff	Per Staff	-	40	60	-	-	-	-	-	100	50	601	-	28	44	-	-	-	-	-	71	
Equipment and Materials	Lumpsum	-	2	2	-	2	-	-	-	6	2,500	30,034	-	71	75	-	83	-	-	-	230	
Miscellaneous Expenses	Lumpsum	-	2	2	2	2	2	2	2	14	500	6,007	-	14	15	16	17	18	19	20	117	
Total Investment Costs														635	2,816	3,706	3,657	3,715	1,199	27	15,756	
II. Recurrent Costs																						
A. Salaries and allowances																						
1. Manager-Incubation	Per Month	-	24	24	24	24	24	24	24	168	70	841	-	24	25	27	28	30	31	33	197	
2. Young Professional-Incubation	Per Month	-	24	24	24	24	24	24	24	168	40	481	-	14	14	15	16	17	18	19	113	
3. Incubation Operating Costs	Ls	-	2	2	2	2	2	2	2	14	1,500	18,020	-	43	45	47	50	53	56	59	352	
Subtotal														80	85	89	94	99	104	110	662	
B. Operating costs																						
1. Operating costs																						
Office operating expenses	Per Month	-	2	2	2	2	2	2	2	14	500	6,007	-	14	15	16	17	18	19	20	117	
Travel Expenses	Lumpsum	-	2	2	2	2	2	2	2	14	500	6,007	-	14	15	16	17	18	19	20	117	
Miscellaneous Expenses	Lumpsum	2	2	2	2	2	2	2	-	14	200	2,403	5	6	6	6	7	7	7	-	44	
Total														5	750	2,936	3,833	3,791	3,857	1,348	176	16,696

Table 6B: Incubation and start-up – Financing Rule

India
Competitiveness Improvement of the Agriculture and Allied Sectors Pr
Table 2.3. Incubation and start-up

Detailed Costs	Accounts	Fin. Rule	IFAD								GoJ&K									
			2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																				
A. Development of Incubation & Startup Ecosystem for Agri & All																				
Outreach Events-Yearly Basis	IFAD (80%)		-	7	12	12	13	14	14	-	72	-	2	3	3	3	3	4	-	18
Mentoring Support to Incubation Centres	IFAD (80%)		-	33	35	37	39	-	-	-	144	-	8	9	9	10	-	-	-	36
Ideathons/Bootcamps-Physical	IFAD (80%)		-	44	47	49	52	55	58	-	304	-	11	12	12	13	14	14	-	76
Incubation Training for start-ups	IFAD (80%)		-	44	47	49	52	55	58	-	304	-	11	12	12	13	14	14	-	76
Development of Bankable Proposals for Start-ups	IFAD (80%)		-	4	5	5	5	5	6	6	37	-	1	1	1	1	1	1	2	9
Seed Capital/ Challenge Fund	IFAD (80%)		-	285	450	475	500	527	-	-	2,237	-	71	113	119	125	132	-	-	559
Credit Risk Mitigation Measures	IFAD (80%)		-	-	240	253	-	-	-	-	493	-	-	60	63	-	-	-	-	123
Scale-up Capital	IFAD (80%)		-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	-	0
Capacity Building of Incubation Staff	IFAD (80%)	IFAD (30%), BANK (60%), PRIVATE_SECTO	-	22	35	-	-	-	-	-	57	-	6	9	-	-	-	-	-	14
Equipment and Materials	IFAD (80%)		-	57	60	-	67	-	-	-	184	-	14	15	-	17	-	-	-	46
Miscellaneous Expenses	IFAD (80%)		-	11	12	13	13	14	15	16	94	-	3	3	3	3	4	4	4	23
Total Investment Costs			-	508	942	893	741	670	150	22	3,926	-	127	236	223	185	167	38	5	981
II. Recurrent Costs																				
A. Salaries and allowances																				
1. Manager-Incubation	IFAD (80%)		-	19	20	21	22	24	25	26	158	-	5	5	5	6	6	6	7	39
2. Young Professional-Incubation	IFAD (80%)		-	11	12	12	13	13	14	15	90	-	3	3	3	3	3	4	4	23
3. Incubation Operating Costs	IFAD (80%)		-	34	36	38	40	42	44	47	282	-	9	9	9	10	11	11	12	70
Subtotal			-	64	68	71	75	79	84	88	529	-	16	17	18	19	20	21	22	132
B. Operating costs																				
1. Operating costs																				
Office operating expenses	IFAD (80%)		-	11	12	13	13	14	15	16	94	-	3	3	3	3	4	4	4	23
Travel Expenses	IFAD (80%)		-	11	12	13	13	14	15	16	94	-	3	3	3	3	4	4	4	23
Miscellaneous Expenses	IFAD (80%)		4	5	5	5	5	6	6	-	36	1	1	1	1	1	1	1	-	9
Total			4	600	1,039	995	848	783	269	141	4,678	1	150	260	249	212	196	67	35	1,170

Continued

India
Competitiveness Improvement of the Agriculture and Allied Sectors Pr
Table 2.3. Incubation and start-up

Detailed Costs	Expenditures by Financiers (US\$ '000)																										
	Convergence							Private Sector							Bank												
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																											
A. Development of Incubation & Startup Ecosystem for Agri & All																											
Outreach Events-Yearly Basis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mentoring Support to Incubation Centres	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ideathons/Bootcamps-Physical	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incubation Training for start-ups	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Development of Bankable Proposals for Start-ups	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seed Capital/ Challenge Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit Risk Mitigation Measures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scale-up Capital	-	-	491	777	819	863	303	-	3,255	-	-	328	518	546	576	202	-	2,170	-	-	819	1,295	1,365	1,439	506	-	5,424
Capacity Building of Incubation Staff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment and Materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Investment Costs	-	-	491	777	819	863	303	-	3,255	-	-	328	518	546	576	202	-	2,170	-	-	819	1,295	1,365	1,439	506	-	5,424
II. Recurrent Costs																											
A. Salaries and allowances																											
1. Manager-Incubation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Young Professional-Incubation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Incubation Operating Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Operating costs																											
1. Operating costs																											
Office operating expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Travel Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	491	777	819	863	303	-	3,255	-	-	328	518	546	576	202	-	2,170	-	-	819	1,295	1,365	1,439	506	-	5,424

Component 3:Support to vulnerable communities

Table 7A: Support for pastoralists – Quantities and Costs

India

Competitiveness Improvement of the Agriculture and Allied Se

Table 3.1. Support for pastoralists

Detailed Costs

I. Investment Costs

A. Support to Pastoralists

	Unit	Quantities									Unit Cost (INR '000)	Unit Cost (US\$ '000)	Totals Including Contingencies (US\$ '000)												
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total			2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total				
Wool value chain study	Study	-	1	-	-	-	-	-	-	-	1	1,000	12	-	14	-	-	-	-	-	-	-	-	-	14
Mult Stakeholder Platform (MSP)	No	-	-	1	1	-	-	-	-	-	2	500	6	-	-	7	8	-	-	-	-	-	-	-	15
Wool sector support	Lumpsum	-	-	1	1	1	-	-	-	-	3	5,000	60	-	-	73	77	81	-	-	-	-	-	-	231
Wool processing with private partners	No	-	4	4	-	-	-	-	-	-	8	3,000	36	-	166	175	-	-	-	-	-	-	-	-	341
Goat Breed improvement	No	-	-	1	1	1	1	-	-	-	4	2,500	30	-	-	36	38	41	43	-	-	-	-	-	158
Pony Breed improvement feasibility study	Study	-	1	-	-	-	-	-	-	-	1	1,000	12	-	14	-	-	-	-	-	-	-	-	-	14
Pony Breed improvement	No	-	-	1	1	1	1	-	-	-	4	2,500	30	-	-	36	38	41	43	-	-	-	-	-	158
Total														-	194	328	161	162	85	-	-	-	-	-	931

Table 7B: Support for pastoralists – Financing rule

India

Competitiveness Improvement of the Agriculture and Allied Se

Table 3.1. Support for pastoralists

Detailed Costs

I. Investment Costs

A. Support to Pastoralists

	Accounts	Fin. Rule	IFAD									GoJ&K													
			2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total					
Wool value chain study		IFAD(80%)	-	11	-	-	-	-	-	-	-	-	11	-	3	-	-	-	-	-	-	-	-	-	3
Mult Stakeholder Platform (MSP)		IFAD (80%)	-	-	6	6	-	-	-	-	-	-	12	-	-	1	2	-	-	-	-	-	-	-	3
Wool sector support		IFAD (40%), CONVERGENCE (50%)	-	-	29	31	32	-	-	-	-	-	92	-	-	7	8	8	-	-	-	-	-	-	23
Wool processing with private partners		IFAD (40%), PRIVATE_SECTOR (50%)	-	66	70	-	-	-	-	-	-	-	136	-	17	18	-	-	-	-	-	-	-	-	34
Goat Breed improvement		IFAD (80%)	-	-	29	31	32	34	-	-	-	-	127	-	-	7	8	8	9	-	-	-	-	-	32
Pony Breed improvement feasibility study		IFAD (80%)	-	11	-	-	-	-	-	-	-	-	11	-	3	-	-	-	-	-	-	-	-	-	3
Pony Breed improvement		IFAD (40%), CONVERGENCE (50%)	-	-	15	15	16	17	-	-	-	-	63	-	-	4	4	4	4	-	-	-	-	-	16
Total			-	89	149	83	81	51	-	-	-	-	453	-	22	37	21	20	13	-	-	-	-	-	113

Continued

India
Competitiveness Improvement of the Agriculture and Allied Se
Table 3.1. Support for pastoralists

Detailed Costs	Financiers (US\$ '000)																	
	Accounts									Private Sector								
	Convergence																	
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																		
A. Support to Pastoralists																		
Wool value chain study	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mult Stakeholder Platform (MSP)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wool sector support	-	-	36	38	41	-	-	-	115	-	-	-	-	-	-	-	-	-
Wool processing with private partners	-	-	-	-	-	-	-	-	-	-	83	88	-	-	-	-	-	171
Goat Breed improvement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pony Breed improvement feasibility study	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pony Breed improvement	-	-	18	19	20	21	-	-	79	-	-	-	-	-	-	-	-	-
Total	-	-	55	58	61	21	-	-	195	-	83	88	-	-	-	-	-	171

Table 8A: Support for other vulnerable communities – Quantities and Costs

India
Competitiveness Improvement of the Agriculture and Alli
Table 3.2. Support for other vulnerable communities

Detailed Costs	Unit	Quantities									Unit Cost (INR '000)	Unit Cost (US\$ '000)	Totals Including Contingencies (US\$ '000)								
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total			2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
		I. Investment Costs																			
A. Sheep/Goat units	No	-	200	200	200	200	-	-	-	800	120	1,442	-	342	360	380	400	-	-	-	1,482
B. Milk Collection Units	No	-	4	4	4	-	-	-	-	12	500	6,007	-	28	30	32	-	-	-	90	
C. Processing of milk products	No	-	2	2	2	2	-	-	-	8	1,000	12,013	-	28	30	32	33	-	-	123	
D. Ice Boxes for Fish	No	-	2,000	2,000	2,000	2,000	2,000	-	-	10,000	5	0.06	-	142	150	158	167	176	-	793	
E. Enterprise support - Income diversification	Lumpsum	-	250	250	250	250	250	-	-	1,250	200	2,403	-	692	729	769	810	854	-	3,855	
F. Environment Protection Fund for youth	per YC	-	200	500	500	500	500	500	-	2,700	300	3,604	-	854	2,251	2,373	2,501	2,636	2,779	13,394	
Total													-	2,087	3,551	3,743	3,912	3,666	2,779	19,737	

Table 8B: Support for other vulnerable communities – Financing Rule

India
Competitiveness Improvement of the Agriculture and Alli
Table 3.2. Support for other vulnerable communities

Detailed Costs	Accounts	Fin. Rule	IFAD										GoJ&K						Expenditures by Fi	
			2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
			I. Investment Costs																	
A. Sheep/Goat units		IFAD (40%), BENEFICIARY (50%)	-	134	141	148	157	-	-	-	579	-	41	43	46	48	-	-	-	178
B. Milk Collection Units		IFAD (80%)	-	23	24	25	-	-	-	72	-	6	6	6	-	-	-	-	18	
C. Processing of milk products		IFAD (40%), BENEFICIARY(50%)	-	11	12	12	13	-	-	48	-	3	4	4	4	-	-	-	15	
D. Ice Boxes for Fish		IFAD (80%)	-	114	120	127	133	141	-	634	-	28	30	32	33	35	-	-	159	
E. Enterprise support - Income diversification		IFAD (40%), PRIVATE_SECTOR (50%)	-	261	275	290	306	322	-	1,455	-	91	96	101	107	112	-	-	507	
F. Environment Protection Fund for youth		IFAD (80%)	-	683	1,801	1,898	2,001	2,109	2,223	10,715	-	171	450	475	500	527	556	-	2,679	
Total			-	1,226	2,373	2,501	2,610	2,572	2,223	13,504	-	340	629	663	692	675	556	-	3,555	

Continued

India

Competitiveness Improvement of the Agriculture and Allied

Table 3.2. Support for other vulnerable communities

Detailed Costs	Financials (US\$ '000)																	
	Beneficiary								Private Sector									
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total
I. Investment Costs																		
A. Sheep/Goat units	-	167	176	186	196	-	-	-	724	-	-	-	-	-	-	-	-	-
B. Milk Collection Units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. Processing of milk products	-	14	15	15	16	-	-	-	60	-	-	-	-	-	-	-	-	-
D. Ice Boxes for Fish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. Enterprise support - Income diversification	-	-	-	-	-	-	-	-	-	-	340	358	378	398	420	-	-	1,893
F. Environment Protection Fund for youth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	181	191	201	212	-	-	-	785	-	340	358	378	398	420	-	-	1,893

Component 4: Project Management

Table 9A: Project Management, M&E and MIS, and KM & Policy – Quantities and Costs

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu an

Table 4.1. Project Management

Detailed Costs

	Unit	Quantities										Unit Cost		Totals Including Contingencies (US\$ '000)									
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	(INR '000)	(US\$)	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total		
I. Investment Costs																							
A. Project Management																							
1. Office Equipment PMU																							
Laptop computers	Each	15	-	-	-	-	-	-	-	-	15	80	961	16	-	-	-	-	-	-	-	16	
Multi-function copier machines	Each	2	-	-	-	-	-	-	-	-	2	200	2,403	5	-	-	-	-	-	-	-	5	
Other equipment	Lumpsum	1	-	-	-	-	-	-	-	-	1	200	2,403	3	-	-	-	-	-	-	-	3	
Office furniture	Lumpsum	1	-	-	-	-	-	-	-	-	1	1,000	12,013	13	-	-	-	-	-	-	-	13	
Computer Peripherals	Lumpsum	1	-	-	-	-	-	-	-	-	1	500	6,007	7	-	-	-	-	-	-	-	7	
Subtotal														44	-	-	-	-	-	-	-	44	
2. Account & Annual Audit																							
Accounting software	Lumpsum	-	11	-	-	-	-	-	-	-	11	50	601	-	8	-	-	-	-	-	-	8	
Annual license fee	Lumpsum	-	11	11	11	11	11	11	11	11	77	15	180	-	2	2	3	3	3	3	3	19	
External Independent Audit	Lumpsum	1	1	1	1	1	1	1	1	1	8	1,500	18,020	20	21	23	24	25	26	28	29	196	
Internal Audit- External	Lumpsum	-	1	1	1	1	1	1	1	1	7	1,000	12,013	-	14	15	16	17	18	19	20	117	
Subtotal														20	46	40	42	44	47	49	52	341	
Subtotal														64	46	40	42	44	47	49	52	385	
B. M&E and Knowledge Management																							
1. Monitoring and Evaluation (M&E): Equipment																							
MIS Software Development	Ls	-	1	1	-	-	-	-	-	-	2	1,500	18,020	-	21	23	-	-	-	-	-	44	
Laptop computers	Each	2	-	-	-	-	-	-	-	-	2	45	541	1	-	-	-	-	-	-	-	1	
Printer and scanner	Each	1	-	-	-	-	-	-	-	-	1	35	420	0	-	-	-	-	-	-	-	0	
Other equipment- GPS etc.	Lumpsum	0.5	0.5	-	-	-	-	-	-	-	1	200	2,403	1	1	-	-	-	-	-	-	3	
Subtotal														3	23	23	-	-	-	-	-	48	
2. Monitoring and Evaluation (M&E): M&E studies, work shops, surveys																							
Baseline survey	Study	-	1	-	-	-	-	-	-	-	1	2,000	24,027	-	28	-	-	-	-	-	-	28	
Midline survey	Study	-	-	-	1	-	-	-	-	-	1	2,000	24,027	-	-	-	32	-	-	-	-	32	
Endline Survey	Study	-	-	-	-	-	-	-	-	1	30,000	360,404	-	-	-	-	-	-	-	-	556		
Case studies/, Climate and environment studies studies	Study	-	2	2	2	2	2	2	2	12	1,500	18,020	-	43	45	47	50	53	56	-	293		
FPIC Implementation	LS	-	-	-	-	-	-	-	-	-	-	-	-	7	4	8	-	-	-	-	-	18	
Project Completion review and workshop	Lumpsum	-	-	-	-	-	-	-	1	-	1	3,000	36,040	-	-	-	-	-	-	-	56	56	
Subtotal														7	75	53	79	50	53	667	-	983	
3. Knowledge Management (KM)																							
Startup Workshop	Lumpsum	1	-	-	-	-	-	-	-	-	1	1,000	12,013	13	-	-	-	-	-	-	-	13	
Sensitisation and Educational workshop	District	-	20	-	-	-	-	-	-	-	20	300	3,604	-	85	-	-	-	-	-	-	85	
Gender, targeting and inclusion sensitization workshop	Workshop	-	20	20	20	-	-	-	-	-	60	150	1,802	-	43	45	47	-	-	-	-	135	
Annual Stakeholders Planning and Review Workshop	Lumpsum	1	1	1	1	1	1	1	1	1	8	500	6,007	7	7	8	8	8	9	9	10	65	
Thematic Studies	Each	3	5	2	2	2	-	-	-	-	14	300	3,604	12	21	9	9	10	-	-	-	62	
ICT Materials preparation and printing	Lumpsum	-	1	-	1	-	1	1	-	-	4	1,000	12,013	-	14	-	16	-	18	19	-	66	
Communication Videos	Lumpsum	-	1	1	1	-	1	-	-	-	4	500	6,007	-	7	8	8	-	9	-	-	31	
Policy studies	Study	-	2	1	1	-	-	-	-	-	4	500	6,007	-	14	8	8	-	-	-	-	30	
Policy Consultation and workshops	Lumpsum	-	-	2	1	1	-	-	-	-	4	500	6,007	-	-	15	8	8	-	-	-	31	
Subtotal														32	192	92	104	27	35	28	10	520	
Subtotal														42	290	167	183	77	88	695	10	1,551	
Total Investment Costs																							
														106	335	207	226	121	135	744	62	1,936	

Continued

India
Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and
Table 4.1. Project Management
Detailed Costs

Unit	Quantities										Unit Cost		Totals Including Contingencies (US\$ '000)									
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	(INR '000)	(US\$)	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total		
II. Recurrent Costs																						
A. Salaries and allowances																						
1. Project Management Unit Staff																						
Manager- Institutions	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Rural Finance Specialist	Per Month	-	12	12	12	12	12	12	-	72	175	2,102	-	30	32	33	35	37	39	-	205	
Manager M&E	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Manager KM	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Procurement Specialist	Per Month	3	12	12	12	12	12	12	6	81	175	2,102	7	30	32	33	35	37	39	20	233	
Procurement Officer	Per Month	-	12	12	12	12	12	12	6	78	80	961	-	14	14	15	16	17	18	9	103	
Manager MIS	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Manager SECAP	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Manager Finance	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Accounts Officer	Per Month	-	12	12	12	12	12	12	6	78	80	961	-	14	14	15	16	17	18	9	103	
Manager Gender and Youth	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Manager-Business Development	Per Month	-	12	12	12	12	12	12	6	78	125	1,502	-	21	23	24	25	26	28	15	161	
Project Assistants	Per Month	-	48	48	48	48	48	48	24	312	40	481	-	27	29	30	32	34	36	19	206	
Agriculture Specialists	Per Month	3	24	24	24	24	24	24	6	153	175	2,102	7	60	63	66	70	74	78	20	438	
Horticulture Specialists	Per Month	3	24	24	24	24	24	24	6	153	175	2,102	7	60	63	66	70	74	78	20	438	
Consultants - Procurement	Man Days	90	60	-	-	-	-	-	-	150	25	300	30	21	-	-	-	-	-	-	52	
Consultants - value chain	Per Month	-	8	2	-	-	-	-	-	10	250	3,003	-	28	8	-	-	-	-	-	36	
Consultants - International	Person Days	-	45	30	30	-	-	-	-	105	65	781	-	42	29	31	-	-	-	-	102	
Consultants - National	Person Days	-	150	120	120	-	-	-	-	390	24	288	-	51	43	46	-	-	-	-	140	
Subtotal												51	548	507	526	474	499	526	216	3,347		
2. Directorate staff																						
Procurement Officer /a	Per Month	18	72	72	72	72	72	72	36	486	80	961	19	82	86	91	96	101	107	56	639	
Gender and Youth Officer	Per Month	-	48	48	48	48	48	48	24	312	80	961	-	55	58	61	64	67	71	37	413	
Planning, M&E & MIS Officer	Per Month	-	48	48	48	48	48	48	24	312	80	961	-	55	58	61	64	67	71	37	413	
Finance Officer	Per Month	-	48	48	48	48	48	48	24	312	80	961	-	55	58	61	64	67	71	37	413	
Subtotal												19	246	259	273	288	303	320	169	1,878		
Subtotal												71	793	766	799	762	803	846	385	5,225		
B. Operating costs																						
1. Operating costs - PMU																						
Office operating expenses	Per Month	6	12	12	12	12	12	12	6	84	500	6,007	40	85	90	95	100	105	111	59	685	
Fuel and vehicle maintenance	Per Month	6	12	12	12	12	12	12	6	84	300	3,604	24	51	54	57	60	63	67	35	411	
Travel allowances	Per Month	6	12	12	12	12	12	12	6	84	300	3,604	24	51	54	57	60	63	67	35	411	
Meetings and backstopping	Per Month	0.5	1	1	1	1	1	1	1	7.5	1,000	12,013	7	14	15	16	17	18	19	20	124	
Staff medical and group insurance Premium	Per Month	-	1	1	1	1	1	1	1	7	1,500	18,020	-	21	23	24	25	26	28	29	176	
Subtotal												95	223	236	248	262	276	291	178	1,808		
Total Recurrent Costs												166	1,017	1,001	1,047	1,023	1,079	1,137	562	7,033		
Total												272	1,352	1,208	1,273	1,145	1,213	1,881	624	8,969		

for Directorates and Universities

Table 9B: Project Management, M&E and MIS, and KM & Policy – Financing Rule

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir

Table 4.1. Project Management

Detailed Costs

accounts	Expenditures by Financiers (US\$ '000)																			
	Fin. Rule	IFAD									GoJ&K									
		2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	
I. Investment Costs																				
A. Project Management																				
1. Office Equipment PMU																				
Laptop computers	IFAD (80%)	13	-	-	-	-	-	-	-	13	3	-	-	-	-	-	-	-	-	3
Multi-function copier machines	IFAD (80%)	4	-	-	-	-	-	-	-	4	1	-	-	-	-	-	-	-	-	1
Other equipment	IFAD (80%)	2	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	1
Office furniture	IFAD (80%)	11	-	-	-	-	-	-	-	11	3	-	-	-	-	-	-	-	-	3
Computer Peripherals	IFAD (80%)	5	-	-	-	-	-	-	-	5	1	-	-	-	-	-	-	-	-	1
Subtotal		35	-	-	-	-	-	-	-	35	9	-	-	-	-	-	-	-	9	
2. Account & Annual Audit																				
Accounting software	IFAD (80%)	-	6	-	-	-	-	-	-	6	-	2	-	-	-	-	-	-	-	2
Annual license fee	IFAD (80%)	-	2	2	2	2	2	2	3	15	-	0	0	1	1	1	1	1	1	4
External Independent Audit	IFAD (80%)	16	17	18	19	20	21	22	23	157	4	4	5	5	5	5	6	6	39	
Internal Audit- External	IFAD (80%)	-	11	12	13	13	14	15	16	94	-	3	3	3	3	4	4	4	4	23
Subtotal		16	37	32	34	36	37	39	42	273	4	9	8	8	9	9	10	10	68	
Subtotal		52	37	32	34	36	37	39	42	308	13	9	8	8	9	9	10	10	77	
B. M&E and Knowledge Management																				
1. Monitoring and Evaluation (M&E): Equipment																				
MIS Software Development	IFAD (80%)	-	17	18	-	-	-	-	-	35	-	4	5	-	-	-	-	-	-	9
Laptop computers	IFAD (80%)	1	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	0
Printer and scanner	IFAD (80%)	0	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-	0
Other equipment- GPS etc.	IFAD (80%)	1	1	-	-	-	-	-	-	2	0	0	-	-	-	-	-	-	-	1
Subtotal		2	18	18	-	-	-	-	-	39	1	5	5	-	-	-	-	-	10	
2. Monitoring and Evaluation (M&E): M&E studies, work shops, surveys																				
Baseline survey	IFAD (80%)	-	23	-	-	-	-	-	-	23	-	6	-	-	-	-	-	-	-	6
Midline survey	IFAD (80%)	-	-	-	25	-	-	-	-	25	-	-	-	6	-	-	-	-	-	6
Endline Survey	IFAD (80%)	-	-	-	-	-	-	445	-	445	-	-	-	-	-	-	111	-	111	
Case studies/, Climate and environment studies studies	IFAD (80%)	-	34	36	38	40	42	44	-	235	-	9	9	9	10	11	11	-	59	
FPIC Implementation	IFAD (80%)	5	3	6	-	-	-	-	-	14	1	1	2	-	-	-	-	-	4	
Project Completion review and workshop	IFAD (80%)	-	-	-	-	-	-	44	-	44	-	-	-	-	-	-	11	-	11	
Subtotal		5	60	42	63	40	42	534	-	786	1	15	11	16	10	11	133	-	197	
3. Knowledge Management (KM)																				
Startup Workshop	IFAD (80%)	11	-	-	-	-	-	-	-	11	3	-	-	-	-	-	-	-	-	3
Sensitisation and Educational workshop	IFAD (80%)	-	68	-	-	-	-	-	-	68	-	17	-	-	-	-	-	-	-	17
Gender, targeting and inclusion sensitization workshop	IFAD (80%)	-	34	36	38	-	-	-	-	108	-	9	9	9	-	-	-	-	-	27
Annual Stakeholders Planning and Review Workshop	IFAD (80%)	5	6	6	6	7	7	7	8	52	1	1	2	2	2	2	2	2	13	
Thematic Studies	IFAD (80%)	10	17	7	8	8	-	-	-	50	2	4	2	2	2	-	-	-	12	
ICT Materials preparation and printing	IFAD (80%)	-	11	-	13	-	14	15	-	53	-	3	-	3	-	4	4	-	13	
Communication Videos	IFAD (80%)	-	6	6	6	-	7	-	-	25	-	1	2	2	-	2	-	-	6	
Policy studies	IFAD (80%)	-	11	6	6	-	-	-	-	24	-	3	2	2	-	-	-	-	6	
Policy Consultation and workshops	IFAD (80%)	-	-	12	6	7	-	-	-	25	-	-	3	2	2	-	-	-	6	
Subtotal		26	154	73	84	21	28	22	8	416	6	38	18	21	5	7	6	2	104	
Subtotal		34	232	133	147	61	70	556	8	1,241	8	58	33	37	15	18	139	2	310	
Total Investment Costs		85	268	165	181	97	108	595	49	1,549	21	67	41	45	24	27	149	12	387	

Continued

India
Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and

Table 4.1. Project Management

Detailed Costs

accounts	Expenditures by Financiers (US\$ '000)																		
	IFAD										GoJ&K								
Fin. Rule	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	Total	
II. Recurrent Costs																			
A. Salaries and allowances																			
1. Project Management Unit Staff																			
Manager- Institutions	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Rural Finance Specialist	IFAD (80%)	-	24	25	27	28	30	31	-	164	-	6	6	7	7	8	-	41	
Manager M&E	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Manager KM	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Procurement Specialist	IFAD (80%)	6	24	25	27	28	30	31	16	186	1	6	6	7	7	8	4	47	
Procurement Officer	IFAD (80%)	-	11	12	12	13	13	14	7	83	-	3	3	3	3	4	2	21	
Manager MIS	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Manager SECAP	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Manager Finance	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Accounts Officer	IFAD (80%)	-	11	12	12	13	13	14	7	83	-	3	3	3	3	4	2	21	
Manager Gender and Youth	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Manager-Business Development	IFAD (80%)	-	17	18	19	20	21	22	12	129	-	4	5	5	5	6	3	32	
Project Assistants	IFAD (80%)	-	22	23	24	26	27	28	15	165	-	5	6	6	7	7	4	41	
Agriculture Specialists	IFAD (80%)	6	48	50	53	56	59	62	16	351	1	12	13	13	14	15	16	4	88
Horticulture Specialists	IFAD (80%)	6	48	50	53	56	59	62	16	351	1	12	13	13	14	15	16	4	88
Consultants - Procurement	IFAD (80%)	24	17	-	-	-	-	-	-	41	6	4	-	-	-	-	-	10	
Consultants - value chain	IFAD (80%)	-	23	6	-	-	-	-	-	29	-	6	2	-	-	-	-	7	
Consultants - International	IFAD (80%)	-	33	23	25	-	-	-	-	81	-	8	6	6	-	-	-	20	
Consultants - National	IFAD (80%)	-	41	35	36	-	-	-	-	112	-	10	9	9	-	-	-	28	
Subtotal		41	438	405	421	379	400	421	173	2,678	10	110	101	105	95	100	105	43	669
2. Directorate staff																			
Procurement Officer /a	IFAD (80%)	15	66	69	73	77	81	85	45	511	4	16	17	18	19	20	11	128	
Gender and Youth Officer	IFAD (80%)	-	44	46	49	51	54	57	30	330	-	11	12	12	13	13	14	7	83
Planning, M&E & MIS Officer	IFAD (80%)	-	44	46	49	51	54	57	30	330	-	11	12	12	13	13	14	7	83
Finance Officer	IFAD (80%)	-	44	46	49	51	54	57	30	330	-	11	12	12	13	13	14	7	83
Subtotal		15	197	207	219	230	243	256	135	1,502	4	49	52	55	58	61	64	34	376
Subtotal		57	635	613	639	609	642	677	308	4,180	14	159	153	160	152	161	169	77	1,045
B. Operating costs																			
1. Operating costs - PMU																			
Office operating expenses	IFAD (80%)	32	68	72	76	80	84	89	47	548	8	17	18	19	20	21	12	137	
Fuel and vehicle maintenance	IFAD (80%)	19	41	43	46	48	51	53	28	329	5	10	11	11	12	13	13	7	82
Travel allowances	IFAD (80%)	19	41	43	46	48	51	53	28	329	5	10	11	11	12	13	13	7	82
Meetings and backstopping	IFAD (80%)	5	11	12	13	13	14	15	16	99	1	3	3	3	4	4	4	25	
Staff medical and group insurance Premium	IFAD (80%)	-	17	18	19	20	21	22	23	141	-	4	5	5	5	6	6	35	
Subtotal		76	179	188	199	209	221	232	142	1,446	19	45	47	50	52	55	58	36	362
Total Recurrent Costs		133	814	801	838	819	863	909	450	5,626	33	203	200	209	205	216	227	112	1,407
Total		218	1,082	966	1,019	916	971	1,505	499	7,175	54	270	242	255	229	243	376	125	1,794

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 4: Economic and Financial Analysis

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Annex 4: Economic and Financial Analysis

I. Introduction

1. **Overview:** This annex reports the results of the Financial and Economic Analysis related to the Jammu and Kashmir Competitiveness Improvement project (JKCIP). The Economic and Financial Analysis (EFA) has been anchored on the project development objective which is *“improve the competitiveness and climate resilience of the farmers through the value chain approach covering production, value addition and marketing of high-value niche commodities from agriculture, horticulture, and allied sectors”*. Therefore, the models that have been developed for this EFA have productivity metrics such as:

- Increase in yields as a result of implementation of outcome1, climate-smart and market led production which aims at improving productivity and the quality of production.
- Increase in farm-gate prices as a result of implementation of outcome 2; Agribusiness ecosystem development. The project will in enterprise promotion in processing, value addition, and marketing of agri and allied sector produce which will result into increase in farm gate prices.
- Reduction in post-harvest losses as a result of improved marketing linkages for wool and milk with enterprise creation for livelihood diversification of vulnerable communities.

2. The above metrics are also linked to the project theory of change (TOC).

II. Financial Analysis:

3. **Objective:** The objectives of the financial analysis are: (i) to assess the financial viability of the development interventions promoted under the proposed Project; (ii) to examine the impact of Project interventions on the incomes of the households (HHs) targeted, therefore determining the incentive for the target group for engaging in the proposed activities; and (iii) to establish the baseline for the economic analysis of the Project, which will complement the financial analysis to assess the justification of the project investment from the overall economy' perspective (see section III).

4. **Data:** Quantities and costs of inputs used in the agricultural models, including labour utilised in different operations, and output farm-gate prices have been collected during the in-country field mission.

5. **Method used for Financial Analysis:** The method is based on the activity and individual household (HH) models which simulate the implementation of farming practices for crops grown in the project area. The activity models simulate the financial budget and estimate the performance indicators namely; gross margin, net margin and return to family labour) that are the instruments for assessing the impact of project intervention on economic activities of the target HH. Gross margin cash-flows are computed as a difference between total revenue and total operating costs.

6. The Without Project (WOP) models are representative of the current situation where farmers do not have access to suitable technologies, improved agricultural practices inputs, and yields are below the potential. The WP scenario simulates the impact on the project beneficiaries of the activities funded through the project. In such scenario, beneficiaries will adopt improved agricultural practices and inputs, e.g. use of organic fertilization (NPK, Basal, pesticides & improved seeds).

7. The financial net incremental benefits have been derived from the activity level models, by computing the difference between the with-project (WP) and the without project (WOP) gross margins (baseline). The gross margins have been computed as a difference between the annual revenue and the production costs. Proxies to estimate the WOP have been used where necessary.

8. **Farm models and financial results:** The following models have been lined-up for this JKCIP EFA. They include: Saffron, rice and tomatoes (representing investment in agri-niche crop promotion),

9. cherry, plum, pear, apricot, peach, walnut, almond and apple classified under stone/nut fruits representing investment in horticulture crop promotion. For crop models like apple, almond and walnut, analysis has been carried out for both high and medium density production. The models are reflected in table 1. All models show an increase in financial returns (per hectare) resulting from the implementation of the proposed project intervention.

10. Increased yields and farm-gate prices will be the key drivers for increasing cash-flows. In the with-project (WP) scenario, it is assumed that yields and prices will increase, thanks to the project, compared to the baseline (without project). The financial analysis demonstrates that all project scenario models are profitable from a farmer perspective illustrating the financial effectiveness of project investments aimed at supporting innovation adoption.

11. The summary results are presented in the table below, which includes profitability indicators such as financial internal rate of return (FIRR) and financial net present value (FNPV), benefits/cost ratio and return to family labour.

Table 1: Summary of Financial Analysis: Incremental benefits and performance indicators

Project Year	Farm models' net incremental benefits - Agri-niche and horticulture crops (in INR)													
	Cherry Model	PLUM Model	PEAR Model	APRICOT Model	PEACH Model	APPLE Model - High Density Rejuvenated	APPLE Model - Medium Density Rejuvenated	Saffron Model	Aromatic Rice Model	ALMOND Model - Medium Density	ALMOND Model - High Density Rejuvenated	WALNUT Model - Medium Density	WALNUT Model - High Density Rejuvenated	Tomato Model
PY1	(172,902)	(31,014)	(99,621)	(140,847)	(64,923)	(299,233)	(98,902)	15,272	(23,448)	(259,193)	(391,253)	(307,274)	(159,314)	(57,145)
PY2	(78,804)	(4,654)	(35,909)	(89,352)	(28,901)	(153,814)	(41,334)	29,844	7,308	(27,033)	214,023	(80,694)	296,046	(9,345)
PY3	83,180	11,684	24,727	11,124	15,669	(15,037)	13,877	54,684	30,226	202,307	953,747	386,726	1,232,186	16,955
PY4	311,031	23,524	98,105	134,148	57,186	214,210	105,275	110,906	38,952	201,807	1,697,247	386,226	1,231,686	57,055
PY5	311,031	23,524	98,105	134,148	57,186	214,210	105,275	110,906	38,952	201,807	1,697,247	386,226	1,231,686	57,055
PY6	311,031	23,524	98,105	134,148	57,186	214,210	105,275	110,906	38,952	201,807	1,697,247	386,226	1,231,686	57,055
PY7	311,031	23,524	98,105	134,148	57,186	214,210	105,275	110,906	38,952	201,807	1,697,247	386,226	1,231,686	57,055
PY8	311,031	23,524	98,105	134,148	57,186	214,210	105,275	110,906	38,952	201,807	1,697,247	386,226	1,231,686	57,055
PY9	311,031	23,524	98,105	134,148	57,186	214,210	105,275	110,906	38,952	201,807	1,697,247	386,226	1,231,686	57,055
PY10	311,031	23,524	98,105	134,148	57,186	214,210	105,275	110,906	38,952	201,807	1,697,247	386,226	1,231,686	57,055
IRR	61%	39%	40%	33%	35%	25%	40%	92%	47%	157%	65%	324%	45%	
FNPV (INR) @4%	1,494,439	101,780	416,465	507,636	229,916	699,685	440,752	682,661	218,921	982,438	9,725,730	2,034,563	7,787,970	255,924
B/C Ratio	3.95	1.19	1.64	3.48	1.86	2.54	1.26	3.98	6.51	1.51	3.76	1.37	2.74	3.08
Return to Family Labour	22,041	808	4,039	10,052	3,084	17,758	2,963	5,948	5,757	5,103	28,353	4,851	17,793	4,211

12. As can be seen in the table above, all models present positive financial viability in terms of measurement using benefits cost ratio, financial internal rate of return and financial net present value. All financial incremental cash-flows have been discounted for 10 years using a rate of 3.5 percent¹. The data source for this rate is shown in the footnote and captured in the EFA worksheet.

13. **Own consumption:** Own consumption has been computed only under aromatic rice and tomato model because elsewhere it is immaterial.

14. **Post Harvest losses:** An average percentage has been applied to different financial models for post-harvest losses depending on the nature of the crop. It is assumed that as a result of improved marketing linkages and enterprise creation for livelihood diversification of

¹ [Interest rate on deposit accounts in India - Search \(bing.com\)](https://www.bing.com/search?q=Interest+rate+on+deposit+accounts+in+India)

vulnerable communities, a reduction in post-harvest losses will be observed, thanks to the project intervention.

15. **Beneficiary aggregation and adoption rate:** The direct target household (HH) beneficiaries for JKCIP for the proposed investment are projected at 300,000 (HH) translating into 1,530,000 household members with an average HH size of 5 per HH. The end-line adoption rate is assumed at 49% according to log-frame indicator 1.2.2, *Percentage of households reporting adoption of new/improved inputs and technologies or practices*. This corresponds to about 155,813 HH using gradual adoption in the initial project years. The summary is presented in the table below.

Table 2: Aggregation No Phasing

Household Phasing and aggregation	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Agri-niche and horticulture crops	300,000									
Cumulative Number of Beneficiaries	565	31,798	65,458	73,941	67,594	35,711	23,775	1,157		
	565	32,364	97,822	171,763	239,357	275,068	298,843	300,000	300,000	300,000
Beneficiary Aggregation	Adoption Rate	20%	30%	40%	50%	60%	70%	70%		
Beneficiaries in Y1	113	9,540	26,183	36,970	40,556	24,998	16,642	810		
Beneficiaries in Y2		113	9,540	26,183	36,970	40,556	24,998	16,642	810	
Beneficiaries in Y3			113	9,540	26,183	36,970	40,556	24,998	16,642	810
Beneficiaries in Y4				113	9,540	26,183	36,970	40,556	24,998	16,642
Beneficiaries in Y5					113	9,540	26,183	36,970	40,556	24,998
Beneficiaries in Y6						113	9,540	26,183	36,970	40,556
Beneficiaries in Y7							113	9,540	26,183	36,970
Beneficiaries in Y8								113	9,540	26,183
Beneficiaries in Y9									113	9,540
Beneficiaries in Y10										113
Total Beneficiaries	113	9,653	35,836	72,806	113,363	138,360	155,003	155,813	155,813	155,813

16. **Cost per beneficiary:** The cost per beneficiary has been derived from total project costs divided by the target number of households. The proposed total financing for JKCIP is US\$217.3 million, and the estimated number of beneficiary households is 300,000. The cost per beneficiary HH is, therefore, computed at US\$725 and US\$142 for each household member assuming 5 people per HH. The analysis is presented in a summary table below.

Table 3: Programme costs and log-frame indicators

PROGRAMME COSTS AND INDICATORS FOR LOGFRAME				
TOTAL PROGRAMME COSTS (in million USD)				
Beneficiaries	1,530,000	people	217.4	Million
Cost per beneficiary	142	USD x person	300,000	Households
				725
Components and Cost (USD million)				
A. Climate-smart and market-led production	113.6	Average increase in income per HH per year		
B. Agri-business ecosystem development	72.6	Premium prices paid to farmers		
C. Support to vulnerable communities	20.7			
D. Project Management	10.5			
Total	217.4			

17. The overall project assumptions used in the financial and economic models are presented in the table below.

Table 4: Main assumptions and shadow prices

MAIN ASSUMPTIONS & SHADOW PRICES					
	Output	Yields (Annually) Kg			
		Land Size	WOP	WP	Price (INR)
Financial	Cherry Model	Ha	2,435	3,247	500
	PLUM Model	Ha	478	1,196	218
	PEAR Model	Ha	597	1,194	500
	APRICOT Model	Ha	690	920	1,000
	PEACH Model	Ha	853	1,313	300
	APPLE Model	Ha	12,000	16,000	107
	Saffron Model	Ha	-	500	1,000
	Aromatic Rice	Ha	7,000	8,000	70
	ALMOND Model	Ha	620	2,500	400
	WALNUT Model	Ha	200	1,670	600
	Tomato Model	Ha	1,600	2,500	150
	Economic	Standard Conversion Factor	0.90	Discount rate for Financial	
Labour Conversion Factor		0.92	Discount rate for Economic		7%

III. Economic Analysis:

18. **Objectives of Economic Analysis:** The economic analysis has been carried out to: (i) determine the economic viability and overall cost-effectiveness of the project, estimated from the perspective of the overall economy rather than at individual household level, through comparison of aggregated economic benefits and the total project economic costs. (ii) Perform sensitivity analysis to measure the robustness of the proposed investment and measure the variations in the overall Economic Rate of Return (ERR) and Net Present Value (NPV) due to risks and unforeseen factors.

19. The economic analysis has adopted the crop models used for financial analysis and converted them to economic terms. Standard Conversion Factors (SCF) for both labour and tradable goods have been applied to all input and output costs/prices to calculate the economic value.

20. **Economic benefits:** JKCIP is projected to yield a baseline Economic Rate of return of 24 percent with a positive Net Present Value of US\$480.4 million (INR 39.8 billion). All quantifiable benefits have been discounted over a period of 20 years including 7 years of project implementation using a rate of 7 percent which is the current interest rate on long term bonds/treasury bills in India². The baseline ERR of 24 per cent is higher than the discount rate used for economic analysis which confirms the justification of the proposed project investment. The overall benefits cost ratio is computed at 13.3. The overall project economic analysis is summarized in the table below:

² [India IN: Long-Term Interest Rate: Government Bonds | Economic Indicators | CEIC \(ceicdata.com\)](http://India IN: Long-Term Interest Rate: Government Bonds | Economic Indicators | CEIC (ceicdata.com))

Table 5: Overall Economic Cash-flow

Project year	Project Incremental	Incremental Fam Benefits (INR million)	Economic Project Costs (INR million)			Cash-flow
	Farm Benefits (Agri- niche & Horticulture Crops)		Investment Costs	Recurrent Costs	Total Economic Costs	
PY1	(4)	(4)	16	16	32	(36)
PY2	(336)	(336)	1,029	107	1,137	(1,472)
PY3	(890)	(890)	2,088	102	2,190	(3,079)
PY4	(1,018)	(1,018)	2,118	101	2,220	(3,238)
PY5	(1,671)	(1,671)	1,890	96	1,986	(3,657)
PY6	(2,712)	(2,712)	1,089	96	1,185	(3,897)
PY7	(3,064)	(3,064)	641	96	737	(3,801)
PY8	(871)	(871)	5	41	46	(917)
PY9	4,787	4,787		12	12	4,775
PY10	12,197	12,197		12	12	12,185
PY11	12,197	12,197		12	12	12,185
PY12	12,197	12,197		12	12	12,185
PY13	12,197	12,197		12	12	12,185
PY14	12,197	12,197		12	12	12,185
PY15	12,197	12,197		12	12	12,185
PY16	12,197	12,197		12	12	12,185
PY17	12,197	12,197		12	12	12,185
PY18	12,197	12,197		12	12	12,185
PY19	12,197	12,197		12	12	12,185
PY20	12,197	12,197		12	12	12,185
NPV@ 7% (INR' million)						39,880
NPV@ 7% ('millionUSD)						480.49
EIRR						24%
BCR		128,393			9,678	13.3

21. **Aggregation of Economic Benefits:** The JKCIP economic benefits aggregation has been derived from the phased number of target HH, and the incremental economic benefits generated from the crop models. This is summarized in the table below:

Table 6: Beneficiary aggregation and phasing of benefits

Household Phasing and aggregation		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Agri-niche and horticulture crops	300,000	565	31,798	65,458	73,941	67,594	35,711	23,775	1,157		
Cumulative Number of Beneficiaries		565	32,364	97,822	171,763	239,357	275,068	298,843	300,000	300,000	300,000
Beneficiary Aggregation	Adoption Rate	20%	30%	40%	50%	60%	70%	70%	70%		
Beneficiaries in Y1		113	9,540	26,183	36,970	40,556	24,998	16,642	810		
Beneficiaries in Y2			113	9,540	26,183	36,970	40,556	24,998	16,642	810	
Beneficiaries in Y3				113	9,540	26,183	36,970	40,556	24,998	16,642	810
Beneficiaries in Y4					113	9,540	26,183	36,970	40,556	24,998	16,642
Beneficiaries in Y5						113	9,540	26,183	36,970	40,556	24,998
Beneficiaries in Y6							113	9,540	26,183	36,970	40,556
Beneficiaries in Y7								113	9,540	26,183	36,970
Beneficiaries in Y8									113	9,540	26,183
Beneficiaries in Y9										113	9,540
Beneficiaries in Y10											113
Total Beneficiaries		113	9,653	35,836	72,806	113,363	138,360	155,003	155,813	155,813	155,813
Summary of Incremental Farm Benefits - Economic											
		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Cherry					(156 284)	(71 230)	75 185	281 138	281 138	281 138	281 138
Pear					(28 048)	(4 221)	10 547	21 248	21 248	21 248	21 248
Pear					(90 083)	(32 494)	22 314	88 640	88 640	88 640	88 640
Upricot					(127 347)	(80 801)	10 018	121 219	121 219	121 219	121 219
Peach					(58 720)	(26 160)	14 127	51 654	51 654	51 654	51 654
Apple					(270 495)	(139 052)	(13 613)	193 601	193 601	193 601	193 601
Almond					(210 181)	556	207 393	207 393	207 393	207 393	207 393
Walnut					(277 793)	(73 004)	349 483	349 031	349 031	349 031	349 031
Tomato		(51 698)	(8 570)	15 193	51 429	51 429	51 429	51 429	51 429	51 429	51 429
Saffron			11 141	24 313	46 766	97 584	97 584	97 584	97 584	97 584	97 584
Aromatic Rice		(18 718)	6 812	27 513	35 400	35 400	35 400	35 400	35 400	35 400	35 400
Average Incremental Farm Benefits		(35,208)	3,128	22,340	(98,669)	(21,999)	78,170	136,212	136,212	136,212	136,212
Incr. Benefits Aggregation/Year											
		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Incremental farm benefits phasing											
Aggregated benefits	Incr. Ben										
Incremental Benefits in Y1	(35)	(3,982)	(335,873)	(921,865)	(1,301,671)	(1,427,929)	(880,136)	(585,952)	(28,523)		
Incremental Benefits in Y2	3		354	29,838	81,895	115,636	126,852	78,188	52,054	2,534	
Incremental Benefits in Y3	22			2,526	213,110	584,920	825,906	906,016	558,443	371,785	18,098
Incremental Benefits in Y4	(99)				(11,159)	(941,254)	(2,583,448)	(3,647,824)	(4,001,649)	(2,466,505)	(1,642,082)
Incremental Benefits in Y5	(22)					(2,488)	(209,864)	(576,011)	(813,327)	(892,217)	(549,937)
Incremental Benefits in Y6	78						8,841	745,704	2,046,723	2,889,970	3,170,286
Incremental Benefits in Y7	136							15,405	1,299,405	3,566,461	5,035,836
Incremental Benefits in Y8	136								15,405	1,299,405	3,566,461
Incremental Benefits in Y9	136									15,405	1,299,405
Incremental Benefits in Y10	136										1,299,405
Net Incremental Benefits		(0.004)	(335,519)	(889,501)	(1,017,825)	(1,671,115)	(2,711,849)	(3,064,475)	(871,469)	4,786,838	12,197,473

22. **Double counting of costs:** In order to avoid double counting of costs, all costs already included in estimation of the net incremental cash-flow of the enterprise models (i.e. input such as improved seeds, fertilizers which will provided by the project in form of grants and subsidies) have been excluded in the overall analysis as they are already incorporated in the crop models.

23. **Sensitivity analysis, Risks and Assumptions:** A sensitivity analysis has been carried out to test the robustness of the overall project investment and measure variations due to unforeseen factors and relevant risks.

24. **Results of the sensitivity analysis:** A change in project benefits by 20 per cent increase in costs and decrease in benefits using the same proportion yields an ERR of 23 per cent and 22 per cent with a positive NPV of US\$462.8 million and US\$366.7 million respectively. An increase in project benefits by either 10 per cent & 20 per cent yields a higher of 25 percent & 26 per cent respectively both with positive NPV. A delay in project benefits by 1 & 2 years still yields positive results as it yields 22 per cent and 20 per cent both posting positive net present values. Results of the sensitivity analysis indicate that the project remains economically viable under the various assumptions considered. The summary of the sensitivity analysis is presented in the table below.

Table 7: Summary of sensitivity analysis matrix

Sensitivity analysis matrix			
	%	IRR	NPV (US\$) Million
Base Scenario		24%	480.53
Decrease of Project benefits	-10%	23%	423.64
	-20%	22%	366.74
	-30%	21%	309.84
Cost Increase	10%	23%	471.69
	20%	23%	462.85
	50%	21%	439.59
Delay of benefits	1 Year	22%	407.13
	2 Years	20%	338.33
Increase of benefits	10%	25%	537.43
	20%	26%	594.33

Table 8: Detailed sensitivity analysis:

Year	1	2	3	4	5	6	7	8	9	10	11
Incremental Benefits	(0)	(336)	(890)	(1,018)	(1,671)	(2,712)	(3,064)	(871)	4,787	12,197	12,197
benefits +10%	(0)	(369)	(978)	(1,120)	(1,838)	(2,983)	(3,371)	(959)	5,266	13,417	13,417
benefits +20%	(0)	(403)	(1,067)	(1,221)	(2,005)	(3,254)	(3,677)	(1,046)	5,744	14,637	14,637
Mild scenario	(0)	(302)	(801)	(916)	(1,504)	(2,441)	(2,758)	(784)	4,308	10,978	10,978
Medium scenario	(0)	(268)	(712)	(814)	(1,337)	(2,169)	(2,452)	(697)	3,829	9,758	9,758
High scenario	(0)	(235)	(623)	(712)	(1,170)	(1,898)	(2,145)	(610)	3,351	8,538	8,538
Project Costs	32	1,137	2,190	2,220	1,986	1,185	737	46	12	12	12
costs +10%	35	1,250	2,408	2,442	2,185	1,304	810	50	13	13	13
costs +20%	39	1,364	2,627	2,664	2,383	1,422	884	55	15	15	15
costs +30%	48	1,705	3,284	3,330	2,979	1,541	958	59	16	16	16
Net cash flow											
base scenario	(32)	(1,472)	(3,079)	(3,238)	(3,657)	(3,897)	(3,801)	(917)	4,775	12,185	12,185
costs +10%	(35)	(1,586)	(3,298)	(3,460)	(3,856)	(4,016)	(3,875)	(922)	4,773	12,184	12,184
costs +20%	(39)	(1,699)	(3,517)	(3,682)	(4,054)	(4,134)	(3,949)	(926)	4,772	12,183	12,183
costs +30%	(48)	(2,040)	(4,174)	(4,348)	(4,650)	(4,253)	(4,022)	(931)	4,771	12,182	12,182
benefits +10%	(32)	(1,506)	(3,168)	(3,339)	(3,824)	(4,168)	(4,108)	(1,004)	5,253	13,405	13,405
benefits +20%	(32)	(1,539)	(3,257)	(3,441)	(3,991)	(4,440)	(4,414)	(1,091)	5,732	14,625	14,625
benefits -10%	(32)	(1,439)	(2,990)	(3,136)	(3,490)	(3,626)	(3,495)	(830)	4,296	10,965	10,965
benefits -20%	(32)	(1,405)	(2,901)	(3,034)	(3,323)	(3,355)	(3,188)	(743)	3,817	9,746	9,746
benefits -30%	(32)	(1,371)	(2,812)	(2,932)	(3,156)	(3,084)	(2,882)	(656)	3,339	8,526	8,526
benefits delayed 1 year	(32)	(1,137)	(2,525)	(3,109)	(3,004)	(2,856)	(3,449)	(3,110)	(884)	4,775	12,185
benefits delayed 2 years	(32)	(1,137)	(2,190)	(2,555)	(2,875)	(2,203)	(2,408)	(2,757)	(3,077)	(884)	4,775
Discount rate	7%										
Sensitivity Analysis	Base case	Costs Increase			Benefits Increase		Decrease of Benefits			Delay of Benefits	
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	- 30%	1 year	2 years
IRR (%)	24%	23%	22.5%	21%	25%	26%	23%	22.2%	21%	22%	20%
NPV (INR) Million	39,884	39,150	38,416	36,486	44,607	49,329	35,162	30,439	25,717	33,792	28,081
NPV (USD) Million	480.5325	471.6891	462.8458	439.5881	537.4291	594.3257	423.6359	366.7393	309.8427	407.1287	338.3264

25. **Conclusion:** The following economic performance indicators for the proposed investment have been computed: (i) Economic Internal Rate of Return (ERR), and (ii) Economic Net Present Value (NPV). The overall ERR is computed to illustrate the need for funding overall cost effectiveness. JKCIP is projected to yield a baseline Economic Rate of return (ERR) of 24 per cent with a positive Net Present Value (NPV) of US\$480.4 million (INR 39.8 billion). The baseline ERR is above the discount rate used for economic analysis which confirms the economic justification of the project.

Attachments to this annex;

- Overall summary of economic and financial analysis
 - Table A: Overall Financial Analysis
 - Table B: Programme costs and log-frame indicators
 - Table C: Main assumptions and shadow prices
 - Table D: Overall economic analysis
- Beneficiary phasing and aggregation
- Sensitivity analysis
- Conversion Factors computation
- Economic costs used in the analysis
- Financial crop models
 - Cherry model
 - Plum model
 - Pear model
 - Apricot model
 - Peach model
 - Apple model – High Density Rejuvenated
 - Apple model – Medium Density Rejuvenated
 - Saffron model
 - Aromatic rice model
 - Almond model – Medium Density
 - Almond model – High Density
 - Walnut model – Medium Density
 - Walnut model – High Density
 - Tomato model

Overall summary of economic and financial analysis

○ Table A: Overall Financial Analysis

Project Year		Farm models' net incremental benefits - Agri-niche and horticulture crops (in INR)										
		Cherry Model	PLUM Model	PEAR Model	APRICOT Model	PEACH Model	APPLE Model	Saffron Model	Aromatic Rice Model	ALMOND Model	WALNUT Model	Tomato Model
PY1		(172,902)	(31,014)	(99,621)	(140,847)	(64,923)	(299,233)	15,272	(23,448)	- 259,193	- 307,274	- 57,145
PY2		(78,804)	(4,654)	(35,909)	(89,352)	(28,901)	(153,814)	29,844	7,308	(27,033)	(80,694)	(9,345)
PY3		83,180	11,684	24,727	11,124	15,669	(15,037)	54,684	30,226	202,307	386,726	16,955
PY4		311,031	23,524	98,105	134,148	57,186	214,210	110,906	38,952	201,807	386,226	57,055
PY5		311,031	23,524	98,105	134,148	57,186	214,210	110,906	38,952	201,807	386,226	57,055
PY6		311,031	23,524	98,105	134,148	57,186	214,210	110,906	38,952	201,807	386,226	57,055
PY7		311,031	23,524	98,105	134,148	57,186	214,210	110,906	38,952	201,807	386,226	57,055
PY8		311,031	23,524	98,105	134,148	57,186	214,210	110,906	38,952	201,807	386,226	57,055
PY9		311,031	23,524	98,105	134,148	57,186	214,210	110,906	38,952	201,807	386,226	57,055
PY10		311,031	23,524	98,105	134,148	57,186	214,210	110,906	38,952	201,807	386,226	57,055
IRR		61%	39%	40%	33%	35%	25%		92%	47%	65%	45%
NPV (INR) @4%		1,494,439	101,780	416,465	507,636	229,916	699,685	682,661	218,921	982,438	2,034,563	255,924
B/C Ratio		3.95	1.19	1.64	3.48	1.86	2.54	3.98	6.51	1.51	1.37	3.08
Return to Family		22,041	808	4,039	10,052	3,084	17,758	5,948	5,757	5,103	4,851	4,211

Table B: Programme costs and log-frame indicators

PROGRAMME COSTS AND INDICATORS FOR LOGFRAME			
TOTAL PROGRAMME COSTS (in million USD)			
Beneficiaries	1,530,000	people	217.4 Million
Cost per beneficiary	142	USD x person	300,000 Households
			725
Components and Cost (USD million)			
A. Climate-smart and market-led production	113.6	Average increase in income per HH per year	
B. Agri-business ecosystem development	72.6	Premium prices paid to farmers	
C. Support to vulnerable communities	20.7		
D. Project Management	10.5		
Total	217.4		

Table C: Main assumptions and shadow prices

MAIN ASSUMPTIONS & SHADOW PRICES					
	Output	Yields (Annually) Kg			
		Land Size	WOP	WP	Price (INR)
Financial	Cherry Model	Ha	2,435	3,247	500
	PLUM Model	Ha	478	1,196	218
	PEAR Model	Ha	597	1,194	500
	APRICOT Model	Ha	690	920	1,000
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	APPLE Model	Ha	12,000	16,000	107
	Saffron Model	Ha	-	500	1,000
	Aromatic Rice	Ha	7,000	8,000	70
	ALMOND Model	Ha	620	2,500	400
	WALNUT Model	Ha	200	1,670	600
	Tomato Model	Ha	1,600	2,500	150
Economic	Standard Conversion Factor	0.90	Discount rate for Financial Analys		4%
	Labour Conversion Factor	0.92	Discount rate for Economic Analy		7%

Table D: Overall economic analysis

Project year	Project Incremental	Incremental Fam Benefits (INR million)	Economic Project Costs (INR million)			Cash-flow
	Farm Benefits (Agri- niche & Horticulture Crops)		Investment Costs	Recurrent Costs	Total Economic Costs	
PY1	(0)	(0)	16	16	32	(32)
PY2	(336)	(336)	1,029	107	1,137	(1,472)
PY3	(890)	(890)	2,088	102	2,190	(3,079)
PY4	(1,018)	(1,018)	2,118	101	2,220	(3,238)
PY5	(1,671)	(1,671)	1,890	96	1,986	(3,657)
PY6	(2,712)	(2,712)	1,089	96	1,185	(3,897)
PY7	(3,064)	(3,064)	641	96	737	(3,801)
PY8	(871)	(871)	5	41	46	(917)
PY9	4,787	4,787		12	12	4,775
PY10	12,197	12,197		12	12	12,185
PY11	12,197	12,197		12	12	12,185
PY12	12,197	12,197		12	12	12,185
PY13	12,197	12,197		12	12	12,185
PY14	12,197	12,197		12	12	12,185
PY15	12,197	12,197		12	12	12,185
PY16	12,197	12,197		12	12	12,185
PY17	12,197	12,197		12	12	12,185
PY18	12,197	12,197		12	12	12,185
PY19	12,197	12,197		12	12	12,185
PY20	12,197	12,197		12	12	12,185
NPV@ 7% (INR' million)						39,884
NPV@ 7% ('millionUSD)						480.53
EIRR						24%
BCR		128,397			9,678	13.3

Beneficiary phasing and aggregation

Household Phasing and aggregation		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Agri-niche and horticulture crops	300,000	565	31,798	65,458	73,941	67,594	35,711	23,775	1,157		
Cumulative Number of Beneficiaries		565	32,364	97,822	171,763	239,357	275,068	298,843	300,000	300,000	300,000
Beneficiary Aggregation	Adoption Rate	20%	30%	40%	50%	60%	70%	70%	70%		
Beneficiaries in Y1		113	9,540	26,183	36,970	40,556	24,998	16,642	810		
Beneficiaries in Y2			113	9,540	26,183	36,970	40,556	24,998	16,642	810	
Beneficiaries in Y3				113	9,540	26,183	36,970	40,556	24,998	16,642	810
Beneficiaries in Y4					113	9,540	26,183	36,970	40,556	24,998	16,642
Beneficiaries in Y5						113	9,540	26,183	36,970	40,556	24,998
Beneficiaries in Y6							113	9,540	26,183	36,970	40,556
Beneficiaries in Y7								113	9,540	26,183	36,970
Beneficiaries in Y8									113	9,540	26,183
Beneficiaries in Y9										113	9,540
Beneficiaries in Y10											113
Total Beneficiaries		113	9,653	35,836	72,806	113,363	138,360	155,003	155,813	155,813	155,813
Summary of Incremental Farm Benefits - Economic											
		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Cherry					(156 284)	(71 230)	75 185	281 138	281 138	281 138	281 138
Plum					(28 048)	(4 221)	10 547	21 248	21 248	21 248	21 248
Pear					(90 083)	(32 494)	22 314	88 640	88 640	88 640	88 640
Upricot					(127 347)	(80 801)	10 018	121 219	121 219	121 219	121 219
Peach					(58 720)	(26 160)	14 127	51 654	51 654	51 654	51 654
Apple					(270 495)	(139 052)	(13 613)	193 601	193 601	193 601	193 601
Almond					(210 181)	556	207 393	207 393	207 393	207 393	207 393
Walnut					(277 793)	(73 004)	349 483	349 031	349 031	349 031	349 031
Tomato		(51 698)	(8 570)	15 193	51 429	51 429	51 429	51 429	51 429	51 429	51 429
Saffron		11 141	24 313	46 766	97 584	97 584	97 584	97 584	97 584	97 584	97 584
Aromatic Rice		(18 718)	6 812	27 513	35 400	35 400	35 400	35 400	35 400	35 400	35 400
Average Incremental Farm Benefits		(35,208)	3,128	22,340	(98,669)	(21,999)	78,170	136,212	136,212	136,212	136,212
Incr. Benefits Aggregation/Year											
		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Incremental farm benefits phasing											
Aggregated benefits	Incr. Ben										
Incremental Benefits in Y1	(35)	(3,982)	(335,873)	(921,865)	(1,301,671)	(1,427,929)	(880,136)	(585,952)	(28,523)		
Incremental Benefits in Y2	3		354	29,838	81,895	115,636	126,852	78,188	52,054	2,534	
Incremental Benefits in Y3	22			2,526	213,110	584,920	825,906	906,016	558,443	371,785	18,098
Incremental Benefits in Y4	(99)				(11,159)	(941,254)	(2,583,448)	(3,647,824)	(4,001,649)	(2,466,505)	(1,642,082)
Incremental Benefits in Y5	(22)					(2,488)	(209,864)	(576,011)	(813,327)	(892,217)	(549,937)
Incremental Benefits in Y6	78						8,841	745,704	2,046,723	2,889,970	3,170,286
Incremental Benefits in Y7	136							15,405	1,299,405	3,566,461	5,035,836
Incremental Benefits in Y8	136								15,405	1,299,405	3,566,461
Incremental Benefits in Y9	136									15,405	1,299,405
Incremental Benefits in Y10	136										1,299,405
Net Incremental Benefits		(0.004)	(335,519)	(889,501)	(1,017,825)	(1,671,115)	(2,711,849)	(3,064,475)	(871,469)	4,786,838	12,197,473

Sensitivity analysis

Year	1	2	3	4	5	6	7	8	9	10	11
Incremental Benefits	(0)	(336)	(890)	(1,018)	(1,671)	(2,712)	(3,064)	(871)	4,787	12,197	12,197
benefits +10%	(0)	(369)	(978)	(1,120)	(1,838)	(2,983)	(3,371)	(959)	5,266	13,417	13,417
benefits +20%	(0)	(403)	(1,067)	(1,221)	(2,005)	(3,254)	(3,677)	(1,046)	5,744	14,637	14,637
Mild scenario	(0)	(302)	(801)	(916)	(1,504)	(2,441)	(2,758)	(784)	4,308	10,978	10,978
Medium scenario	(0)	(268)	(712)	(814)	(1,337)	(2,169)	(2,452)	(697)	3,829	9,758	9,758
High scenario	(0)	(235)	(623)	(712)	(1,170)	(1,898)	(2,145)	(610)	3,351	8,538	8,538
Project Costs	32	1,137	2,190	2,220	1,986	1,185	737	46	12	12	12
costs +10%	35	1,250	2,408	2,442	2,185	1,304	810	50	13	13	13
costs +20%	39	1,364	2,627	2,664	2,383	1,422	884	55	15	15	15
costs +30%	48	1,705	3,284	3,330	2,979	1,541	958	59	16	16	16
Net cash flow											
base scenario	(32)	(1,472)	(3,079)	(3,238)	(3,657)	(3,897)	(3,801)	(917)	4,775	12,185	12,185
costs +10%	(35)	(1,586)	(3,298)	(3,460)	(3,856)	(4,016)	(3,875)	(922)	4,773	12,184	12,184
costs +20%	(39)	(1,699)	(3,517)	(3,682)	(4,054)	(4,134)	(3,949)	(926)	4,772	12,183	12,183
costs +30%	(48)	(2,040)	(4,174)	(4,348)	(4,650)	(4,253)	(4,022)	(931)	4,771	12,182	12,182
benefits +10%	(32)	(1,506)	(3,168)	(3,339)	(3,824)	(4,168)	(4,108)	(1,004)	5,253	13,405	13,405
benefits +20%	(32)	(1,539)	(3,257)	(3,441)	(3,991)	(4,440)	(4,414)	(1,091)	5,732	14,625	14,625
benefits -10%	(32)	(1,439)	(2,990)	(3,136)	(3,490)	(3,626)	(3,495)	(830)	4,296	10,965	10,965
benefits -20%	(32)	(1,405)	(2,901)	(3,034)	(3,323)	(3,355)	(3,188)	(743)	3,817	9,746	9,746
benefits -30%	(32)	(1,371)	(2,812)	(2,932)	(3,156)	(3,084)	(2,882)	(656)	3,339	8,526	8,526
benefits delayed 1 year	(32)	(1,137)	(2,525)	(3,109)	(3,004)	(2,856)	(3,449)	(3,110)	(884)	4,775	12,185
benefits delayed 2 years	(32)	(1,137)	(2,190)	(2,555)	(2,875)	(2,203)	(2,408)	(2,757)	(3,077)	(884)	4,775
Discount rate	7%										
Sensitivity Analysis	Base case	Costs Increase			Benefits Increase		Decrease of Benefits			Delay of Benefits	
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	-30%	1 year	2 years
IRR (%)	24%	23%	22.5%	21%	25%	26%	23%	22.2%	21%	22%	20%
NPV (INR) Million	39,884	39,150	38,416	36,486	44,607	49,329	35,162	30,439	25,717	33,792	28,081
NPV (USD) Million	480.5325	471.6891	462.8458	439.5881	537.4291	594.3257	423.6359	366.7393	309.8427	407.1287	338.3264

Conversion Factors computation

Years		2015 US\$	2016 US\$	2017 US\$	2018 US\$	2019 US\$	2020 US\$
X	Export of goods/ Free On Board	263,890,000,000	259,500,000,000	294,090,000,000	320,670,000,000	322,310,000,000	275,080,000,000
M	Import of goods/Free On Board	385,490,000,000	346,230,000,000	435,140,000,000	506,250,000,000	479,700,000,000	367,960,000,000
Tm	Import Taxes	69,388,200,000	62,321,400,000	78,325,200,000	91,125,000,000	86,346,000,000	66,232,800,000
Tx	Export Taxes						
		0.90	0.91	0.90	0.90	0.90	0.91
		0.90					
OER		83					
SER		75.0					
SCF (SER/OER)		0.904					
CF for labour		0.916					
Import tax rate		18.00%					

Economic costs used in the analysis

India

Competitiveness Improvement of the Agriculture and Allied Sectors
Project in the Jammu and Kashmir (JKCIP)

Expenditure Accounts by Years -- Totals Including Contingencies

Economic Costs

	Economic Costs (INR '000)								Total
	2023	2024	2025	2026	2027	2028	2029	2030	
I. Investment Costs									
A. Training and Workshops	11,067	53,207	53,003	38,232	14,809	13,411	13,031	540	197,300
B. Consultancies	1,620	30,770	48,661	69,158	37,967	8,582	43,080	3,120	242,958
C. Goods, Services and Inputs	540	866,812	1,853,247	1,915,011	1,822,663	1,057,590	584,440	1,097	8,101,399
D. Equipment and Materials	3,122	78,704	132,657	96,018	14,256	9,504	-	-	334,261
E. Grants and Subsidies	-	545,157	1,095,674	1,284,633	1,068,392	387,070	256,370	-	4,637,297
Total Investment Costs	16,349	1,574,650	3,183,242	3,403,052	2,958,086	1,476,157	896,922	4,757	13,513,215
II. Recurrent Costs									
A. Salaries and Allowances	5,686	78,649	73,579	73,039	67,822	67,822	67,822	26,771	461,191
B. Operating Costs	10,208	28,394	28,394	28,394	28,394	28,394	28,394	13,995	194,565
Total Recurrent Costs	15,894	107,043	101,972	101,432	96,216	96,216	96,216	40,766	655,756
Total PROJECT COSTS	32,243	1,681,693	3,285,214	3,504,485	3,054,302	1,572,373	993,138	45,523	14,168,971
Less Econ Costs already included in models	-	545,157	1,095,674	1,284,633	1,068,392	387,070	256,370	-	4,637,297
Net Investment Costs to avoid double counting	16,349	1,029,493	2,087,568	2,118,419	1,889,694	1,089,087	640,551	4,757	8,875,919

Financial crop models

- Cherry model

Cherry Model		Without Project (WOP)						With Project - (WP)															
		Y0		Y1		Y2		Y3		Y4		Y5		Y6		Y7		Y8		Y9		Y10	
Yields and Inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA
Yields	Kg	2,435	450	1,095,863	2,435	450	1,095,863	2,598	461	1,198,143	2,922	470	1,374,212	3,247	500	1,621,877	1,621,877	1,621,877	1,621,877	1,621,877	1,621,877	1,621,877	1,621,877
Post Harvest Losses		244	450	109,586	195	450	87,669	208	461	95,851	234	470	109,937	260	500	129,750	129,750	129,750	129,750	129,750	129,750	129,750	129,750
Net sales		-	450	-	-	450	-	-	461	-	-	470	-	500	-	-	-	-	-	-	-	-	-
				986,276			1,008,194			1,102,292			1,264,275			1,492,126	1,492,126	1,492,126	1,492,126	1,492,126	1,492,126	1,492,126	
Input/operating costs																							
Unimproved seeds	Kg	40	3000	120,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Improved seeds	Kg	-	-	-	40	4000	160,000	40	4000	160,000	40	4000	160,000	40	4000	160,000	-	-	-	-	-	-	
FYM	Kg	-	-	-	6,909	15	103,635	6,909	15	103,635	6,909	15	103,635	6,909	15	103,635	6,909	15	103,635	6,909	15	103,635	
Urea	Kg	-	-	-	396	45	17,810	396	45	17,810	396	45	17,810	396	45	17,810	396	45	17,810	396	45	17,810	
DAP	Kg	-	-	-	214	45	9,638	214	45	9,638	214	45	9,638	214	45	9,638	214	45	9,638	214	45	9,638	
MOP	Kg	-	-	-	395	30	11,844	395	30	11,844	395	30	11,844	395	30	11,844	395	30	11,844	395	30	11,844	
HMO	Ltr	-	-	-	39	150	5,922	39	150	5,922	39	150	5,922	39	150	5,922	39	150	5,922	39	150	5,922	
Copper Oxychloride	Kg	-	-	-	6	1,008	6,048	6	1,008	6,048	6	1,008	6,048	6	1,008	6,048	6	1,008	6,048	6	1,008	6,048	
Sub Total Input/Operating Costs				120,000			314,819			314,819			314,819			314,819	314,819	314,819	314,819	314,819	314,819	314,819	
Labour Budget																							
Land Clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	
Tilling	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	
Fertilizer Application	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	
Irrigation	Man Days	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	
Pruning	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	
First Weeding	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	
Second Weeding	Man Days	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	3	600	1,800	
Harvesting	Man Days	20	600	12,000	20	600	12,000	20	600	12,000	20	600	12,000	20	600	12,000	20	600	12,000	20	600	12,000	
Transport to store	Man Days	1	600	600	1	600	600	1	600	600	1	600	600	1	600	600	1	600	600	1	600	600	
Sub Total Labour Budget				31,200			31,200			31,200			31,200			31,200	31,200	31,200	31,200	31,200	31,200	31,200	
Hired Labour	Man Days	5			5			5			5			5									
Family Labour	Man Days	52			52			52			52			52									
Total Costs				151,200			346,019			346,019			346,019			346,019	346,019	346,019	346,019	346,019	346,019	346,019	
Net income before labour costs				866,276			693,375			787,473			949,456			1,177,308	1,177,308	1,177,308	1,177,308	1,177,308	1,177,308	1,177,308	
Net income after labour costs				835,076			662,175			756,273			918,256			1,146,108	1,146,108	1,146,108	1,146,108	1,146,108	1,146,108	1,146,108	
Net Incremental Benefits				-			(172,902)			(78,804)			83,180			311,031	311,031	311,031	311,031	311,031	311,031	311,031	
Profitability Indicators																							
Return to family labour*							291%																
Discount rate																							
NPV (INR)																							
IRR																							
PVb																							
PVc																							
B/C ratio																							

○ Plum model

		Without Project (WOP)						With Project - (WP)													
PLUM Model		Y0		Y1		Y2		Y3		Y4		Y5	Y6	Y7	Y8	Y9	Y10				
Yields and inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	
Yields	Kg	478	200	95,680	1,017	200	203,320	1,100	210	231,067	1,160	214	248,266	1,196	218	260,728	260,728	260,728	260,728	260,728	260,728
Post Harvest Losses		72	200	14,352	51	200	10,166	55	210	11,553	58	214	12,413	60	218	13,036	13,036	13,036	13,036	13,036	13,036
Net sales		-	-	-	-	-	193,154	-	-	219,514	-	-	235,852	-	-	247,692	247,692	247,692	247,692	247,692	247,692
Input/operating costs																					
Unimproved seeds	Kg	25	1,000	25,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Improved seeds	Kg	-	-	-	25	1,500	37,500	25	1,500	37,500	25	1,500	37,500	25	1,500	37,500	-	-	-	-	-
FYM	Kg	-	-	-	6,013	15	90,195	6,013	15	90,195	6,013	15	90,195	6,013	15	90,195	-	-	-	-	-
Urea	Kg	-	-	-	344	45	15,501	344	45	15,501	344	45	15,501	344	45	15,501	-	-	-	-	-
DAP	Kg	-	-	-	186	45	8,388	186	45	8,388	186	45	8,388	186	45	8,388	-	-	-	-	-
MOP	Kg	-	-	-	344	30	10,308	344	30	10,308	344	30	10,308	344	30	10,308	-	-	-	-	-
HMO	Ltr	17	150	2,577	34	150	5,154	34	150	5,154	34	150	5,154	34	150	5,154	-	-	-	-	-
Copper Oxychloride	Kg	3	1,008	3,024	5	1,008	5,195	5	1,008	5,195	5	1,008	5,195	5	1,008	5,195	-	-	-	-	-
Sub Total Input/Operating Costs				30,601			172,241			172,241			172,241			172,241	172,241	172,241	172,241	172,241	172,241
Labour Budget																					
Land Clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Tilling	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Fertilizer Application	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	-	-	-	-	-
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-
Mulching	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-
Protection/Aftercare	Man Days	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	-	-	-	-	-
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	-	-	-	-	-
Transport to store	Man Days	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400	-	-	-	-	-
Sub Total Labour Budget				25,800			27,000			27,000			27,000			27,000	27,000	27,000	27,000	27,000	27,000
Hired Labour	Man Days	5			5			5			5			5			-	-	-	-	-
Family Labour	Man Days	60			60			60			60			60			-	-	-	-	-
Total Costs				56,401			199,241			199,241			199,241			199,241	199,241	199,241	199,241	199,241	199,241
Net income before labour costs				50,727			20,913			47,273			63,611			75,451	75,451	75,451	75,451	75,451	75,451
Net income after labour costs				24,927			(6,087)			20,273			36,611			48,451	48,451	48,451	48,451	48,451	48,451
Net Incremental Benefits				-			(31,014)			(4,654)			11,684			23,524	23,524	23,524	23,524	23,524	23,524
Profitability Indicators							97%														
Return to family labour*				807.5																	
Discount rate				4%																	
NPV (INR)				105,960																	
IRR				39%																	
PVb				1,970,277																	
PVc				1,657,009																	
B/C ratio				1.19																	

○ Pear model

PEAR Model	UNIT	Without Project (WOP)				With Project - (WP)																		
		Y0		Y1		Y2		Y3		Y4		Y5	Y6	Y7	Y8	Y9	Y10							
Yields and inputs		QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	
Yields	Kg	597	400	238,800	955	400	382,080	1,075	420	451,332	1,134	456	517,241	1,194	500	597,000	597,000	597,000	597,000	597,000	597,000	597,000	597,000	
Post Harvest Losses		60	400	23,880	76	400	30,566	86	420	36,107	91	456	41,379	96	500	47,760	47,760	47,760	47,760	47,760	47,760	47,760	47,760	
Net sales		-	400	214,920	-	400	351,514	-	420	415,225	-	456	475,862	-	500	549,240	549,240	549,240	549,240	549,240	549,240	549,240	549,240	
Input/operating costs																								
Unimproved seeds	Kg	25	1,500	37,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Improved seeds	Kg	-	-	-	25	2,000	50,000	25	2,000	50,000	25	2,000	50,000	25	2,000	50,000	-	-	-	-	-	-	-	
FYM	Kg	-	-	-	2,408	15	36,120	2,408	15	36,120	2,408	15	36,120	2,408	15	36,120	-	-	-	-	-	-	-	
Urea	Kg	-	-	-	1,379	45	62,075	1,379	45	62,075	1,379	45	62,075	1,379	45	62,075	-	-	-	-	-	-	-	
DAP	Kg	-	-	-	746	45	33,592	746	45	33,592	746	45	33,592	746	45	33,592	-	-	-	-	-	-	-	
MOP	Kg	-	-	-	1,376	30	41,280	1,376	30	41,280	1,376	30	41,280	1,376	30	41,280	-	-	-	-	-	-	-	
HMO	Ltr	-	-	-	138	150	20,640	138	150	20,640	138	150	20,640	138	150	20,640	-	-	-	-	-	-	-	
Cholorpyrifos	Ltr	-	-	-	14	1,008	13,870	14	1,008	13,870	14	1,008	13,870	14	1,008	13,870	-	-	-	-	-	-	-	
Difencozole	Ltr	-	-	-	1	4,816	4,970	1	4,816	4,970	1	4,816	4,970	1	4,816	4,970	-	-	-	-	-	-	-	
Carbendazim	Kg	2	700	1,204	3	700	2,408	3	700	2,408	3	700	2,408	3	700	2,408	-	-	-	-	-	-	-	
Mancozeb	Kg	10	481	4,964	21	481	9,928	21	481	9,928	21	481	9,928	21	481	9,928	-	-	-	-	-	-	-	
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	5,000	5,000	1	5,000	5,000	1	5,000	5,000	1	5,000	5,000	-	-	-	-	-	-	-	
Sub Total Input/Operating Costs				46,668			279,882			279,882			279,882			279,882	279,882	279,882	279,882	279,882	279,882	279,882	279,882	
Labour Budget																								
Land Preparation	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-	-	-
Tilling	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-	-	-
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-	-	-
Fertilizer Application	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	-	-	-	-	-	-	-	-
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-	-	-
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-	-	-	-
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-	-	-	-
Mulching	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-	-	-	-
Protection/Aftercare	Man Days	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	-	-	-	-	-	-	-	-
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	-	-	-	-	-	-	-	-
Transport to store	Man Days	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400	-	-	-	-	-	-	-	-
Sub Total Labour Budget				24,000			27,000			27,000			27,000			27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	
Hired Labour		0			5			5			5			5			-	-	-	-	-	-	-	-
Family Labour		0	60		60			60			60			60			-	-	-	-	-	-	-	-
Total Costs				70,668			306,882			306,882			306,882			306,882	306,882	306,882	306,882	306,882	306,882	306,882	306,882	
Net income before labour costs				168,252			71,631			135,343			195,979			269,358	269,358	269,358	269,358	269,358	269,358	269,358	269,358	
Net income after labour costs				144,252			44,631			108,343			168,979			242,358	242,358	242,358	242,358	242,358	242,358	242,358	242,358	
Net Incremental Benefits				-			(99,621)			(35,909)			24,727			98,105	98,105	98,105	98,105	98,105	98,105	98,105	98,105	
Profitability Indicators							115%																	
Return to family labour*			4,039.3																					
Discount rate			4%																					
NPV (INR)			433,577																					
IRR			40%																					
PVb			4,185,485																					
PVc			2,552,220																					
B/C ratio			1.64																					

○ Apricot model

APRICOT Model		Without Project (WOP)						With Project - (WP)														
		Y0		Y1		Y2		Y3		Y4		Y5	Y6	Y7	Y8	Y9	Y10					
Yields and inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA
Yields	Kg	690	900	621,000	690	900	621,000	736	920	676,973	828	950	786,186	920	1,000	919,908	919,908	919,908	919,908	919,908	919,908	919,908
Post Harvest Losses		69	900	62,100	55	900	49,680	59	920	54,158	66	950	62,895	74	1,000	73,593	73,593	73,593	73,593	73,593	73,593	73,593
Net sales		-	900	558,900	-	900	571,320	-	920	622,815	-	950	723,291	-	1,000	846,315	846,315	846,315	846,315	846,315	846,315	846,315
Input/operating costs																						
Unimproved seeds	Kg	40	1,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Improved seeds	Kg	-	-	-	40	1,800	72,000	40	1,800	72,000	40	1,800	72,000	40	1,800	72,000	-	-	-	-	-	
FYM	Kg	-	-	5,600	15	84,000	5,600	15	84,000	5,600	15	84,000	5,600	15	84,000	5,600	15	84,000	15	84,000	15	84,000
Urea	Kg	-	-	321	45	14,436	321	45	14,436	321	45	14,436	321	45	14,436	321	45	14,436	45	14,436	45	14,436
DAP	Kg	-	-	174	45	7,812	174	45	7,812	174	45	7,812	174	45	7,812	174	45	7,812	45	7,812	45	7,812
MOP	Kg	-	-	240	30	7,200	240	30	7,200	240	30	7,200	240	30	7,200	240	30	7,200	30	7,200	30	7,200
HMO	Ltr	16	150	2,400	32	4,800	32	150	4,800	32	150	4,800	32	150	4,800	32	150	4,800	150	4,800	150	4,800
Copper Oxychloride	Kg	2	1,008	2,419	5	1,008	4,838	5	1,008	4,838	5	1,008	4,838	5	1,008	4,838	5	1,008	5	1,008	5	1,008
Sub Total Input/Operating Costs				44,819			195,086			195,086			195,086			195,086						
Labour Budget																						
Land Preparation	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Tilling	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Propagation and Pollination	Man Days	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000
Fertilizer Application	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000
Transport to store	Man Days	1	600	600	1	600	600	1	600	600	1	600	600	1	600	600	1	600	600	1	600	600
Sub Total Labour Budget				25,000			28,000			28,000			28,000			28,000						
Hired Labour	Man Days	5			5			5			5			5								
Family Labour	Man Days	62			62			62			62			62								
Total Costs				69,819			223,086			223,086			223,086			223,086						
Net income before labour costs				514,081			376,234			427,729			528,205			651,229	651,229	651,229	651,229	651,229	651,229	651,229
Net income after labour costs				489,081			348,234			399,729			500,205			623,229	623,229	623,229	623,229	623,229	623,229	623,229
Net Incremental Benefits				-			(140,847)			(89,352)			11,124			134,148	134,148	134,148	134,148	134,148	134,148	134,148
Profitability Indicators							256%															
Return to family labour*	10,052.1																					
Discount rate	4%																					
NPV (INR)	530,360																					
IRR	33%																					
PVb	6,453,174																					
PVc	1,855,322																					
B/C ratio	3.48																					

○ Peach model

PEACH Model	Without Project (WOP)				With Project - (WP)																				
	UNIT	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10													
Yields and inputs	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	
Yields	Kg	853	250	213,363	1,050	250	262,600	1,116	270	301,334	1,247	280	349,258	1,313	300	393,900		393,900		393,900		393,900		393,900	
Post Harvest Losses		85	250	21,336	74	250	18,382	78	270	21,093	87	280	24,448	92	300	27,573		27,573		27,573		27,573		27,573	
Net sales		-	250	192,026	-	250	244,218	-	270	280,240	-	280	324,810	-	300	366,327		366,327		366,327		366,327		366,327	
Input/operating costs																									
Unimproved seeds	Kg	40	1,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-		-		-		-		-	
Improved seeds	Kg	-	-	-	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000		60,000		60,000		60,000		60,000	
FYM	Kg	-	-	4,200	15	63,000	4,200	15	63,000	4,200	15	63,000	4,200	15	63,000	4,200		63,000		63,000		63,000		63,000	
Urea	Kg	-	-	241	45	10,827	241	45	10,827	241	45	10,827	241	45	10,827	241		10,827		10,827		10,827		10,827	
DAP	Kg	-	-	130	45	5,859	130	45	5,859	130	45	5,859	130	45	5,859	130		5,859		5,859		5,859		5,859	
MOP	Kg	-	-	240	30	7,200	240	30	7,200	240	30	7,200	240	30	7,200	240		7,200		7,200		7,200		7,200	
HMO	Ltr	-	-	24	150	3,600	24	150	3,600	24	150	3,600	24	150	3,600	24		3,600		3,600		3,600		3,600	
Copper Oxchloride	Kg	-	-	4	1,008	3,629	4	1,008	3,629	4	1,008	3,629	4	1,008	3,629	4		3,629		3,629		3,629		3,629	
Sub Total Input/Operating Costs				40,000			154,115			154,115			154,115			154,115		154,115		154,115		154,115		154,115	
Labour Budget																									
Land Clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000		2,000		2,000		2,000		2,000	
Tilling	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000		2,000		2,000		2,000		2,000	
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000		2,000		2,000		2,000		2,000	
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000		2,000		2,000		2,000		2,000	
Fertilizer Application	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000		3,000		3,000		3,000		3,000	
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000		2,000		2,000		2,000		2,000	
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200		1,200		1,200		1,200		1,200	
Third Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200		1,200		1,200		1,200		1,200	
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200		1,200		1,200		1,200		1,200	
Thinning fruits	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000		2,000		2,000		2,000		2,000	
Harvesting and Handling	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000		8,000		8,000		8,000		8,000	
Transport to store	Man Days	1	600	600	1	600	600	1	600	600	1	600	600	1	600	600		600		600		600		600	
Sub Total Labour Budget				24,200			27,200			27,200			27,200			27,200		27,200		27,200		27,200		27,200	
Hired Labour	Man Days	5	600		5	600		5	600		5	600		5	600			600		600		600		600	
Family Labour	Man Days	60	400		60	400		60	400		60	400		60	400			400		400		400		400	
Total Costs				64,200			181,315			181,315			181,315			181,315		181,315		181,315		181,315		181,315	
Net income before labour costs				152,026			90,103			126,125			170,695			212,212		212,212		212,212		212,212		212,212	
Net income after labour costs				127,826			62,903			98,925			143,495			185,012		185,012		185,012		185,012		185,012	
Net Incremental Benefits				-			(64,923)			(28,901)			15,669			57,186		57,186		57,186		57,186		57,186	
Profitability Indicators							135%																		
Return to family labour*				3,083.5																					
Discount rate				4%																					
NPV (INR)				239,804																					
IRR				35%																					
PVb				2,810,808																					
PVc				1,507,924																					
B/C ratio				1.86																					

Apple model – High Density

		Without Project (WOP)						With Project - (WP)																	
		Y0		Y1		Y2		Y3		Y4		Y5		Y6		Y7		Y8		Y9		Y10			
Yields and Inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA
Yields		12,000	80	960,000	14,400	80	1,152,000	14,880	88	1,309,440	15,200	96	1,459,200	16,000	107	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240
Post Harvest Losses		1,200	80	96,000	1,008	80	80,640	1,042	88	91,661	1,064	96	102,144	1,120	107	119,437	119,437	119,437	119,437	119,437	119,437	119,437	119,437	119,437	119,437
Net sales		-	80	864,000	-	80	1,071,360	-	88	1,217,779	-	96	1,357,056	-	107	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803	
Input/operating costs																									
Unimproved seeds	Kg	40	1,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Improved seeds	Kg	-	-	-	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000
FYM	Kg	-	-	-	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440
Urea	Kg	-	-	-	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278
DAP	Kg	-	-	-	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559
MOP	Kg	-	-	-	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360
HMO	Ltr	-	-	-	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680
Mancozeb	Kg	-	-	-	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238
Propaneb	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108
Chloropyrifhos	Ltr	-	-	-	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707
Zineb	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108
Difenconazole	Ltr	-	-	-	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629
Carbendazim	Kg	-	-	-	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696
Flusilazole	Kg	-	-	-	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667
Dodine	Ltr	-	-	-	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	3,000	3,000	1	4,000	4,000	1	4,500	4,500	1	5,000	5,000	1	5,000	5,000	1	5,000	5,000	1	5,000	5,000
Sub Total Input/Operating Costs				43,000			547,793			548,793			549,293			549,793			549,793			549,793			549,793
Labour Budget																									
Land Clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Tilling and Amending	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
PH Adjustment	Man Days	2	400	800	2	400	800	2	400	800	2	400	800	2	400	800	2	400	800	2	400	800	2	400	800
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Fertilizer Application	Man Days				5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200
Third Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000
Mulching	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000
Transport to store	Man Days	1	600	400	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400
Sub Total Labour Budget				23,000			24,800			24,800			24,800			24,800			24,800			24,800			24,800
Hired Labour	Man Days	5	600	400	5	600	400	5	600	400	5	600	400	5	600	400	5	600	400	5	600	400	5	600	400
Family Labour	Man Days	55	400	400	57	400	400	57	400	400	57	400	400	57	400	400	57	400	400	57	400	400	57	400	400
Total Costs				66,000			572,593			573,593			574,093			574,593			574,593			574,593			574,593
Net income before labour costs				821,000			523,567			668,986			807,763			1,037,010	1,037,010	1,037,010	1,037,010	1,037,010	1,037,010	1,037,010	1,037,010	1,037,010	1,037,010
Net income after labour costs				798,000			498,767			644,186			782,963			1,012,210	1,012,210	1,012,210	1,012,210	1,012,210	1,012,210	1,012,210	1,012,210	1,012,210	1,012,210
Net Incremental Benefits				-			(299,233)			(153,814)			(15,037)			214,210	214,210	214,210	214,210	214,210	214,210	214,210	214,210	214,210	214,210

Profitability Indicators

Return to family labour*	17,758.1
Discount rate	4%
NPV (INR)	735,102
IRR	25%
PVb	12,147,097
PVc	4,775,344
B/C ratio	2.54

APPLE Model	Without Project (WOP)			With Project - (WP)																		
	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10											
Yields and Inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA
Yields	Kg	12,000	80	960,000	14,400	80	1,152,000	14,880	88	1,309,440	15,200	96	1,459,200	16,000	107	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240	1,706,240
Post Harvest Losses	Kg	1,200	80	96,000	1,008	80	80,640	1,042	88	91,661	1,064	96	102,144	1,120	107	119,437	119,437	119,437	119,437	119,437	119,437	119,437
Net sales		-	80	864,000	-	80	1,071,360	-	88	1,217,779	-	96	1,357,056	-	107	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803	1,586,803
Input/operating costs																						
Unimproved seeds	Kg	40	1,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Improved seeds	Kg	-	-	-	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	60,000	60,000	60,000	60,000	60,000	
FYM	Kg	-	-	-	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	
Urea	Kg	-	-	-	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	
DAP	Kg	-	-	-	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	
MOP	Kg	-	-	-	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	
HMO	Ltr	-	-	-	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	
Mancozeb	Kg	-	-	-	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	
Propaneb	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	
Chloropyrifos	Ltr	-	-	-	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	
Zinab	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	
Difenconazole	Ltr	-	-	-	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	
Carbendazim	Kg	-	-	-	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	
Flusilazole	Kg	-	-	-	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	
Dodine	Ltr	-	-	-	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	3,000	3,000	1	4,000	4,000	1	4,500	4,500	1	5,000	5,000	5,000	5,000	5,000	5,000	5,000	
Sub Total Input/Operating Costs				43,000			547,793			548,793			549,293			549,793	549,793	549,793	549,793	549,793	549,793	
Labour Budget																						
Land Clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Tilling and Amending	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
PH Adjustment	Man Days	2	400	800	2	400	800	2	400	800	2	400	800	2	400	800	2	400	800	2	400	
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Fertilizer Application	Man Days	600	-	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	
Third Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Mulching	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	
Transport to store	Man Days	1	600	600	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400	1	400	
Sub Total Labour Budget				23,000			24,800			24,800			24,800			24,800	24,800	24,800	24,800	24,800	24,800	
Hired Labour	Man Days	5	600	600	5	600	600	5	600	600	5	600	600	5	600	600	5	600	600	5	600	
Family Labour	Man Days	55	400	57	400	57	400	57	400	57	400	57	400	57	400	57	400	57	400	57	400	
Total Costs				66,000			572,593			573,593			574,093			574,593	574,593	574,593	574,593	574,593	574,593	
Net income before labour costs				821,000			523,567			668,986			807,763			1,037,010	1,037,010	1,037,010	1,037,010	1,037,010	1,037,010	
Net income after labour costs				798,000			498,767			644,186			782,963			1,012,210	1,012,210	1,012,210	1,012,210	1,012,210	1,012,210	
Net Incremental Benefits				-			(299,233)			(153,814)			(15,037)			214,210	214,210	214,210	214,210	214,210	214,210	

Profitability Indicators

Return to family labour*	17,758.1
Discount rate	4%
NPV (INR)	735,102
IRR	25%
PVb	12,147,097
PVc	4,775,344
B/C ratio	2.54

○ Apple model – Medium Density

Low Density - Rejuvenated		Without Project (WOP)						With Project - (WP)													
APPLE Model - Medium Density Rejuvenated		Y0		Y1		Y2		Y3		Y4		Y5	Y6	Y7	Y8	Y9	Y10				
Yields and Inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA
Yields		1,800	80	144,000	5,760	80	460,800	5,952	88	523,776	6,080	96	583,680	6,400	107	682,496	682,496	682,496	682,496	682,496	682,496
Post Harvest Losses	Kg	180	80	14,400	403	80	32,256	417	88	36,664	426	96	40,898	448	107	47,775	47,775	47,775	47,775	47,775	47,775
Net sales		-	80	-	-	80	-	-	88	-	-	96	-	-	107	-	-	-	-	-	-
				129,600			428,544			487,112			542,822			634,721	634,721	634,721	634,721	634,721	634,721
Input/operating costs																					
Unimproved seeds	Kg	40	1,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Improved seeds	Kg	-	40	-	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	-	-	-	-	-
FYM	Kg	-	3,696	-	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	-	-	-	-	-
Urea	Kg	-	2,117	-	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	-	-	-	-	-
DAP	Kg	-	1,146	-	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	-	-	-	-	-
Mancozeb	Kg	-	32	-	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	-	-	-	-	-
Propaneb	Kg	-	32	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	-	-	-	-	-
Zineb	Kg	-	32	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	-	-	-	-	-
Difencnazole	o	-	2	-	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	-	-	-	-	-
Carbendazim	Kg	-	5	-	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	-	-	-	-	-
Flusilazole	Kg	-	106	-	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	-	-	-	-	-
Dodine	o	-	3	-	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	-	-	-	-	-
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	3,000	3,000	1	4,000	4,000	1	4,500	4,500	1	5,000	5,000	-	-	-	-	-
Sub Total Input/Operating Costs				43,000			439,046			440,046			440,546			441,046	441,046	441,046	441,046	441,046	441,046
Labour Budget																					
Land Clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Tilling and Amending	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
PH Adjustment	Man Days	2	400	800	2	400	800	2	400	800	2	400	800	2	400	800	-	-	-	-	-
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Fertilizer Application	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-
Third Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-
Mulching	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	-	-	-	-	-
Transport to store	Man Days	1	600	600	1	400	400	1	400	400	1	400	400	1	400	400	-	-	-	-	-
Sub Total Labour Budget				23,000			24,800			24,800			24,800			24,800	24,800	24,800	24,800	24,800	24,800
Hired Labour	Man Days	5	600		5	600		5	600		5	600		5	600		-	-	-	-	-
Family Labour	Man Days	55	400		57	400		57	400		57	400		57	400		-	-	-	-	-
Total Costs				66,000			463,846			464,846			465,346			465,846	465,846	465,846	465,846	465,846	465,846
Net income before labour costs				86,600			(10,502)			47,066			102,277			193,675	193,675	193,675	193,675	193,675	193,675
Net income after labour costs				63,600			(35,302)			22,266			77,477			168,875	168,875	168,875	168,875	168,875	168,875
Net Incremental Benefits				-			(98,902)			(41,334)			13,877			105,275	105,275	105,275	105,275	105,275	105,275

Profitability Indicators

Return to family labour*	2,962.7
Discount rate	4%
NPV (INR)	458,963
IRR	40%
PVb	4,858,839
PVc	3,870,939
B/C ratio	1.26

○ Saffron model

		Without Project (WOP)				With Project - (WP)															
Saffron Model		Y0		Y1		Y2		Y3		Y4		Y5	Y6	Y7	Y8	Y9	Y10				
Yields and inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA
Yields	Kg	440	900		440	900	396,000	440	936	411,840	460	954	438,840	500	1,000	499,950	499,950	499,950	499,950	499,950	499,950
Post Harvest Losses		44.0	900		35.2	900	31,680	35.2	936	32,947	36.8	954	35,107	40.0	1,000	39,996	39,996	39,996	39,996	39,996	39,996
Net sales		-	900		-	900	364,320	-	936	378,893	-	954	403,733	-	1,000	459,954	459,954	459,954	459,954	459,954	459,954
Input/operating costs																					
Saffron bulbs	Kg				10	5,000	50,000	10	5,000	50,000	10	5,000	50,000	10	5,000	50,000					
Farm Yard Manure	Kg				396	45	17,810	396	45	17,810	396	45	17,810	396	45	17,810					
NPK	Kg				214	45	9,638	214	45	9,638	214	45	9,638	214	45	9,638					
Harvesting and packaging equipments	Ls				1	5,000	5,000	1	5,000	5,000	1	5,000	5,000	1	5,000	5,000					
Sub Total Input/Operating Costs							82,448			82,448			82,448			82,448	82,448	82,448	82,448	82,448	82,448
Labour Budget																					
Land Preparation	Man Days	5	400		5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000					
Bulb planting	Man Days	5	400		5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000					
Irrigation	Man Days	5	400		5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000					
First Weeding	Man Days	5	600		5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000					
Second Weeding	Man Days	3	400		3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200					
Fertilizer application	Man Days	5	400		5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000					
Pesticides Control	Man Days	5	400		5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000					
Harvesting	Man Days	10	400		10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000					
Drying	Man Days	20	400		20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000					
Transport to store	Man Days	1	400		1	400	400	1	400	400	1	400	400	1	400	400					
Sub Total Labour Budget							26,600			26,600			26,600			26,600	26,600	26,600	26,600	26,600	26,600
Hired Labour	Man Days	5			5			5			5			5							
Family Labour	Man Days	59			59			59			59			59							
Total Costs							109,048			109,048			109,048			109,048	109,048	109,048	109,048	109,048	109,048
Net income before labour costs							281,872			296,444			321,284			377,506	377,506	377,506	377,506	377,506	377,506
Net income after labour costs				240,000			255,272			269,844			294,684			350,906	350,906	350,906	350,906	350,906	350,906
Net Incremental Benefits				-			15,272			29,844			54,684			110,906	110,906	110,906	110,906	110,906	110,906
Profitability Indicators																					
Return to family labour*		5,947.6																			
Discount rate		4%																			
NPV (INR)		703,578																			
IRR		#NUM!																			
PVb		3,606,476																			
PVc		906,913																			
B/C ratio		3.98																			

○ Aromatic rice model

		Without Project (WOP)						With Project - (WP)														
Aromatic Rice Model		Y0			Y1			Y2			Y3			Y4			Y5	Y6	Y7	Y8	Y9	Y10
Yields and inputs	UNIT	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	
Yields	Kg	7,000	70	490,000	7,000	70	490,000	7,490	70	524,300	7,865	70	550,515	8,000	70	560,000	560,000	560,000	560,000	560,000	560,000	
Post Harvest Losses	Kg	700.0	70	49,000	560.0	70	39,200	599.2	70	41,944	629.2	70	44,041	640.0	70	44,800	44,800	44,800	44,800	44,800	44,800	
Self Consumption	Kg	700	70	49,000	700	70	49,000	749	70	52,430	786	70	55,052	800	70	56,000	56,000	56,000	56,000	56,000	56,000	
Net sales				441,000			450,800			482,356			506,474			515,200	515,200	515,200	515,200	515,200	515,200	
Input/operating costs																						
Unimproved seeds	Kg	50	30	1,500																		
Improved Seeds	Kg				50	40	2,000	50	40	2,000	50	40	2,000	50	40	2,000						
Urea	Kg	321	45		321	45	14,436	321	45	14,436	321	45	14,436	321	45	14,436						
DAP	Kg	174	45		174	45	7,812	174	45	7,812	174	45	7,812	174	45	7,812						
MOP	Kg	240	30		240	30	7,200	240	30	7,200	240	30	7,200	240	30	7,200						
HMO	Ltrs	32	150	4,800	32	150	4,800	32	150	4,800	32	150	4,800	32	150	4,800						
Harvesting and packaging equipments	Ls	1	2,500		1	5,000		1	5,000		1	5,000		1	5,000							
Sub Total Input/Operating Costs				8,800			41,248			41,248			41,248			41,248	41,248	41,248	41,248	41,248	41,248	
Labour Budget																						
Land clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000						
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000						
Fertilizer application (Urea, NPK, Insecticides)	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000						
Pesticide application	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000						
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200						
First weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000						
Second weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200						
Birds scaring	Man Days	25	400	10,000	25	400	10,000	25	400	10,000	25	400	10,000	25	400	10,000						
Harvesting	Man Days	5	400	2,000	7	400	2,800	9	400	3,600	12	400	4,800	12	400	4,800						
Drying	Man Days	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000						
Threshing and packaging	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000						
Transportation to store	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200						
Sub Total Labour Budget				33,600			34,400			35,200			36,400			36,400	36,400	36,400	36,400	36,400	36,400	
Hired Labour	Man Days	5			5			5			5			5								
Family Labour	Man Days	74			76			78			81			81								
Total Costs				42,400			75,648			76,448			77,648			77,648	77,648	77,648	77,648	77,648	77,648	
Net income before labour costs				432,200			409,552			441,108			465,226			473,952	473,952	473,952	473,952	473,952	473,952	
Net income after labour costs				398,600			375,152			405,908			428,826			437,552	437,552	437,552	437,552	437,552	437,552	
Net Incremental Benefits				-			(23,448)			7,308			30,226			38,952	38,952	38,952	38,952	38,952	38,952	
Profitability Indicators							596%															
Return to family labour*	5,757.3																					
Discount rate	4%																					
NPV (INR)	226,248																					
IRR	92%																					
PVb	4,183,962																					
PVc	642,715																					
B/C ratio	6.51																					

○ Almond model – Medium Density

Medium Density ALMOND Model - Medium Density Rejuvenated		Without Project (WOP)					With Project - (WP)														
		Y0					Y1		Y2		Y3		Y4		Y5	Y6	Y7	Y8	Y9	Y10	
		UNIT	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	
Yields and inputs																					
Yields	Kg	620	400	248,000	1,250	400	500,000	1,880	400	752,000	2,500	400	1,000,000	2,500	400	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
Post Harvest Losses		62	400	24,800	88	400	35,000	132	400	52,640	175	400	70,000	175	400	70,000	70,000	70,000	70,000	70,000	
Net sales		-	400	-	-	400	465,000	-	400	699,360	-	400	930,000	-	400	930,000	930,000	930,000	930,000	930,000	
Input/operating costs																					
Unimproved seeds	Kg	40	700	28,000	-	1,000	40,000	40	1,000	40,000	40	1,000	40,000	40	1,000	40,000	-	-	-	-	
Improved seeds	Kg	-	400	-	40	1,000	40,000	40	1,000	40,000	40	1,000	40,000	40	1,000	40,000	-	-	-	-	
FYM	Kg	-	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	-	-	-	
Urea	Kg	-	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	-	-	-	
DAP	Kg	-	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	-	-	-	
MOP	Kg	-	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	-	-	-	
HMO	Ltr	-	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	-	-	-	
Mancozeb	Kg	-	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	-	-	-	
Propaneb	Kg	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	-	-	-	
Chloropyrifos	Ltr	-	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	-	-	-	
Zineb	Kg	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	-	-	-	
Difencnazole	Ltr	-	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	-	-	-	
Carbendazim	Kg	-	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	-	-	-	
Flusilazole	Kg	-	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	-	-	-	
Dodine	Ltr	-	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	-	-	-	
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	3,000	3,000	1	4,000	4,000	1	4,500	4,500	1	5,000	5,000	-	-	-	-	
Sub Total Input/Operating Costs				31,000			527,793			528,793			529,293			529,793	529,793	529,793	529,793	529,793	
Labour Budget																					
Land Clearing	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	
Tilling and Amending	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	
Fertilizer Application	Man Days	5	600	3,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	
Third Weeding	Man Days	400	-	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	-	-	-	-	
Drying and sorting	Man Days	15	400	6,000	15	400	6,000	18	400	7,200	20	400	8,000	20	400	8,000	-	-	-	-	
Transport to store	Man Days	1	600	600	1	400	400	1	400	400	1	400	400	1	400	400	-	-	-	-	
Sub Total Labour Budget				26,600			30,800			32,000			32,800			32,800	32,800	32,800	32,800	32,800	
Hired Labour	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	-	-	-	-	
Family Labour	Man Days	64	400	25,600	72	400	28,800	75	400	30,000	77	400	30,800	77	400	30,800	-	-	-	-	
Total Costs				57,600			558,593			560,793			562,093			562,593	562,593	562,593	562,593	562,593	
Net income before labour costs				192,200			(62,793)			170,567			400,707			400,207	400,207	400,207	400,207	400,207	
Net income after labour costs				165,600			(93,593)			138,567			367,907			367,407	367,407	367,407	367,407	367,407	
Net Incremental Benefits				-			(259,193)			(27,033)			202,307			201,807	201,807	201,807	201,807	201,807	

○ Almond model – High Density

High Density ALMOND Model - High Density Rejuvenated		Without Project (WOP)				With Project - (WP)																
		Y0		Y1		Y2		Y3		Y4		Y5	Y6	Y7	Y8	Y9	Y10					
Yields and Inputs	UNIT	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	
Yields		1,116	400	446,400	1,375	400	550,000	3,008	400	1,203,200	5,000	400	2,000,000	7,000	400	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000
Post Harvest Losses		112	400	44,640	96	400	38,500	211	400	84,224	350	400	140,000	490	400	196,000	196,000	196,000	196,000	196,000	196,000	196,000
Net sales		-	400	401,760	-	400	511,500	-	400	1,118,976	-	400	1,860,000	-	400	2,604,000	2,604,000	2,604,000	2,604,000	2,604,000	2,604,000	2,604,000
Input/operating costs																						
Unimproved seeds	Kg	40	700	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Improved seeds	Kg	-	-	-	40	1,000	40,000	40	1,000	40,000	40	1,000	40,000	40	1,000	40,000	-	-	-	-	-	-
FYM	Kg	-	-	-	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	-	-	-	-	-	-
Urea	Kg	-	-	-	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	-	-	-	-	-	-
DAP	Kg	-	-	-	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	-	-	-	-	-	-
MOP	Kg	-	-	-	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	-	-	-	-	-	-
HMO	Ltr	-	-	-	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	-	-	-	-	-	-
Mancozeb	Kg	-	-	-	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	-	-	-	-	-	-
Propaneb	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	-	-	-	-	-	-
Chloropyrifos	Ltr	-	-	-	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	-	-	-	-	-	-
Zineb	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	-	-	-	-	-	-
Difconazole	Ltr	-	-	-	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	-	-	-	-	-	-
Carbendazim	Kg	-	-	-	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	-	-	-	-	-	-
Flusilazole	Kg	-	-	-	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	-	-	-	-	-	-
Dodine	Ltr	-	-	-	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	-	-	-	-	-	-
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	-	-	-	-	-	-
Sub Total Input/Operating Costs				31,000			527,793			528,793			529,293			529,793	529,793	529,793	529,793	529,793	529,793	529,793
Labour Budget																						
Land Clearing																						
Tilling and Amending	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-
Fertilizer Application																						
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-	-
Third Weeding	Man Days	400	-	-	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-	-
Irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	-	-	-	-	-	-
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	-	-	-	-	-	-
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	-	-	-	-	-	-
Drying and sorting	Man Days	15	400	6,000	15	400	6,000	18	400	7,200	20	400	8,000	20	400	8,000	-	-	-	-	-	-
Transport to store	Man Days	1	600	600	1	400	400	1	400	400	1	400	400	1	400	400	-	-	-	-	-	-
Sub Total Labour Budget				26,600			30,800			32,000			32,800			32,800	32,800	32,800	32,800	32,800	32,800	32,800
Hired Labour	Man Days	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	5	600	3,000	-	-	-	-	-	-
Family Labour	Man Days	64	400	25,600	72	400	28,800	75	400	30,000	77	400	30,800	77	400	30,800	-	-	-	-	-	-
Total Costs				57,600			558,593			560,793			562,093			562,593	562,593	562,593	562,593	562,593	562,593	562,593
Net income before labour costs				370,760			(16,293)			590,183			1,330,707			2,074,207	2,074,207	2,074,207	2,074,207	2,074,207	2,074,207	2,074,207
Net income after labour costs				344,160			(47,093)			558,183			1,297,907			2,041,407	2,041,407	2,041,407	2,041,407	2,041,407	2,041,407	2,041,407
Net Incremental Benefits				-			(391,253)			214,023			953,747			1,697,247	1,697,247	1,697,247	1,697,247	1,697,247	1,697,247	1,697,247

Profitability Indicators

Return to family labour*	28,352.9
Discount rate	4%
NPV (INR)	10,042,262
IRR	157%
PVb	17,577,370
PVc	4,672,865
B/C ratio	3.76

○ Walnut model – Medium Density

Medium Density		Without Project (WOP)						With Project - (WP)																	
WALNUT Model - Medium Density		Y0		Y1		Y2		Y3		Y4		Y5		Y6		Y7		Y8		Y9		Y10			
Yields and Inputs	UNIT	Unit Cost	INR PER HA	QTY/HA	Unit Cost	INR PER HA	QTY/HA	Unit Cost	INR PER HA	QTY/HA	Unit Cost	INR PER HA	QTY/HA	Unit Cost	INR PER HA	QTY/HA	Unit Cost	INR PER HA	QTY/HA	Unit Cost	INR PER HA	QTY/HA	Unit Cost	INR PER HA	
Yields		200	600	120,000	420	600	252,000	830	600	498,000	1,670	600	1,002,000	1,670	600	1,002,000	1,670	600	1,002,000	1,670	600	1,002,000	1,670	600	1,002,000
Post Harvest Losses		20	600	12,000	29	600	17,400	58	600	34,800	117	600	70,140	117	600	70,140	117	600	70,140	117	600	70,140	117	600	70,140
Net sales		-	600	-	-	600	-	-	600	-	600	-	600	-	600	-	600	-	600	-	600	-	600	-	600
			108,000			234,360			463,140			931,860			931,860			931,860			931,860			931,860	
Input/operating costs																									
Unimproved seeds	Kg	40	1,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Improved seeds	Kg	-	-	-	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	60,000	40	1,500	
FYM	Kg	1,848	15	27,720	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	55,440	3,696	15	
Urea	Kg	1,059	45	47,639	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	95,278	2,117	45	
DAP	Kg	-	-	-	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	51,559	1,146	45	
MOP	Kg	-	-	-	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	63,360	2,112	30	
HMO	Ltr	-	-	-	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680	211	150	
Mancozeb	Kg	-	-	-	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	15,238	32	481	
Propaneb	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	
Chloropyrifos	Ltr	-	-	-	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	13,707	21	649	
Zineb	Kg	-	-	-	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	24,108	32	761	
Difconazole	Ltr	-	-	-	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	
Carbendazim	Kg	-	-	-	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	3,696	5	700	
Flusilazole	Kg	-	-	-	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	93,667	106	887	
Dodine	Ltr	-	-	-	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	5,322	3	2,016	
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	1	3,000	3,000	1	3,000	
Sub Total Input/Operating Costs				118,359			547,793			548,793			549,293			549,793			549,793			549,793			549,793
Labour Budget																									
Land Clearing																									
Tilling and Amending	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Fertilizer Application																									
First Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Second Weeding	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	
Third Weeding	Man Days	400	-	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	
Irrigation	Man Days	3	400	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	
Pruning	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	
Harvesting	Man Days	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	
Drying and sorting	Man Days	15	400	6,000	15	400	6,000	18	400	7,200	20	400	8,000	20	400	8,000	20	400	8,000	20	400	8,000	20	400	
Transport to store	Man Days	1	600	600	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400	1	400	400	1	400	
Sub Total Labour Budget				26,600			30,800			32,000			32,800			32,800			32,800			32,800			32,800
Hired Labour	Man Days	5	600		5	600		5	600		5	600		5	600		5	600		5	600		5	600	
Family Labour	Man Days	64	400		72	400		75	400		77	400		77	400		77	400		77	400		77	400	
Total Costs				144,959			578,593			580,793			582,093			582,593			582,593			582,593			582,593
Net income before labour costs				(10,359)			(313,433)			(85,653)			(382,567)			(382,067)			(382,067)			(382,067)			(382,067)
Net income after labour costs				(36,959)			(344,233)			(117,653)			(349,767)			(349,267)			(349,267)			(349,267)			(349,267)
Net Incremental Benefits				-			(307,274)			(80,694)			(386,726)			(386,226)			(386,226)			(386,226)			(386,226)

Profitability Indicators

Return to family labour*	4,850.9
Discount rate	4%
NPV (INR)	2,106,618
IRR	85%
PVb	6,638,444
PVc	4,839,198
B/C ratio	1.37

○ **Tomato model**

Tomato Model	Without Project (WOP)				With Project - (WP)																		
	UNIT	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10											
		Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	QTY/HA	Unit Cost INR	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	INR PER HA	
Yields and inputs																							
Yields	Kg	1,600	150	240,000	1,600	150	240,000	2,000	150	300,000	2,200	150	330,000	2,500	150	375,000	375,000	375,000	375,000	375,000	375,000	375,000	375,000
Post Harvest Losses		160	150	24,000	128	150	19,200	160	150	24,000	176	150	26,400	200	150	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Self Consumption		80	150	12,000	80	150	12,000	100	150	15,000	110	150	16,500	125	150	18,750	18,750	18,750	18,750	18,750	18,750	18,750	18,750
Net sales				216,000			220,800			276,000			303,600			345,000	345,000	345,000	345,000	345,000	345,000	345,000	345,000
Input/operating costs																							
Unimproved seeds	Kg	30	300	9,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Improved seeds	Kg				30	400	12,000	30	400	12,000	30	400	12,000	30	400	12,000							
Strings	Kg				4	100	400	4	100	400	4	100	400	4	100	400							
Fertilizer AN	Kg				321	45	14,436	321	45	14,436	321	45	14,436	321	45	14,436							
Pesticides	Ltr				211	150	31,680	211	150	31,680	211	150	31,680	211	150	31,680							
Fungicides	Ltr				2	4,816	7,629	2	4,816	7,629	2	4,816	7,629	2	4,816	7,629							
Poles	Ls				1	1,000	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	1,000							
Harvesting and packaging equipments	Ls	1	3,000	3,000	1	3,000	3,000	1	4,000	4,000	1	4,500	4,500	1	5,000	5,000							
Sub Total Input/Operating Costs				12,000			70,145			71,145			71,645			72,145	72,145	72,145	72,145	72,145	72,145	72,145	72,145
Labour Budget																							
Land Preparation	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000							
Nursery bed preparation	Man Days	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000	10	400	4,000							
Trans-planting	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000							
Fertilizer and pesticide application	Man Days	5	600	3,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000							
Weeding	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000							
Mulching	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200							
Hand irrigation	Man Days	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200	3	400	1,200							
Harvesting	Man Days	10	400	4,000	15	400	6,000	18	400	7,200	20	400	8,000	22	400	8,800							
Grading	Man Days	5	400	2,000	5	400	2,000	18	400	7,200	18	400	7,200	18	400	7,200							
Packaging	Man Days	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000	5	400	2,000							
Loading and Transportation	Man Days	1	600	600	1	400	400	1	400	400	1	400	400	1	400	400							
Sub Total Labour Budget				21,000			24,800			31,200			32,000			32,800	32,800	32,800	32,800	32,800	32,800	32,800	32,800
Hired Labour	Man Days	5	600		5	600		5	600		5	600		5	600								
Family Labour	Man Days	52	400		57	400		73	400		75	400		77	400								
Total Costs				33,000			94,945			102,345			103,645			104,945	104,945	104,945	104,945	104,945	104,945	104,945	104,945
Net income before labour costs				204,000			150,655			204,855			231,955			272,855	272,855	272,855	272,855	272,855	272,855	272,855	272,855
Net income after labour costs				183,000			125,855			173,855			199,855			240,055	240,055	240,055	240,055	240,055	240,055	240,055	240,055
Net Incremental Benefits				-			(57,145)			(9,345)			16,955			57,055	57,055	57,055	57,055	57,055	57,055	57,055	57,055

Profitability Indicators

Return to family labour*	4,211.5
Discount rate	4%
NPV (INR)	266,017
IRR	45%
PVb	2,647,476
PVc	859,521
B/C ratio	3.08

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 5: Social Environment and Climate Assessment (SECAP) Review Note

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

The SECAP Review note should build on the preliminary note mentioned above, draw on the results of the screening exercise and be informed by the issues raised during the design mission, the stakeholders interviews, publicly available tools and dataset, and environmental, social or climate-related studies that inform on the characteristics of the project location. The SECAP review note includes the revised ESMP and should be attached to the Project Design Report, integrated in Draft Project Implementation Manual (PIM) and COSTAB and shall be submitted to Design Review Meeting (DRM) or IRC (for NSOs).

1. Introduction

1. This Social, Environmental, and Climate Assessment Procedures (SECAP) background study contributes to the design of the Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP). The project aims to improve the competitiveness of the farmers through a value chain approach covering production, value addition and marketing including the export of high-value commodities from agriculture, horticulture and allied sectors in Jammu and Kashmir (J&K) coupled with business incubation with start-up/agri-enterprise support. The goal of the project is to contribute to the sustained increase in incomes of rural households by improving the competitiveness of farming operations. The project will focus on high-value niche agricultural products that have a comparative advantage with climate-resilient and production-intensive technologies. JKCIP will cover 90 blocks in all 20 districts of J&K, with a target of 300,000 households reaching 1.5 million individuals. The main target group would comprise resource-poor farmers and rural households involved in farming in areas with the potential for the cultivation of high-value niche crops and horticultural crops. This project will be implemented over six years and is expected to start in the financial year 2024-25.
2. This SECAP review note is prepared to identify potential social, environmental, and climate risks to the project, and possible impacts of the project, and recommend technically feasible and cost-effective adaptation and mitigation measures to be incorporated into the project design. The review note is guided by the literature review and secondary published data, project area field visit, and consultation with potential beneficiaries, ongoing IFAD projects in India, and related stakeholders.

2. Situational analysis and potential project impacts

1. Geographically located in the North-West corner of India, In J&K natural resources and climatic factors have a significant impact on people's life and means of subsistence. The mainstay of the J&K's economy continues to be agriculture and its allied sector, such as horticulture, floriculture, and sericulture, which are followed by tourism, mining, and the micro, small, and medium (MSME) sector. People's means of sustenance must be robust under changing climatic conditions due to their reliance on natural resources and climate.
2. Long conflict and low agricultural and associated sector productivity have hurt employment and per capita income growth. Among the most pressing issues in the region are the high rate of youth unemployment, lack of employment generating activities, migration, and lack of gender equality and social inclusion. The key climate and environmental impacts include changing land use, shift in pattern of rainfall and deficit snowfall, hailstorm, landslide, and increase intensity and impact of pest and diseases.

2.1 Socio-economic assessment

3. Overall poverty situation

4. In the 2021 Human Development Index (HDI) rating, India was positioned at 132 out of 191 countries, with a score of 0.633, marking a slight decline from its 2020 ranking of 131 out of 189 countries. Notably, the HDI rating for J&K in 2021 stood at 0.699, surpassing the national average of 0.633. However, it is worth mentioning that J&K's HDI score in 2021 is the lowest it has been over the past four years, with the preceding years showing higher scores: 2018 (0.705), 2019 (0.712), and 2020 (0.709).
5. According to Niti Aayog's Sustainable Development Goals (SDG) Index 2021 survey, over 10.35 % of the J&K population lives below the poverty line (rural:11.54%, urban: 7.2%). The National Multidimensional Poverty Index (MPI) report published in 2023 shows that the MPI for J&K fell from 0.189 in 2005-06, 0.055 in 2015-16 and 0.020 in 2019-21. Intensity of poverty was declined from 44.17% in 2016-16 to 42.11 in 2019-21. This report says that multidimensional poor percentage in J&K dropped to 4.8% in 2019-21 compared to 12.56 % in 2015-16. Multi-dimensional Poverty Index across districts shows a mix picture. According to the 2023 report, Jammu is the least poor district in all dimensions. The district has an MPI score of 0.003 and 0.49% poor population. After Jammu, the districts with the lowest poverty rates are Srinagar (1.3%), and Shopian (1.15%). The Ramban district, with highest MPI score, on the other hand, has the highest multidimensional poverty rate, with 14.86% of its people being multidimensionally poor. Resai district comes in second with a multidimensionally poor population of 11.4%. Baramulla's percentage is 6.68, Kulgam's is 3.97, Ganderbal's is 3.46, Anantnag's is 3.07, Bandipora's is 5.36, and Kupwara's is 4.97. In Jammu division, Samba 2.30%, Kathua 2.70%, Reasi 11.4%, Poonch 6.65%, Kishtawar 10.59%, Udhampur 10.23%, and Rajouri 8.07%.

b. Gender

6. According to census 2011, total population of the J&K is 12.3 million out of which 52.95% are male and 47.05% are female. Overall sex ratio of the state is 889. Total literacy rate is 67% and the gap between male (76.55%) and female (56.36%) literacy is 20.19%. Higher gender gap in literacy rate shows differential development of men and women. Among Scheduled Casts (SCs) literate women are 60.67% that is 18.1% less than men (78.77%). The main impediment to women finding job is a lack of opportunities in the conventional sectors. J&K lacks a proper gender equality system in employment as only 21.9% of women between the 15-49 age group are currently employed against 68.2% of men.
7. The J&K government has launched various initiatives to create a gender-inclusive ecosystem to ensure women have greater access to education and socio-economic growth. Thus, creating a number of opportunities to women to progress and prosper in all fields of life, safeguarding their equal role in the pursuit of development. The administration is trying to take all the actions to ensure social and economic equality for women, which is integral to rapid growth and development. Women empowerment and equal presence in the technology sector are essential to building a strong community, a resilient state, and a stronger country.
8. Gender discrimination has been an issue due to prevailing social, economic and political conditions which affect the process of empowerment of women. To empower women both socially and economically, a number of schemes and programmes have been initiated by the Government of India, Ministry of Women and Child Development including J&K, are POSHAN Abhiyaan, Anganwadi Services Scheme, Pradhan Mantri Matru Vandana Yojana (PMMVY), Beti Bachao Beti Padhao (BBBP) Scheme, One Stop Centre (OSC) and Universalisation of Women Helpline, Child, Protection Services Scheme, Scheme for Adolescent Girls (SAG), Swadhar Greh Scheme, Ujjawala Scheme, Working Women Hostel^[i].
9. Apart from the central government schemes, J&K government has initiated one scheme under Youth Mission only for the women called Tejaswani - The Radiant to promote entrepreneurship among young women. They provide financial assistance up to Rs 5 lakhs to young women for setting up gainful self-employment ventures, suited to their skills, training, aptitude and local conditions. The financial assistance is given to women between the age of 18 to 35 years having a qualification of 10th standard or above^[ii]. Taking cue of all these initiatives of the government of J&K, JKCIP is focussing on the skill and aptitude development for the women and creating opportunities for them to be involved in the following activities and generate employment for them. The specific activities for them are as follows:
 - Agri crop production sector: (saffron, aromatic rice, vegetables, spices) – these are some of the crops where women are majorly involved, therefore, 60 % women has been recommended to be involved at the production and processing level except the land preparation which is mainly done by the men.
 - Medicinal and Aromatic Plants: these activities need to be mainly undertaken by the women especially young women. The nursery preparation, weeding, plantation, harvesting and processing of the products are mainly done by the women.
 - Enterprise Development: The young, educated girls are coming forward to develop their own enterprises, therefore, 40 % of the young girls are recommended to be involved in the enterprise development especially in dairy products making, lavender value chain, Horti crop processing and value chain and other similar activities. The marketing component of each of the products will be done by the men.

c. Youth

10. Youth constitute a vital social capital for economic growth anywhere in the world. The Government of India recognizes that the current youth bulge is an abundant asset and offer immense leverage in terms of skilled labour, entrepreneurship, and innovation & knowledge to accelerate the developmental needs of the country. Currently, they are estimated to constitute more than 34% of the total population in India. The National Youth Policy (NYP) 2021 seeks to catalyses widespread action on youth development across five priority areas, including education; employment and entrepreneurship; youth leadership and development; health, fitness and sports; and social justice. Each priority area is underpinned by the principle of social inclusion — enabling equitable progress by including the most marginalized sections in the design, planning and implementation of all schemes and programmes ^[i].
11. J&K is bestowed with a predominantly young population with about 69% of the population being below the age of 35 years. In order to provide a platform for holistic implementation of all youth engagement and outreach initiatives, and to bring the interests and empowerment of youth to the centre of policy making, government of J&K has rolled out a pioneering initiative - Mission Youth where the youths have been provided grants from the governments to start own business/ enterprises in several sectors including commercial vehicle purchase, dental clinics, eateries, gym & yoga centre in urban areas and any kind of enterprise development related to agri-horti-vegetable-dairy sector in rural areas. The women of the age group of 18 to 35 are being provided upfront loan of 5 lakh to start a small enterprise at the household level. The youth clubs are being formed at the village level constituting 5 youths including 2 women to reach out to the communities and strengthening the capacity of the youth and building leadership in them.

d. Indigenous peoples

12. **Tribal groups/indigenous people:** According to Census 2011, J&K has 12 tribes namely, Gujjar, Bakarwal, Bot/Boto, Balti, Brokpa/Drokpa/Dard/Shin, Gaddi, Purigpa, Sippi, Changpa, Mon, Garra, and Beda which account 1.49 million (12.2%, national average of 8.6%),^[i] have been scheduled in the Constitution of India in 1967^[ii]. 94% of STs population reside in rural areas. There are 3007 tribal villages in J&K, with 89 of them being 100% tribal, 369 being > 90% tribal, 488 being > 75% tribal, 766 being > 50% tribal, and 1295 being > 25% tribal^[iii]. Gujjars are the largest tribe of Jammu and Kashmir (65.7%), followed by Bakarwal (7.6%) and Bot/Boto (6.1%). According to the Census of 2011, the literacy rate for STs is 50.6%, which is lower than the national average. J&K has the highest percentage of STs in the male total worker category (66.24%). According to the Agricultural Census of 2010–11, the state-wise number and area of Operational Holdings for Scheduled Tribes between 2005–06 and 2010–11 decreased the most (9.56%) in J&K. The detail of tribal groups is described in Free, Prior, and Informed Consent (FPIC) implementation plan.

e. Marginalised groups

13. Several marginalized communities have historically endured social hierarchies and discrimination, often due to their occupations and ethnic backgrounds. These groups, including the Watals, Dombs, Chopan, Galwans, and Hanjis, face societal prejudice and exclusion. The Watals, considered the lowest in the social hierarchy, are often discriminated against due to their menial occupations and ethical reputation. The Dombs, who once held power as village watchmen, are seen as untrustworthy and categorized as an inferior caste. Chopan, cattle rearers residing in high mountain areas, are relatively isolated and intermarry among themselves or with Galwans. Galwans, associated with horse rearing, have a history of criminal notoriety, making it challenging for them to integrate into mainstream society. The Hanjis, boatmen and fishermen, face discrimination due to their poor economic status and are stereotyped as quarrelsome and vindictive. These marginalized communities have grappled with historical disadvantages and continue to face social inequalities in Kashmir^[iv].
14. The United Nations Convention on the Rights of Persons with Disabilities (CRPD) reported that in rural J&K, including Ladakh, individuals with disabilities account for 1.4 % of the population. Among them, 1.5 % are male, and 1.3 % are female. In urban areas, the %age of individuals with disabilities is slightly higher at 1.6 %, with 1.7 % being male and 1.6 % being female. Therefore, it is recommended that the project should incorporate inclusive strategies to benefit individuals with disabilities.

f. Nutrition

15. India grows sufficient food and has the world's largest public distribution system for food delivery. However, this has not translated into comparable declines in the levels of malnutrition, which remains a major issue. According to the findings of the J&K factsheet and NFHS-5 (2019-2021)^[i] reports, more than one-quarter (27%) of children under the age of five are stunted or too short for their age, indicating that they have been undernourished for some time. Nineteen percent are wasted, or too thin for their height, which could be due to inadequate recent food consumption or a recent sickness that caused weight loss, and ten percentage are seriously wasted. Twenty-one percent of the population is underweight, which includes both chronic and acute malnutrition. Even in the first six months of life, when nearly all new-borns are nursed, 35% of children are stunted, 24% are wasted, and 28% are underweight.
16. Low socioeconomic status, as indicated by low household income, could limit access to adequate diets, particularly for older children. The Government is implementing a number of initiatives to address malnutrition and this project will primarily address the socio-economic status of the J&K farmers by focusing on sustained income increase which will result in their ability to access improved diets for the family.

2.2 Environment and climate context, trends and implications

17. Landscapes and biodiversity:

18. The Physiographic zones: The J&K is divided into five distinct physiographic regions based on its topography, altitude, slope, climate, and soil conditions. These regions are the Outer Plains (known locally as Andarwah or Bajwat), the Siwaliks or Outer hills, the Lower or Middle Himalayas, the Valley of Kashmir, and the Greater Himalayas. The Outer Plains extend from the Ravi River to the Chenab, covering 110 km with elevations ranging from 330 to 360 meters. The Siwaliks, the outermost hills of the Himalayas, rise gently from Jammu, with elevations ranging from 600 to 1220 meters, stretching over 200 km from Ravi to Jhelum. The Middle Himalayas, with elevations between 1820 and 2240 meters, are situated between the Ravi in the east and the Poonch in the west. The Valley of Kashmir is located in the north-western folds of the Himalayas, surrounded by mountain ranges reaching heights of 5,550 meters in the northeast. This fertile, oval-shaped valley is rich in alluvial deposits. Finally, the Greater Himalayas, the innermost region, features mountains that rise above the snow-line, culminating in perpetual snow-capped peaks.

19. Altitudinal Distribution: J&K's elevation ranges from 395 to 3,805 meters, with an average of 2,240 meters. Kishtwar, Doda,

Rajouri, Poonch, Reasi, and Kathua have the largest elevation variations. The altitude distribution is below 1,000 meters (7%), 1,000 to 2,000 meters (31%), 2,000 to 3,000 meters (34%), and above 3,000 meters (28%).

20. **Water Resources:** The J&K has bountiful water resources, primarily originating from the Himalayas. Its diverse freshwater sources include lakes, glaciers, and rivers, with major drainage by the Jhelum, Chenab, Indus, Ravi, and Tawi rivers. Important lakes in the area include Wular, Dal, and Manasbal; each one has distinctive characteristics. Springs, a vital water source, are prevalent, sustaining various ecosystems. Notable springs include Verinag, Martand, Achabal, Kokernag, and the sacred Tullamulla. The Kashmir valley is endowed with numerous springs, contributing to the water availability of 13.97 BCM (billion cubic meter), where ground and surface water provide 1.16 BCM and 12.81 BCM^[ii], respectively.
21. **Ground Water:** Ground water occurrence is confined to five alluvial regions namely, Piedmont deposits of outer plain of Jammu (Kandi and Sirowal belts), Dune belt in the outer Himalayas, Isolated valley fill deposits in lesser Himalayas, Fluvio-lacustrine deposits in Kashmir valley and Moraines and Fluvio-glacial deposits of Ladakh. Ground water mainly occur under phreatic and confined conditions. The ground water in hard rock of Jammu region is confined to weathered residuum, where the tube wells go dry during summer seasons. The springs are amenable to small scale development of ground water resources in the State. Annual replenishable ground water resource is estimated at 2.7 BCM with annual draft of 0.33 BCM^[iii].
22. **Soil:** Jammu and Kashmir has fertile clayey, loamy, peaty, and alluvial soils. They are classified as brown earth/brown forest soils (ideal for agri-horticulture), degraded or grey brown podzolic soils, red and yellow podzolic soils, hill or mountain forest soils, mountain meadow soils, lithosols, saline alkali soils, and alluvial soils. These soils are slightly to moderately alkaline with a pH range of 7.0 to 9.0, boasting a water-holding capacity exceeding 40%. The steep geography of Jammu and Kashmir makes substantial regions unproductive due to soil erosion. Improving soil health is essential for crop productivity, especially in hill region rainfed farming.
23. **Land use:** Forest accounts for majority share (47.81%) in the land use pattern, followed by 24% agriculture, 7.6% snow and glaciers and 16.5% barren and wasteland.
24. **Forest and Protected Areas:** Based on FSI's remote sensing analysis, Jammu and Kashmir has 20,194 sq km of forest cover (47.81%, 12,066 sq km in Jammu Region, 8,128 sq km in Kashmir Region). J&K comprises 4,203 sq km of Very Dense Forest (VDF), 7,952 sq km of Moderately Dense Forest (MDF), and 8,967 sq km of Open Forest. To preserve its biodiversity, Jammu and Kashmir contains 4 National Parks, 14 Wildlife Sanctuaries, 16 Conservation Reserves, and 14 Wetland Conservation Reserves covering 4907.41 sq km. J&K has Dachigam, Kazinag, Kishtwar High Altitude, and Salim Ali City Forest National Parks. Thajwas-Baltal, Gulmarg, Overa Aru, and Rajparian Wildlife Sanctuaries. The JKCIP will not have any work in the forest and protected areas and will fully adhere to the 'zero' forest encroachment and deforestation policy.
25. **Biodiversity:** The J&K has over half of India's Himalayan biodiversity. Kashmir, rich in biodiversity, is one of 26 Indian regions with high deforestation and endemism. Western Himalayan plants are famous for their healing properties. Jammu has 506 angiosperms, gymnosperms, and pteridophytes, while Himalayan Kashmir has 3,054. About 16% of Indian species, birds, reptiles, amphibians, and butterflies live in J&K. Chordate diversity is highest in birds, followed by mammals, reptiles, fish, and amphibians. Carnivores make up 32% of Jammu and Kashmir's 112 mammalian species. *Balladonia*, *hyoseyamus*, *digitalis*, *menthol*, *artemisia*, *polygola*, *podophyllum*, *rubus*, *trillium*, *hops*, and *kuth* grow in J&K forests.
26. **Agriculture:** The J&K's economy heavily relies on agriculture, with approximately 70% of the population engaged in agricultural and related activities, directly or indirectly. The region's agriculture predominantly relies on small land holdings, and harsh winters and geography often impede agricultural operations. The agriculture sector is primarily rainfed, featuring limited irrigation infrastructure and small, fragmented land holdings with an average size of 0.59 hectares (including marginal-0.33, small-1.38, semi-medium-2.65, medium-5.41, and large-20.40), in contrast to the national average of 1.08 hectares. Net irrigated land in covers 0.319 million hectares, boasting a 145% irrigation intensity, with canal irrigation representing the dominant source at 83.0% of total irrigation. The J&K features 4 major projects (Ranbir Canal Major Irrigation Project, Ranjit Sagar Dam Major Irrigation Project Jammu, Ravi Canal Project Major Irrigation, and Tawi Lift Irrigation Project) along with 22 medium projects. District Shopian has the largest cultivable command area (CCA) spanning 29,086 hectares. Key crops cultivated include maize, wheat, rice, pulses, and saffron, among others.
27. **Horticulture:** Horticulture is an important source of income for 3.3 million people of J&K and boosts the economy. J&K's significant export business is horticulture due to its favorable agro-climatic characteristics. Farmers grows apple, almonds, walnuts, pears, cherries, and apricots in temperate zones and mango, citrus, litchi, papaya, guava, etc. in subtropical areas. The main vegetables are onion, potato, tomato, turnip, mutton, radish, carrot, green vegetables, and spices like chillies, garlic, and turmeric. Notably, J&K's saffron cultivation is globally unique. Horticulture sector growth is limited by gaps in extension system and technology transfer, small and fragmented land holdings, poor cultivation practices, poor post-harvest management, changing climate, and lack of marketing infrastructure.
28. **Animal Husbandry and Dairying:** In J&K, where agriculture is a primary occupation, sustainable growth in the livestock and poultry sector is crucial for both food security and economic prosperity. The region is home to a substantial livestock population of 7.77 million, with sheep, cattle, goats, and buffaloes making up significant proportions. Indigenous livestock breeds, well-suited to the local climate, play a vital role in the rural economy. Kashmir, in particular, is known for its indigenous breeds. The region's annual milk production is 2.73 million metric tons, with cows producing an average of 2380 liters each, surpassing the national average. Notably, Pulwama district is a leader in milk production, with dairy cooperatives, led by women and youth, making remarkable contributions. However, egg production saw a decline in 2021-22 compared to the previous year, totalling 183 million eggs.
29. Livestock is integral part of the life in the mountain villages in Jammu and Kashmir. Some of the areas of strengthening the animal husbandry sector include the creation of the infrastructure required to increase animal productivity, the promotion of

infrastructure for the handling, processing, and marketing of milk, and the preservation and protection of livestock by providing an effective healthcare system.

a. Environmental assessment

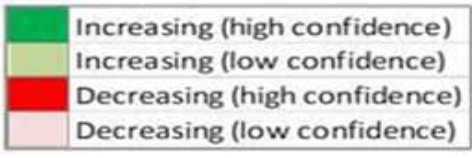
30. As above.

b. Climate trends and impacts

31. The climate of J&K varies according to altitude and region. The climate in the south and southwest is subtropical, with hot summers and cool winters. During the monsoon season, this region receives most of its rainfall.
32. Historical climate trends: Assessment of the historical climate variability and trends in mean climate (maximum temperature, minimum temperature, and precipitation) for the districts of J&K over the period 1951-2018 (68 years), has been made using historical gridded observations from the India Meteorological Department (IMD)^[1]. Orography and landuse influence spatial distribution of rainfall and temperature. Human-induced landscapes and human activities play a key role in altering the climate at a local and regional scale. It is important to understand the variation in rainfall as well as temperature since these variations have to be kept in mind while designing appropriate interventions (conservation practices or machineries etc.). Therefore, analysis has been carried out at the district level. Summary of observed temperature and rainfall trends for the districts is presented.
33. Current observed temperature: Mean maximum temperature of J&K is 23.1°C (20.0 - 24.5°C). Mean minimum temperature is 10.8°C (8.4 - 12.0°C) is observed. Both maximum and minimum temperature peak during the southwest monsoon season. For annual maximum temperature the highest value is attained for Kathua (26.2°C) falling on southwestern part while the lowest value is attained for district of Bandipore district (21.9°C) on north eastern part.
34. Current observed rainfall: Mean annual rainfall observed is 1124 mm (820 – 1439 mm). Badgam had the lowest (820 mm) and Udhampur had the highest (1439 mm) rainfall. Southwest monsoon contributes 43% (481 mm) and 29% (321 mm) of annual rainfall contribution comes from pre-monsoon months. All districts show increasing trend in annual rainfall with high confidence except in Jammu and Samba districts (decreasing trend with low confidence). However, southwest monsoon season shows decreasing trend in rainfall (low confidence) in all districts. Decrease in number of rainy days is observed in all districts, except in district of Kishtwar. Out of 68 years rainfall analysis, districts on an average had 34 years of normal rainfall years, 18 deficient rainfall years and 18 years had excess rainfall years.

Observed Trend in Temperature and Rainfall

State	District	Rainfall							Maximum Temperature					Minimum Temperature					
		J F	M A M	J J A S	O N D	A N N	R D A Y	1 D M a x	J F	M A M	J J A S	O N D	A N N	J F	M A M	J J A S	O N D	A N N	
Jammu and Kashmir	Anantnag																		
	Badgam																		
	Bandipore																		
	Baramula																		
	Doda																		
	Ganderbal																		
	Jammu																		
	Kathua																		
	Kishtwar																		
	Kulgam																		
	Kupwara																		
	Pulwama																		
	Punch																		
	Rajouri																		
	Ramban																		
	Reasi																		
	Samba																		
	Shupiyan																		
	Srinagar																		
Udhampur																			



Data Source: India Meteorological Department (IMD) gridded temperature and rainfall for the period 1951-2018 (68 years).

JF:Winter, MAM:Summer, JJAS:Monsoon, OND:Post monsoon, ANN:Annual, RDAY:Rainy days, 1DMax:1 day maximum rainfall,

35. Summary of historical climate trends: In summary, J&K's districts have exhibited historical trends of rising maximum and minimum temperatures (with low confidence) across all seasons. Many districts have experienced a decline in southwestern monsoon season rainfall and a reduction in rainy days (with low confidence). Over a 68-year period, an analysis of annual rainfall distribution reveals that, on average, most districts have seen 50% normal rainfall years, 26% deficient, and 24% excess. Detailed district-level analysis of seasonal temperature and rainfall is provided in the Annexure. The increasing minimum temperatures during the rabi cropping season may lead to higher water demand (for crops, humans, and livestock). Districts with rising temperatures and diminishing rainfall are likely to face water stress and drought-like conditions. Irregular rainfall distribution and extreme weather events may also result in flooding.
36. Projected Climate: The CORDEX South Asia modelled climate data on precipitation, maximum temperature, minimum temperature, and climate extremes indices have been analysed for districts of Jammu and Kashmir for baseline (BL, 1981-2010) and mid-century (MC, 2021-2050) under two IPCC AR5 emission scenarios namely, RCP4.5 (moderate emission) and RCP8.5 (high emission) scenarios. Ensemble mean of 10 RCMs at a spatial resolution of 50km x 50km has been used. The CORDEX South Asia simulations with the models indicate an all-round warming over all districts. Summary of projected temperature and rainfall for Jammu and Kashmir districts is presented.
37. Projected Climate: For J&K as a whole, maximum temperature is projected to increase by 1.5°C under the IPCC AR5 RCP4.5 scenario while an increase of 1.7°C under the IPCC AR5 RCP8.5 scenario is projected towards mid-century. Similarly, change in minimum temperature is projected to increase by 1.1°C and 1.3°C towards mid-century under IPCC AR5 RCP4.5 and RCP8.5 respectively. The projected increase in maximum temperature is higher than the minimum temperature. The seasonal increase is higher in the winter season (JF) for maximum temperature and in the SW monsoon season (JJAS) for minimum temperature. Average annual rainfall is projected to increase slightly by 5% and increase by 15% under moderate and high emission scenarios respectively towards mid-century as compared to the baseline. The highest decrease is likely in winter season (JF) and pre-monsoon (MAM).
38. J&K is likely to have an increase in maximum and minimum temperatures under IPCC AR5 RCP4.5 and RCP8.5. The projected increase in maximum temperature ranges from 1.3°C (Bandipore, Jammu, and Samba) to 1.6°C (Badgam, Doda, Kulgam, Pulwama, Ramban and Shupiyan) under RCP4.5 and 1.5°C (Bandipore, Jammu, and Samba) to 1.9°C (Shupiyan) under RCP8.5 towards mid-century. The projected increase in minimum temperature ranges from 0.5°C (Shupiyan) to 1.5°C (Kathua) under RCP4.5 and 0.8°C (Badgam, Pulwama and Shupiyan) to 1.8°C (Kathua and Samba) under RCP8.5 towards mid-century. The projected change in annual rainfall is -0.4% to 9.8% under RCP4.5 scenario towards mid-century. A 10.5% to 19% increase in rainfall is projected under RCP8.5 scenario. SW monsoon (JJAS) season is projected to have 4% to 29% increase in rainfall while NE monsoon (OND) season is likely to experience marginal decrease to increase (-7% to 28%) in rainfall under both emission scenarios.
39. Climate Extremes: To simplify the communication of the complicated relationships between climate change and its impacts, indices that represent climate extremes are established. Simple climate extremes can be understood from the sums of mean temperature and precipitation.
40. Temperature Indices: Both emission scenarios project a decline in cool nights (TN10P) with a high degree of confidence. In all districts, it is also likely that the number of Cool days (TX10P) would decline (high confidence). Warm nights (TN90P) and warm days (TX90P) are expected to increase (with high confidence) across all districts. The diurnal temperature range (DTR: reflects the temperature variation within a day and is defined as the difference between daily maximum and minimum temperatures) is expected to increase under RCP4.5 and decrease under RCP8.5. Under both scenarios, the warm spell duration indicator (WSDI) is expected to rise (high confidence). The cold spell duration indicator (CSDI) is expected to fall (with low confidence) and may not occur in the future.

42. Rainfall Indices: Projections indicate varying trends in consecutive dry days (CDD), consecutive wet days (CWD), precipitation on extremely wet days (R99p), and one-day maximum precipitation (RX1DAY) across districts under different climate scenarios. Low-confidence projects suggest an increase in CDD for 10 districts and a decrease for 10 districts in the RCP4.5 scenario, while 5 districts are likely to experience an increase and 15 districts a decrease under RCP8.5. Notably, some districts like Doda, Kathua, Pulwama, Ramban, and Udhampur show differing CDD trends between scenarios. Furthermore, CWD is expected to decrease in 9 districts and increase in 11 districts under RCP4.5, with 5 districts likely to have fewer CWD in the RCP8.5 scenario. Additionally, R99p is anticipated to increase in most districts under RCP8.5, while RX1DAY is projected to increase in all districts except Kupwara, Kathua, Kishtwar, Samba, Shupiyan, and Udhampur in this scenario. These climate shifts have implications for agriculture, flooding, soil erosion, and pest and disease emergence.
43. Heat Stress on Humans and Livestock: Humidex (HI) and Temperature-Humidity Index (THI) are indicators representing the combined influence of temperature and humidity on heat stress in humans and animals. While goats are more heat-tolerant than sheep and cows, it's recognized that elevated temperatures and humidity significantly impact meat quality and yield in small ruminants. High THI negatively affects feed intake and hormone levels, leading to reduced productivity and reproductive performance in farm animals. Among six districts, including Jammu, Kathua, Rajouri, Reasi, Samba, and Udhampur, human heat stress (HI) is likely to increase under projected climate scenarios. Both RCP4.5 and RCP8.5 scenarios indicate increases ranging from 40% to over 100%. This could impact outdoor farm activities like agricultural labour, particularly during the months of May, June, July, August, and September, where extreme heat or humidity is expected. Furthermore, cattle heat stress (THI) is projected to rise between 28% and 67% under RCP4.5 and RCP8.5 scenarios, with peak impact during July, August, and September.
44. Landslides: landslides are regular and unique geological hazard in Jammu and Kashmir. Almost every year J&K is affected by one or more major landslides resulting in loss of life, damage of houses, roads, means of communication, agricultural land etc. Heavy rains, deforestation, road construction activities and earthquakes are the major trigger factors for landslide events. Parts of Bandipora, Kargil, Anantang, Kishtwar, Pulwama and Shopian districts are very high hazard risk areas. Whereas parts of Kupwara, Baramulla, Budgam, Shopian, Anantnag, Kulgam, Srinagar and Ganderbal are very low hazard areas.
45. Floods and Cloudburst: Low-lying parts of the Kashmir Valley, especially Sonawari, Awantipora, and Srinagar, as well as parts of Jammu, are prone to flooding. Flash floods are common in the upper catchments of all the rivers Jhelum, Indus, Chenab, and Tawi. Flash floods have a significant impact on seventeen districts, including Doda, Ganderbal, Samba, Pulwama, Kishtwar, Kathua, Ramban, Reasi, Bandipora, Leh, Srinagar, Shopian, Samba, Budgam, Udhampur, Kulgam, and Rajouri. In 2014, Kashmir Valley witnessed the worst flood in the last 100 years. The districts of Budgam, Leh, Udhampur, Ramban, Doda, Reasi, Bandipora, Kulgam, Rajouri, and Srinagar have experienced significant effects due to the cloudburst in Jammu and Kashmir.
46. Snow Avalanches, Snowstorm and Snow fall: In the upper ranges of Jammu and Kashmir, particularly the higher regions of Kashmir and Gurez valley, avalanches—river-like flows of snow or ice tumbling from mountain tops—are frequent. In January 2017, the Kashmir Valley had many periods of severe snowfall, which led to an avalanche. The Kashmir Valley saw significant loss in the form of life and property due to a snow avalanche that was caused by heavy snowfall in the first week of November

2019^[1]. High impact avalanche prone districts in Jammu and Kashmir include Udhampur, Ramban, Doda, Kishtwar, Reasi, Leh, Bandipora, Kargil, Ganderbal, Srinagar, Budgam, Shopian, and Kulgam.

47. **Hailstorms:**The standing crops in Jammu and Kashmir suffer greatly from hailstorms. Every year, hailstorms cause damage to thousands of acres of crops, lowering agricultural yields. The insurance programs by Government of Jammu and Kashmir are designed to help Rabi crops like potatoes, wheat, and mustard. Districts of Udhampur, Ramban, Doda, Kishtwar, Bandipora, Srinagar, Baramulla, Kupwara, Anantnag, Pulwama, Budgam, Jammu, Kathua, Rajouri, and Poonch are at risk from hailstorms.
48. **46. Summary projected climate:** Projected climate indicate hotter and moderately wetter future for most of the districts of J&K.
49. Heat waves are expected to become more common, putting a burden on society and the environment but not in a hazardous level. Precipitation is expected to rise slightly to moderately in the future, with much of the increase attributed to heavy downpours. The districts are more at risk due to spatial and temporal heterogeneity. Rising temperatures and changing precipitation patterns could have an effect on available water resources. All districts are projected to see an increase in the warm spell duration indicator (WSDI), and extreme rainfall (1 day and 5 days maximum) is also expected to rise, which is likely to raise the flood risk. Floods and droughts are projected to become more common as the number of consecutive dry days (CDD) increases and the number of consecutive wet days (CWD) decreases. Climate change adaptation policies and resource allocation could be improved by considering regional variations in climate trends.
50. Climate change adaptation: The project components are designed to encourage livelihood diversification, enterprise development in response to market signals, and climate adaptation considerations in order to face the problems in the context of climate change. Building the capacity of vulnerable target groups to diversify activities through investments in new varieties, small-scale livestock, and off-farm enterprise growth is a sub component of the project. The vulnerable groups (women, the poor, and young people) will become more resilient to hazards associated with climate change because of capacity development and training components included in various programs. The livelihoods of the farmers and vulnerable communities will be diversified through several new and innovative approaches which in turn will increase the income of farmers and the vulnerable communities. These will make them more resilient to climate and economic shocks.
51. Smallholder farmers and target groups display a moderate awareness of climate risks and related adaptive and mitigation measures. Project efforts to build the adaptive capacities of its beneficiaries must emphasize the need for disaster risk planning, climate resilient cropping, and reduced post-harvest losses, among other interventions that build the beneficiary's capacity to cope with, or recover from, the effects of climatic shock events.
52. **Disaster Risk Profile:** J&K faces various natural calamities, including earthquakes, landslides, floods, cloudbursts, snow avalanches, and hailstorms. The region falls under active seismic Zones IV and V, experiencing moderate to very high seismic activity. The 2005 Kashmir Earthquake resulted in significant casualties. Landslides are a common geological hazard, primarily triggered by heavy rains, deforestation, road construction, and earthquakes. Flooding, particularly in low-lying areas of the Kashmir Valley and parts of Jammu, is a recurring concern. The 2014 floods were particularly devastating. Snow avalanches often affect higher regions, and hailstorms damage standing crops, affecting agricultural yields. Despite these challenges, project interventions such as farm management promotion, agroforestry, support on climate smart agriculture (CSA) and good agriculture practices (GAP), livestock insurance, and veterinary care can improve resilience and provide alternative income sources.
53. **Emission:** The Climate Change Centre J&K prepared a CO₂ Emission Inventory report for 2013-14, revealing that Jammu & Kashmir ranked 19th in the country for aggregate GHG emissions in 2012. The report estimated total emissions, including CO₂ (5,141.81 thousand tonnes), methane (264.20 thousand tonnes), and nitrogen (3.1410 thousand tonnes), with agriculture responsible for the majority (55.38%). Enteric Fermentation within agriculture accounted for 60.80% of total CO₂ eq emissions, while the manure Animal waste/Dung sector contributed 11.72%.

2.3 Target group profiles

54. This project is a youth sensitive project, and therefore, the target group majorly will be the youth population of both the gender. The youth beneficiaries will be 30 % at least and among them 40% will be women. The current society in J&K is a patriarchal society and there are some challenges faced by the women in the family. Therefore, the project is also focussing on the gender sensitivity and have planned several programmes suitable for both the adult and young women in the identified blocks. The target population will also focus on small holder farmers, landless poor including the indigenous people (fringe communities), vulnerable communities comprising SCs and STs, relatively poor and non-poor population as well.
55. Poor category consists of HHs below the poverty line which includes the most vulnerable, women headed HHs, landless, people with disabilities (PwDs), subsistence farmers and vulnerable communities (SCs and STs). Relative Poor includes HHs having small and marginal land holdings with farming as the primary livelihood activity and is most vulnerable to risks associated with climate change and environmental degradation. Non-poor HHs are commercially oriented smallholder farmers with diversified farming systems who is above poverty line.

3. Institutional analysis

56. Institutions

57. Agriculture Production Department (APD) will be the Lead Implementation Agency and the Directorates, and the Universities will be the Project Parties for field level implementation. The PMU will coordinate thematic areas, financial management and procurement. The project will be fully integrated into the working of the Directorates and the Universities who will be implementing the project activities at the field level. The Mission Director currently being appointed for HADP will also be the Mission Director for JKCIP and will be reporting to the Principal Secretary, APD.
58. The Directorates will report to the PMU and will be responsible and accountable for the management of the project and the achievement of its results. The PMU will be reporting to the Mission Director and will include 7 Specialists – Institutions, Rural Finance, Gender and Youth, SECAP, M&E, MIS, KM, Finance and Procurement. In addition, Lead Technical Specialists will be engaged to coordinate project activities with the Directorates/Universities. Each of the Directorate with major project investments will be provided support for engaging officers related to Finance, M&E, Procurement and Gender and Youth. Incremental staff will be hired on a contract basis with the possibility of extension subject to satisfactory performance. The project will invest in the capacity building of the project staff.
59. All activities under the project will be implemented by the officials of the respective Directorate assisted by technical staff /service providers contracted by the PMU in a transparent manner. The SECAP specialist, with the support of thematic leaders and M&E specialist, will ensure the quality implementation of Safeguards measures and timely reporting. The project will use the regular structure of the Directorates for implementation with support from technical experts preferably having a commercial orientation. The project will build on the existing community institutions and develop value chain-specific FIGs and FPOs. The activities related to markets and marketing, enterprises and start-ups will be largely private sector oriented and will be implemented through them.
- 60. National policies, strategies and regulatory frameworks**
61. Relevant Policies, various national policies and provisions in India guide the protection and conservation of the environment and natural resources. Some of them are detailed below.
62. India's Constitutional Provisions, as outlined in Article 48-A, direct the state to make efforts to safeguard and enhance the natural environment. Article 51-A places a fundamental duty on every Indian citizen to protect and improve the environment, including forests, lakes, rivers, and wildlife, and to show compassion for living creatures. The National Conservation Strategy & Policy on Environment & Development, 1992, emphasizes the importance of sustainable and equitable resource use, the prevention of environmental degradation, and the restoration of ecologically degraded areas. The National Environmental Policy of 2006 seeks to conserve critical environmental resources and integrate environmental concerns into the development process. It emphasizes the efficient use of environmental resources. The National Water Policy of 2012 suggests treating water as an economic good to encourage its conservation and efficient use. It also emphasizes the need to halt the depletion of groundwater by introducing improved water-use technologies and incentivizing efficient water use.
63. The National Agricultural Policy of 2000 promotes the sustainable, environmentally friendly use of natural resources, such as land, water, and genetic endowment, in agricultural development. The policy emphasizes the conjunctive use of surface and groundwater and advocates for on-farm water resource management to optimize irrigation potential. The National Policy of Farmers, 2007, underscores rainwater harvesting and aquifer recharge to ensure a sustainable water supply, along with the regulation and control of the development and management of groundwater resources. The National Tribal Policy of 2006 outlines a comprehensive approach to the development and welfare of tribal communities in India. It addresses education, health, livelihoods, and cultural preservation. The National Forest Policy of 1988 aims to maintain ecological stability through the preservation and restoration of biological diversity. It is enforced by the Forest Department, State Government, and the Ministry of Environment and Forests, Government of India. These policies and provisions collectively guide the nation's environmental and resource management efforts.
64. Additionally following acts are also relevant to the project: i) The Environment Protection Act of 1986, recently amended in 2023, ii) The Forest (Conservation) Act of 1980, iii) The Wildlife (Protection) Act of 1972, iv) The Air (Prevention and Control of Pollution) Act of 1981, v) The Water (Prevention and Control of Pollution) Act of 1974, vi) the Biological Diversity Act of 2002, vii) The National Green Tribunal Act of 2010, viii) The Forest Rights Act of 2006.
65. Moreover, Acts specific to J&K include: i) The J&K Preservation of Specified Trees Act of 1969, under the Forest Department's jurisdiction, is pivotal in governing the felling of specific trees, emphasizing their preservation for ecological conservation and local livelihoods; ii) The J&K Agriculture Produce Marketing (Regulation) Act of 1997 manages agricultural produce marketing and the operation of agricultural produce markets (mandis); iii) The J&K Land Revenue Act of 1996, overseen by the Revenue Department, tackles land-related matters, including record maintenance, land revenue assessment, and collection; iv) The J&K Water Resources (Regulation and Management) Act of 2010 consolidates water-related laws, with a focus on improving water storage, conservation, and protection. It is implemented by the J&K Water Resources Regulatory Authority; v) The J&K Forest Act of 1987, under the Forest Department, is dedicated to the preservation and management of designated forests within the J&K. Together, these state acts play a pivotal role in regulating and managing various critical aspects of J&K's resources and environment.
66. Additional acts like the J&K Horticulture Produce Marketing and Processing (Development) Act of 2010, the J&K Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act of 2021, and the J&K Wildlife (Protection) Act of 1978 are designed to regulate horticulture, agricultural marketing, and wildlife conservation, led by relevant departments such as the Department of Wildlife Protection, J&K Government.
67. In 2015, India submitted its Nationally Determined Contributions (NDCs), which primarily aimed to increase the total installed electric power capacity from non-fossil sources to 40% and reduce the emissions intensity of GDP by 33 to 35% compared to 2005 levels by 2030. In 2022, India revised its NDC, introducing new goals. The significant changes in India's updated NDCs are as follows: i) a target to decrease the emissions intensity of India's GDP by 45% by 2030, ii) the aspiration to achieve

approximately 50% of the total installed electric power capacity from non-fossil fuel-based energy sources by 2030, and iii) participation in the global climate change initiative known as the 'Lifestyle for the Environment (LiFE) Movement.

68. Crucially, the JKCIP is aligned with the updated NDC's objective of improving climate change adaptation by increasing investments in development programs in sectors vulnerable to climate change. These sectors include agriculture, water resources, the Himalayan region, coastal regions, health, and disaster management.

4. Environmental and social category

69. The environmental and social category for JKCIP is determined as moderate, based on the screening tool of SECAP 2021. The project aims to generate overall positive environmental and social benefits in a comprehensive manner. Good Agricultural Practices (GAP) will be promoted to improve agro-biodiversity and enhance farm health. JKCIP will a) capacitate FPOs and staff including from Krishi Vigyan Kendra (KVK) to regulate and reduce chemical inputs, b) promote inter and mix cropping, and integrated pest management to maintain soil health and minimize the damage of disease and pest outburst, c) support water management and efficient water use technologies to reduce water stress, and d) minimize waste. The program targeted blocks don't have protected or conservation areas. JKCIP will strictly adhere 'zero' forest degradation and forest encroachment approach, ensuring that all project activities will be confined in private and non-forested lands. Since the project will not involve in construction activities, extensive screening questions exercise, consultations with communities and stakeholders, and field visits confirmed that the environmental and social impacts will remain at moderate level.
70. JKCIP is a youth sensitive project that places a significant emphasis on social inclusion. It adopts proactive measures to specifically target women, youth, and marginalized communities. The project will support to Gujjars and Bakarwals, pastoralists, to uplift their livelihood. A Free, Prior, and Informed Consent (FPIC) implementation plan has been developed and will be implemented. JKCIP will not have any impact on *cultural heritage*, however, national chance find procedure will be applied. Child labor, sexual harassment, and gender violence are not foreseen in value chain activities, although, these will be strictly prohibited and carefully monitored in all project activities. Moreover, the project, overall, will have positive impacts on *community health, safety, and security*. JKCIP will not create physical and economic *resettlement*.

5. Climate risk category

71. As per the SECAP screening tool, the climate risk category of the program is determined as Moderate. Following are the key themes and steps followed to assess climate risks: (i) Hazard identification: As per the ThinkHazard tool and design field visits; JKCIP intervention area is likely to experience river flood, landslides, and hailstorm. Moreover, foreseen future climate scenario predicts changes in temperature, climate variability and alterations in intensity and frequency of extreme events. (ii) Exposure Assessment: The project targets agriculture and horticulture systems or livelihoods that are exposed to weather-related hazards. Agriculture system is often affected by the impact of climate change (iii) Sensitivity: Major income of the target population predominantly comes from agriculture, horticulture, and livestock. (iv) Adaptation capacity and climate resilience: India is good on disaster coping capacity and climate and weather information services are effectively being delivered to farmers, rural dwellers, and end users.
72. The project will incapacitate and promote climate resilient farming practices. SECAP related responsibilities will be included in the terms of references of thematic specialists in PMU.

6. Recommendations for project design and implementation

73. JKCIP will use the following entry points to address mainstreaming themes: (i) improve women's access to viable economic opportunity (on farm and off-farm) as well as social empowerment; (ii) generate economic and professional opportunities for youth; (iii) provide capacity building supports on CSA and GAP ensuring improving knowledge, capacity, and access on those areas; (iv) proactive targeting on youth for skill development, employment generation, and climate issues solutions; and (v) engage in strong consultation process to ensure participation and social inclusion of potentially excluded groups.
74. **Youth participation:** The project is focussing on the following components which are very much youth sensitive:
75. **Climate-smart agriculture and market-led production** which include collectivisation, formation of FPOs, strengthening the existing FPOs, enterprise development based on agri and allied sector. All these activities should target the youth population at least 50% of the total population. They need to get trained on good agriculture practices, tree and plantation management of horticultural species, establishment of high-quality planting material nursery, certification of products, natural farming practices and establishment of enterprises. The FPOs currently exist in the identified blocks (56 no.) already have youth at the CEO level and their capacities need to be enhanced to make the FPOs profitable in the long run. The new FPOs (45 no.) which will be formed should follow the same system and the local youth needs to be capacitated to make these FPOs sustainable and profitable enterprises. These FPOs should be the focal agencies to provide the agri- inputs as well as the selling points of the produce for the farmers.
76. **Agri-business ecosystem development:** The three main activities under this component will be enterprise promotion support, market promotion support and establishment of the incubation and start up support. The youth need to be majorly involved in these activities. They should be encouraged to start new enterprises, strengthen the existing enterprises with establishment of the proper processing and marketing facility. The project is proposing 250 startups and 60% of these new startups should be owned by the youth.
77. **Gender:** The Support to vulnerable Community is a separate component of the project which includes the women, youth and the fringe communities like pastoralists (Bakerwalas and Gujjars). The state is a patriarchal in nature, therefore, women are not so much involved in the upfront activities. The current project has been planned to include them in almost all the activities. All the production related activities including the niche crops at least 60% women needs to be involved and rest should be men but for the horti cultural crops the women involvement could be less (20 %) and principally should be done by the men. The processing and value addition of the agri and horti produce women involvement needs to be minimum 40 % and marketing in most cases needs to be done by the men since the social structure of the J&K follows the same.
78. **Women participation:** As mentioned in the above paragraphs, women participating has been recommended for the specific activities. Currently as per the NFHS survey, there are only 21.9 % women employed in the conventional sectors. Therefore, the project has recommended the following for the women participation: i) Agri crop production sector: (saffron, aromatic rice, vegetables, spices) – 60 % women should be involved at the production and processing level except the land preparation which is mainly done by the men; ii) Medicinal and Aromatic Plants: these activities should be mainly undertaken by the women especially young women. They need to be involved in the nursery preparation, weeding, plantation, harvesting and processing of the products; and iii) Enterprise Development: 40 % of the young girls should be involved in the enterprise development especially for dairy products making, lavender value chain, horti crop processing and value chain etc.
79. **Nutrition:** JKCIP is the first investment of IFAD in the J&K. J&K had faced lot of religious conflicts in the last three decades, therefore, the government's focus is on creating employment opportunities for the youths of both gender, enhancement of the income of the people of the rural areas, value addition and marketing of the niche products, therefore, to compliment the government's work, the current project is focussing on income enhancement of the youth and young women and become a youth sensitive project. Overall, the nutrition status of the communities is better since the area is blessed with the favourable climatic condition and there are several high values agri and horti crops are grown here and getting exported to the rest of the country and abroad. The communities are dependent on the Agri Horti, vegetable, pulses and diary produce and sheep and goat rearing. The population, therefore, having the balanced diet with vegetables, fruits, pulses, cereals, milk, and meat. The project is focussing on the enhancement of the value chain of each of the crops.
80. **Climate and Environment**
81. a. Weather information, interpretation, and application: Access to weather information needs to be improved. More importantly, capacity building of Krishi Vigyan Kendra (KVK) and FPO needs to be planned to increase their skill and interpretation of using weather information on decision making. Good Agriculture Practices (GAP) needs to be promoted. The support should be made for IPM, Multiple and inter cropping, efficient water use, local climate resilient seeds. Collaboration should be made with university to disseminate results of their research on GAP. Pesticides need to be regulated. Scientific evidence from university researchers needs to be timely disseminated to wise use of pesticides. Hailstorm is noted as one of the key threats to horticulture. Solution measures such as nets should be supported. Support to Youth groups at panchayat level to solve local climate, environment, and natural resources related issues will be effective to increase farmers adaptation capacity and also beneficial to help youth behaviour.
82. The project will ensure that the financial intermediaries have Environmental and Social Management Plan (ESMP) if selected for the financing. The due diligence of the private sector will be ensured for the project support. JKCIP, with support from IFAD, will provide technical assistance to FIs and private sector to implement ESMPs.

7. Further studies needed

83. This SECAP review note includes ESCMP, Stakeholder engagement plan, and FPIC implementation plan. As being both Environmental and Social, and Climate risks rated as 'moderate'; no addition studies are needed. However, the project will conduct thematic environmental and climate studies, budget provisioned for 12 studies, as per the project's requirement.

8. Monitoring and evaluation

84. The project's M&E will well capture disaggregated data on gender, youth, socio-ethnicity, and household poverty. The PMU will lead in the monitoring and evaluation process of the project together with implementing partners and stakeholders. In addition, monitoring and coordination committees comprising of PMU, representatives from implementing partners, line agencies will be formed.
85. 80. The SECAP specialist will ensure that ESCMP indicators are reflected in M&E framework. The specialist, together with M&E team, will analyse the data on periodic basis with validation in the field. This process will facilitate to take timely decision by the project management and adopt corrective actions to adhere the climate adaptation and targeting strategy. Other participatory monitoring tools like environmental and social safeguard monitoring, and regular tracking of poor women and vulnerable groups with their problems and progress will be adopted to ensure that target groups are effectively participating and getting progress on their livelihood improvement pathways. Social risks and mitigation measures (as outlined in the ESCMP) will ensure that these risks are addressed, and the very poor and vulnerable sections benefit from the program interventions.

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ESCMP Matrix								
Environmental, social and climate Impacts	Commodities /activities as main driver of risks	Recommended Mitigation/Enhancement measures	Public Consultation Activities	Responsible Institution	Means of Verification			Cost Estimate & Source
					Indicators	Frequency	Source of data	
Environmental								
Impact on soil and water from pollutants through use of fertilizers	Agriculture, Horticulture	1. Promote the responsible use of fertilizers, pesticides, and herbicides.2. Promote Organic farming.3. Integrated Pest Management.4. Train and Implement proper waste management systems.5. Decentralised Wastewater Treatment and reuse.	GAP trainings and youth enterprises and orientation Establishment of a feedback and observations mechanism from local communities, farmers (for changes in soil and water quality).	PMU: Directorate of Ag/Horticulture/Livestock. KVK will take the lead in field, with the support from Directorates. The research and study part will be led by the universities. University will be also take lead on training and capacity building. Private sectors and organizations working on GAP should be included for capacity building and promotion. Youth groups should be mobilized on awareness raising and solving local level issues.	Percentage of farmers reducing chemical inputs	Annual	MIS	Included in subcomponents 1.1 1.2, and 3.2 budget
Procurement of Natural Resources	Agriculture, Horticulture	The project will support nurseries to sustainably produce seedlings for plantation. Youth and private sectors will be motivated to produce seedlings suitable to microclimate and climate change scenarios.	Community and expert consultation to select multiple purpose species	PMU: Directorate of Ag/Horticulture/Livestock.	Percentage of the seedling produced under the project support.	Annual	MIS	Included in Horticulture and agriculture subcomponents
Livestock production	Livestock	The project will support for the fodder and forage management. Use of antibiotics will not be supported or promoted. Project will not invest in activities that engage i) use of antibiotics or hormones, ii) unsustainable use of natural resources, iii) creates additional pressure to forest areas/	Community consultation to discuss sustainable livestock management	PMU: Livestock directorate	Percentage of livestock support subprojects following sustainable production	Annual	MIS	Included under Livestock support

ESCMP Matrix								
Environmental, social and climate Impacts	Commodities /activities as main driver of risks	Recommended Mitigation/Enhancement measures	Public Consultation Activities	Responsible Institution	Means of Verification			Cost Estimate & Source
					Indicators	Frequency	Source of data	
Social								
Impacts on IPs	All interventions	Proactive targeting mechanisms, meaningful stakeholder engagement, participatory planning and implementation, FPIC implementation	Public Consultation Activities	SECAP and GESI specialist in lead role.	Number of FPIC process documented, % of tribal groups benefitted	Baseline/ midterm/ completion and annual.	Meeting records, program database	Included in M&E
Climate								
Landslides and flood	All	1. Adequate, disaster complaint housing for livestock, storage of fodder, veterinary care support, CSA training. 2. Weather forecasts and use	Capacity building and trainings	PMU: Directorate of Ag/Horticulture/Livestock. The university to lead on weather information support strengthening. Private organizations should be included on capacity building.	i) number of supports provided for weather information dissemination and use	Annual	MIS	293,000 USD budgeted for strengthening weather information dissemination and use
Hailstorm	All	i) Encourage government department to support nets; promote protective farming wherever possible, ii) promotion of protective farming practices		PMU: Directorate of Ag/Horticulture/Livestock. The university to lead on weather information support strengthening. Private organizations should be included on capacity building.	i) farmers using hailstorm protecting nets, ii) number of farmers practicing protective farming	Annual	MIS	no budget provisioned

ESCMP Matrix								
Environmental, social and climate Impacts	Commodities /activities as main driver of risks	Recommended Mitigation/Enhancement measures	Public Consultation Activities	Responsible Institution	Means of Verification			Cost Estimate & Source
					Indicators	Frequency	Source of data	
Drought	Agriculture, Horticulture	<ol style="list-style-type: none"> 1. Crop diversification, drought tolerant variety crop.. 2. Alternate crops, recycle water 3. Household water harvesting. 4. Micro irrigation. 5. Weather forecasts. 6. Multi and inter cropping 	CSA and GAP trainings	<p>PMU: Directorate of Ag/Horticulture/Livestock.</p> <p>The university to lead on weather information support strengthening.</p> <p>Private organizations should be included on capacity building.</p>	i) number of FPO and farmers received CSA and GAP training, ii) Number of farmers received water management support, iii) Area (in ha) comes under improved water supply	Annual	MIS	Included in water management, and CSA and GAP training
Pest and disease	Agriculture, Horticulture & livestock	<ol style="list-style-type: none"> 1. Implement vector control measures to reduce the spread of pests and diseases. 2. Improve security measures (quarantine, isolation facilities, restricted animal movements etc..) to prevent disease outbreaks in livestock. 3. Implement vaccination programs and regular health monitoring of livestock to reduce disease risks. 4. Promote GAP and IPM 	Awareness and consultation	<p>PMU: Directorate of Ag/Horticulture/Livestock.</p> <p>The university to lead on weather information support strengthening.</p> <p>Private organizations should be included on capacity building.</p>	i) number of farmers applying IPM	Annual	MIS	Included under subcomponents 1.1 and 1.2

ESCMP Matrix								
Environmental, social and climate Impacts	Commodities /activities as main driver of risks	Recommended Mitigation/Enhancement measures	Public Consultation Activities	Responsible Institution	Means of Verification			Cost Estimate & Source
					Indicators	Frequency	Source of data	
<p>Road blockage due to climatic hazards</p> <p>i) lack of seed, inputs, and equipment's on time, ii) obstacle on product sell, iii) increase production price, iv) high wastage</p>	All	<ol style="list-style-type: none"> 1. Strengthening the early warning systems to provide advance notice of possible climatic hazards to take preventive measures. 2. Identify alternative transport routes/transport system that can be used when primary routes are blocked to maintain the continuity of supply chains. 3. Establish Weather-resistant storage facilities for harvested crops. 4. Weather based Crop insurance schemes that provide financial protection to farmers. 5. Enhance/Build community preparedness and resilience in responding to road blockages and climatic hazards. 6. Promote the establishment of local seed banks and maintain a variety of crop seeds adapted to local conditions. 7. Establish mechanism for timely distribution of agricultural inputs and equipment to farmers. 	Awareness and consultation	<p>PMU: Directorate of Ag/Horticulture/Livestock. The university to lead and strengthen the weather information support services.</p> <p>Private organizations should be included on capacity building.</p>	i) number of farmers having weather and disaster related information and applying in their daily practices	Annual	MIS	Included in weather information support

Environmental and Social Safeguards Classification: Moderate

Environmental and Social Safeguards				
Biodiversity conservation	Yes/No	Likelihood	Consequence	Risk Rating
1.1 Could the project potentially involve or lead to conversion or degradation of biodiversity, habitats (including modified habitat, natural habitat and critical natural habitat) and/or ecosystems and ecosystem services?	No			Low
1.2 Could the project involve or potentially lead to activities involving habitats that are legally protected, officially proposed for protection, or recognized as protected by traditional local communities and/or authoritative sources (e.g. National Park, Nature Conservancy, Indigenous Community Conserved Area, ICCA, etc.)?	No			Low
1.3 Could the project potentially involve or lead to an increase in the chance of human-wildlife encounters/conflict?	No			Low
1.4 Could the project potentially involve or lead to risks to endangered species (e.g. reduction, encroachment on habitat)?	No			Low
1.5 Could the project potentially involve or lead to impacts/risks to migratory wildlife?	No			Low
1.6 Could the project potentially involve or lead to introduction or utilization of any invasive alien species of flora and fauna, whether accidental or intentional?	No			Low
1.7 Could the project involve or lead to the handling or utilization of genetically modified organisms?	No			Low
1.8 Could the project involve or lead to procurement through primary suppliers of natural resource materials?	Yes	Possible	Minor Project may possibly require procurement of natural resources through primary suppliers, and resource extraction is tightly regulated. Alternatives to procurement of natural resources through primary suppliers exists.	Moderate
Resource Efficiency and Pollution Prevention	Yes/No	Likelihood	Consequence	Risk Rating
2.1 Could the project involve or lead to the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No			Low
2.2 Could the project involve or lead to primary not environmentally sustainable production of living natural resources? (Note: this includes the cultivation or rearing of plants or animals, including annual and perennial crop farming, animal husbandry (including livestock), aquaculture, plantation forestry, etc)	No			Low
2.3 Could the project involve or lead to engagement in areas of forestry, including the harvesting of natural forests, plantation development, and/or reforestation?	No			Low
2.4 Could the project involve or lead to significant consumption of raw materials, energy, and/or water?	No			Low
2.5 Could the project involve or lead to significant extraction, diversion or containment of surface or ground water (e.g. construction of dams, reservoirs, river basin developments, groundwater extraction)?	No			Low

Environmental and Social Safeguards				
2.6 Could the project involve inputs of fertilizers and other modifying agents?	Yes	Likely	Minor The project only requires minimal amounts of fertilizer	Moderate
2.7 Could the project involve or lead to procurement, supply and/or result in the use of pesticides on crops, livestock, aquaculture or forestry?	No			Low
2.8 Could the project be located in an area which is being, or has been, polluted by an external source (e.g. a mine, smelter, industry)?	No			Low
2.9 Could the project involve livestock – extensive and intensive systems and animal products (dairy, skins, meat, etc.)?	Yes	Likely	Minor The project involves livestock or fisheries, but not in extensive or intensive systems.	Moderate
Cultural Heritage	Yes/No	Likelihood	Consequence	Risk Rating
3.1 Could the project be located in areas that are considered to have archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values or contains features considered as critical cultural heritage?	No			Low
3.2 Could the project directly or indirectly affect indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (tangible and intangible)?	No			Low
3.3 Could the project involve or lead to significant excavations, demolitions, movement of earth, flooding or other environmental changes?	No			Low
3.4 Could the project involve or lead to adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No			Low
3.5 Could the project involve or lead to alterations to landscapes and natural features with cultural significance?	No			Low
3.6 Could the project involve or lead to utilization of tangible and/or intangible forms (e.g. practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	No			Low
indigenous peoples	Yes/No	Likelihood	Consequence	Risk Rating
4.1 Could the project be sited in areas where indigenous peoples are present (including the project area of influence)?	Yes	Almost certain	Negligible The project is not sited in a area where indigenous people are present.	Moderate
4.2 Could the project result in activities located on lands and territories claimed by indigenous peoples?	Yes	Almost certain	Negligible The project is not sited in a area that indigenous people would claim as their territory.	Moderate
4.3 Could the project result in impacts on the rights of indigenous peoples or to the lands, territories and resources claimed by them?	No			Low
4.4 Could the project result in the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No			Low

Environmental and Social Safeguards				
4.5 Could the project lead to impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No			Low
Labour and Working Conditions	Yes/No	Likelihood	Consequence	Risk Rating
5.1 Could the project operate in sectors or value chains that are characterized by working conditions that do not meet national labour laws or international commitments? (Note: this may include discriminatory practices, high gender inequality and the lack of equal opportunities, denial of freedom of association and collective bargaining, labour migrants)	No			Low
5.2 Could the project use or operate in a value chain where there have been reports of forced labour? (Note: Risks of forced labour may be increased for projects located in remote places or where the status of migrant workers is uncertain)	No			Low
5.3 Could the project involve children (a) below the nationally-defined minimum employment age (usually 15 years old) or (b) above the nationally-defined minimum employment age but below the age of 18 in supported activities or in value chains?	No			Low
translation missing: en.v1.secap_screening_tool.environmental_and_social.labour_and_working_conditions_4.text	No			Low
Community Health, Safety and Security	Yes/No	Likelihood	Consequence	Risk Rating
6.1 Could the project be at risk from water-borne or other vector-borne diseases (e.g. temporary breeding habitats), and/or communicable and non-communicable diseases?	No			Low
6.2 Could the project lead to unintended negative impacts on nutrition?	No			Low
6.3 Is there a possibility of harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)?	No			Low
6.4 Could the project involve or lead to the construction or rehabilitation of dams?	No			Low
6.5 Could the project involve or lead to transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No			Low
6.6 Could the project lead to adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g. food, surface water purification, natural buffers from flooding)?	No			Low
6.7 Could the project lead to the potential for gender-based violence, including sexual harassment, exploitation and abuse, as a result of labour influx, land redistribution, or other actions that alter community dynamics?	No			Low
6.8 Could the project lead to increases in traffic or alteration in traffic flow?	No			Low
6.9 Could the project lead to an influx of project workers?	No			Low
6.10 Could the project involve or lead to the engagement of security personnel to protect facilities and property or to support project activities?	No			Low
Physical and economic resettlement	Yes/No	Likelihood	Consequence	Risk Rating
7.1 Could the project result in temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	No			Low
7.2 Could the project result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No			Low
7.3 Could the project present a risk of forced evictions?	No			Low
7.4 Could the project result in impacts on or changes to land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources?	No			Low
Financial intermediaries and direct investments	Yes/No	Likelihood	Consequence	Risk Rating
8.1 Could the investment be granted to an institution that does not have an environmental and social policies and an associated environmental and social management system (ESMS) in place (transparent, publicly available)?	No			Low
8.2 Could the investment be granted to an institution with insufficient capacities (i.e. unqualified personnel e.g. ES Officer) to implement the ESMS?	No			Low
8.3 Could the investment be granted to an institution that does not have an Exclusion List?	No			Low
8.4 According to the institution's portfolio classification: Could the institution have potential high-risk projects in their portfolio?	No			Low

Environmental and Social Safeguards				
8.5 Is there evidence that the institution does not comply with the local legal framework?	No			Low
8.6 Does the institution provide a stable communication channel with stakeholders and local communities (e.g. a Grievance Redress Mechanism)?	No			Low
8.7 Does the organization provide auxiliary or capacity building support services.	No			Low

Climate Risk Classification: Moderate

Step 1: Hazard identification	
What are the expected hazards in the project intervention area?	No, Yes, TBD
River flood	Yes
Costal Flood	No
Urban Flood	No
Landslide	Yes
Cyclone	No
Water Scarcity (agricultural droughts and/or dry spells)	Yes
Extreme Heat	No
Wildfires	No
Future climate scenarios foreseen (period 2040-2059) - Change in frequency and intensity	No, Yes, TBD
Change in temperature (increase or decrease)	Yes
Change in rainfall (increase or decrease)	Yes
Climate variability (larger or smaller)	Yes
Intensity and frequency of extreme events (larger or smaller)	Yes
Is the project expected to have an impact on climate change (i.e. contribute to greenhouse gas emissions)?	No, Yes, TBD
Is the project expected to be a significant emitter of greenhouse gases?	No
Step 2: Exposure Assessment	
Is the project located in exposed areas to weather-related natural hazards?	No, Yes, TBD
Low-lying areas (valleys, coastal zones, and small islands)	Yes
Very warm areas (subtropical)	No
Tropical areas (rainforests)	No
Arid and semi-arid areas (deserts)	No
Mountains zones and permafrost areas (tundra)	Yes
River banks	No
Does the project target agricultural systems, ecosystems or livelihoods exposed to weather-related hazards?	No, Yes, TBD
Is crop production frequently affected by rainfall variability, prolonged droughts, changes in temperature or pests and diseases?	Yes
Is livestock productivity frequently affected by rainfall variability, prolonged droughts, changes in temperature or diseases?	Yes
Are fisheries frequently affected by ocean acidification, water salinity and changes in sea surface temperature due to ocean-atmospheric oscillations or climate change?	No
Is forest productivity frequently affected by wildfires, diseases, rainfall variability, prolonged droughts, or changes in temperature?	No
Is the biodiversity in the project area likely to be affected by changes in climate variables?	Yes
Is any stage of the agricultural value chain (production, storage, processing and marketing) exposed to climate related hazards?	Yes
Is any rural infrastructure likely to be affected by flooding, landslides, changes in temperatures, and extreme winds.	Yes
Step 3: Sensitivity Assessment	
What are key sensitivities for the populations in the project's areas of intervention?	No, Yes, TBD
Is conflict exacerbating the population's sensitivity to weather related hazards?	No
Is population displacement being exacerbated by climate change impacts?	No

Are diseases (e.g. COVID-19, malaria, cholera) increasing the population's vulnerability and affecting their capacity to address potential weather-related hazards?	No
Is the income of the target population predominately coming from agriculture?	Yes
Are social inequalities (e.g. based on gender, youth, indigenous persons and other marginalized groups) being exacerbated by climate change?	No
Is the Human Development Index (HDI) equal to or below 0.6?	No
Is the Multidimensional Poverty Index (MPI) equal to or above 0.1?	No
Step 4: Adaptive capacity and climate resilience	
What are key adaptive capacities in the areas of project intervention?	No, Yes, TBD
Is the country well ranked in the Disaster risk reduction progress score?	Yes
Are climate and weather information services (real-time weather data, seasonal forecasts etc.) effectively being delivered (through radio, TV, SMS, extension services etc.) to farmers, rural dwellers, and end users?	No
Does the project country have an early action plan (preparedness and emergency response) to mitigate the impacts of weather-related hazards once the shock occurs?	Yes
Does the government or other institutions support the target population/communities with the necessary social and economic resources to prepare for or respond to climate-related events?	Yes
Is the target community carrying out (using their own means) agricultural adaptation?	No
Does the target population have the economic means or support to adjust or adapt their activities in response to weather related shocks?	No
Do policies/mechanisms exist that make financial credit, loans, and agricultural insurance available?	Yes
Are rural infrastructures effectively delivering services to farmers and rural dwellers?	No

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 6: First Annual Work Plan and Budget (AWPB)

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

First 18 Month Annual Work Plan and Budget (AWPB) Summary and Detailed Cost Tables

First 18 Month AWPB 2023/24-2024/25: Costs by Component/Sub-component and Financier

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir - 18 Months AWPB

Components by Financiers

(US\$ '000)

	IFAD		GoJ&K		Beneficiary		Private Sector		Bank		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Climate-smart and market-led production												
Upscaling collectivization	1,136	74	307	20	91	6	-	-	-	-	1,533	7
Agri-niche crop promotion	1,610	46	406	12	1,484	42	-	-	-	-	3,500	15
Horticulture crop promotion	3,031	42	758	11	1,978	28	1,421	20	-	-	7,188	31
Subtotal	5,777	47	1,470	12	3,554	29	1,421	12	-	-	12,222	52
B. Agri-business ecosystem development												
Enterprise promotion support	2,336	40	714	12	-	-	1,148	19	1,722	29	5,921	25
Market promotion support	290	80	73	20	-	-	-	-	-	-	363	2
Incubation and start-up	604	80	151	20	-	-	-	-	-	-	755	3
Subtotal	3,230	46	938	13	-	-	1,148	16	1,722	25	7,039	30
C. Support to vulnerable communities												
Support for pastoralists	89	46	22	11	-	-	83	43	-	-	194	1
Support for other vulnerable communities	1,242	60	319	15	181	9	346	17	-	-	2,087	9
Subtotal	1,330	58	341	15	181	8	429	19	-	-	2,281	10
D. Project Management												
Project Management	1,034	80	259	20	-	-	-	-	-	-	1,293	6
M&E and MIS	86	80	21	20	-	-	-	-	-	-	107	1
KM and Policy	407	80	102	20	-	-	-	-	-	-	509	2
Subtotal	1,528	80	382	20	-	-	-	-	-	-	1,909	8
Total PROJECT COSTS	11,865	51	3,131	13	3,735	16	2,998	13	1,722	7	23,451	100

First 18 Month AWPB 2023/24-2024/25: Costs by Expenditure Categories and Financier

India

Competitiveness Improvement of the Agriculture
and Allied Sectors Project in Jammu and Kashmir -
18 Months AWPB

Expenditure Accounts by Financiers

(US\$ '000)

	IFAD		GoJ&K		Beneficiary		Private Sector		Bank		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs												
A. Training and Workshops	675	80	169	20	-	-	-	-	-	-	844	4
B. Consultancies	341	80	85	20	-	-	-	-	-	-	427	2
C. Goods, Services and Inputs	5,102	44	1,296	11	3,605	31	1,511	13	10	0	11,525	49
D. Equipment and Materials	805	70	215	19	129	11	-	-	-	-	1,150	5
E. Grants and Subsidies	3,646	46	1,041	13	-	-	1,487	19	1,712	22	7,886	34
Total Investment Costs	10,570	48	2,807	13	3,735	17	2,998	14	1,722	8	21,832	93
II. Recurrent Costs												
A. Salaries and Allowancies	892	80	223	20	-	-	-	-	-	-	1,115	5
B. Operating Costs	403	80	101	20	-	-	-	-	-	-	504	2
Total Recurrent Costs	1,295	80	324	20	-	-	-	-	-	-	1,619	7
Total PROJECT COSTS	11,865	51	3,131	13	3,735	16	2,998	13	1,722	7	23,451	100

Detailed Tables

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and K

Table 1.1. Upscaling collectivization

Detailed Costs

	Unit	Quantities			Unit Cost		Totals Including			Other Accounts		
		2023/24	2024/25	Total	(INR '000)	Unit Cost (US\$)	2023/24	2024/25	Total	Contingencies (US\$ '000)	Disb. Acct.	Fin. Rule
I. Investment Costs												
A. Capacity building of FPO Development Officer												
Exposure visit to well managed FPOs /a	per person	10	10	20	60	721	8	8	16		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Assessment of FPO business opportunities /b	Person Days	20	10	30	24	288	6	3	10		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Preparation of curriculum for training of FPO-DO /c	Ls						7	-	7		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Capacity building of FPO-DO (sessions of 5 days and two sessions per person) /d	Person Days	100	200	300	2	24	3	6	8		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Training of FPO staff /e	Per Person	-	1,010	1,010	1	12	-	14	14		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Training of FPO leaders /d (4 per FPO for 1 day and three sessions) /f	Per Person	-	404	404	1	12	-	6	6		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Training in fruit tree management /e (5 per FPO for 5 days for 60 FPOs) /g	per FPO	-	30	30	28	336	-	12	12		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
FPO Business plan preparation	per FPO	-	101	101	25	300	-	35	35		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Technical Assistance - FPO Support /h	Ls							17	17		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
FPO-bankable sub-project preparation /i	Per FPO	-	101	101	15	180	-	21	21		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
FPO-Bank/ Insurance interaction	Per FPO	-	101	101	5	60	-	7	7		TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Subtotal							23	128	152			
B. FPO Support												
FPO mobilization support /j	Per FPO	-	15	15	100	1,201	-	21	21		GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Management cost support - first three year /k	Per FPO	-	15	15	400	4,805	-	85	85		GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Office equipments	Per FPO	-	15	15	200	2,403	-	43	43		GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Matching Equity support /l	Per FPO	-	15	15	750	9,010	-	148	148		GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (80%)
Apex Cooperative Support /m	Ls	-	2	2	15,000	180,202	-	395	395		GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Subtotal							-	693	693			
C. Business vertical support												
Farm mechanization and drudgery reduction	Per FPO	-	10	10	200	2,403	-	28	28		GOODS_SERVICES_AND_INPUTS	IFAD (60%), BENEFICIARY (20%)
Water management support	Per FPO	-	10	10	1,000	12,013	-	142	142		GOODS_SERVICES_AND_INPUTS	IFAD (60%), BENEFICIARY (20%)
Aggregation support	Per FPO	-	10	10	300	3,604	-	43	43		GOODS_SERVICES_AND_INPUTS	IFAD (60%), BENEFICIARY (20%)
FPO managed ASC	Per FPO	-	10	10	1,000	12,013	-	142	142		GOODS_SERVICES_AND_INPUTS	IFAD (60%), BENEFICIARY (20%)
FPO Orchard Management Business	Per FPO	-	10	10	400	4,805	-	57	57		GOODS_SERVICES_AND_INPUTS	IFAD (60%), BENEFICIARY (20%)
Other emerging businesses	Per FPO	-	10	10	300	3,604	-	43	43		GOODS_SERVICES_AND_INPUTS	IFAD (60%), BENEFICIARY (20%)
Subtotal							-	456	456			
Total Investment Costs							23	1,277	1,300			
II. Recurrent Costs												
A. Capacity building of FPO Development Officer												
Salary of FPO Development Officer	Per Month	-	240	240	50	601	-	171	171		OPERATING_COSTS	IFAD (80%)
FPO Development Officer Operating costs	Per Month	-	240	240	12	144	-	41	41		OPERATING_COSTS	IFAD (80%)
PO Management costs	Lumpsum	-	1	1	1,500	18,020	-	21	21		OPERATING_COSTS	IFAD (80%)
Total Recurrent Costs							-	233	233			
Total							23	1,510	1,533			

^a 5 day visit within the country for the perons responsible for developing curriculum for FPO Dev Officer training

^b A team of two consultants for each province

^c to be undertaken by the Universities for capacity building of FPO Development Officers

^d 20 FPO Dev Officer, 2 sessions of 5 days for first two years and one session per year for next 2 years

^e 2 per FPO for 101 FPOs - session of 5 days and two sessions per person

^f 4 per FPO to be conducted a KVKs

^g 5 persons per FPO, 1 week training

^h for developing an approach and porcess for training, technical assistance, investment proposal design and developing linakges for FPOs,. This would include FPO assessment methodology .

^i To be prepared in collaboration with the respective line department

^j Mobilization support for 45 New FPO including registration expenses

^k 45 New FPO - 15 to be mobilized during the 24-25 and 30 during 25-26

^l 300 members per FPO, Rs 2000 per member and Rs 3000 per youth and women assuming 50% youth and women

^m To establish Multi-state cooperatives as Apex of FPOs

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Table 1.2. Agri-niche crop promotion

Detailed Costs

I. Investment Costs

A. Training in CSA and GAP

	Unit	Quantities			Unit Cost (INR '000)	Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)			Disb. Acct.	Other Accounts	Fin. Rule
		2023/24	2024/25	Total			2023/24	2024/25	Total			
Training curriculum development	Lumpsum	1	-	1	200	2,403	2	-	2	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Training for Trainers - Within State /a	Per Person	48	48	96	8	90	5	5	10	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Training for Trainers - National /b	Per Person	40	80	120	60	721	31	66	98	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Subtotal							38	71	110			
B. Field Staff training /c	Man Days	-	1,000	1,000	1	12	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
C. Training for Farmers /d	Per Block/FPO	-	180	180	5	60	-	12	12	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	

D. Planting material development

1. CoE Support

Saffron CoE business plan development	Consultancy	-	1	1	1,000	12,013	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
CoE Tulip feasibility study	Consultancy	-	1	1	1,000	12,013	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Subtotal							-	28	28		

2. Seed system development

Seed Business /e	Per FPO	-	4	4	500	6,007	-	28	28	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Subtotal							-	55	55		

E. Entrepreneur managed ASC

	Number	-	10	10	1,000	12,013	-	138	138	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
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F. Crop Management and Expansion

1. Rural Credit Workshops /f	Number	-	90	90	10	120	-	13	13	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD(80%)
2. SAFFRON /g											
Farms in their year 1	per Kanal	-	500	500	34	412	-	244	244	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY (50%)
3. Aromatic Rice /h	per Kanal	-	2,500	2,500	5	60	-	178	178	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY (50%)
4. Vegetables	per Kanal	-	2,000	2,000	12	144	-	342	342	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BENEFICIARY (50%)
5. Aromatic and Medicinal Plants /i	Per Kanal	-	200	200	15	180	-	43	43	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY (50%)
6. Others /j	Kanal	-	1,000	1,000	13	150	-	178	178	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY (50%)
Subtotal							-	997	997		
G. Water Management systems	No	-	50	50	600	7,208	-	427	427	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY (50%)
H. Protected Cultivation	No	-	150	150	750	9,010	-	1,576	1,576	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BENEFICIARY (50%)
I. Research Development /k	Lumpsum	-	2	2	5,000	60,067	-	142	142	GOODS_SERVICES_AND_INPUTS	IFAD(80%)
Total Investment Costs							38	3,434	3,472		

II. Recurrent Costs

A. Supervision costs	per Directorate	-	2	2	1,000	12,013	-	28	28	OPERATING_COSTS	IFAD (80%)
Total Recurrent Costs							-	28	28		
Total							38	3,462	3,500		

^a 2 Per district and 4 per Directorate HO for 5 days

^b 8 per province

^c 10 per district for 5 days

^d 30 persons per session and 2 sessions per Block/FPO

^e Vegetable seed production with private sector

^f Block level workshops

^g 5000 farmers, 4 Kanals land area,

^h includes mushk budji, basmati rice and other premium rice varieties

^i 10000 farmers, 4 Kanals land area,

^j includes floriculture,pulses and legumes, spices, willos and Bamboo

^k For both universities

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Table 1.3. Horticulture crop promotion

Detailed Costs	Unit	Quantities			Unit Cost			Totals Including			Other Accounts	
		2023/24	2024/25	Total	(INR '000)	Unit Cost (US\$)	2023/24	2024/25	Total	Disb. Acct.	Fin. Rule	
I. Investment Costs												
A. Horticultural crop support												
1. Training in CSA and GAP												
Training curriculum development /a	Lumpsum	1	-	1	500	6,007	7	-	7	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Training for Trainers - Within State /b	Per Person	48	48	96	8	96	5	5	11	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Training for Trainers - National /c	Per Person	40	80	120	60	721	32	68	99	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Field Staff training /d	Man Days	-	1,000	1,000	1	12	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Training for Farmers /e	Per Block/FPO	-	180	180	5	60	-	13	13	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Subtotal							44	100	143			
2. Research Development	Lumpsum	-	2	2	7,500	90,101	-	214	214	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BENEFICIARY (50%)	
3. Weather forecast and crop advisory												
Software for weather forecasting	Ls						-	70	70	GOODS_SERVICES_AND_INPUTS	IFAD(80%)	
4. Planting material development- COE support												
CoE business plan development	Consultancy	-	1	1	1,000	12,013	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
CoE - Business executives /f	Per Month	-	48	48	50	601	-	33	33	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Study of Apple crop expansion system	Is						-	21	21	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD(80%)	
Subtotal							-	68	68			
5. Planting Materials -Nursery development												
Nurseries - Apple and Pear	Number	-	25	25	2,600	31,235	-	942	942	GOODS_SERVICES_AND_INPUTS	IFAD (40%), PRIVATE_SECTOR(50%)	
Nurseries - Walnuts	Number	-	20	20	2,000	24,027	-	580	580	GOODS_SERVICES_AND_INPUTS	IFAD (40%), PRIVATE_SECTOR(50%)	
Nurseries - Stonefruits	Number	-	25	25	2,600	31,235	-	942	942	GOODS_SERVICES_AND_INPUTS	IFAD (40%), PRIVATE_SECTOR(50%)	
Nurseries - Mango, Litchis, Citrus	Number	-	10	10	2,600	31,235	-	377	377	GOODS_SERVICES_AND_INPUTS	IFAD (40%), PRIVATE_SECTOR(50%)	
Subtotal							-	2,842	2,842			
6. Crop Management and expansion												
Rural Credit Workshops /g	Number	-	90	90	10	120	-	13	13	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD(80%)	
Solar Fencing	Ha	-	20	20	200	2,403	-	58	58	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Entrepreneur managed ASC	Number	-	10	10	1,000	12,013	-	145	145	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Training in fruit tree management /h	Number	-	100	100	28	336	-	41	41	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)	
Entrepreneur led Orchard Management Business	Number	-	10	10	400	4,805	-	58	58	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Water management	Number	-	50	50	600	7,208	-	435	435	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Apple	Per Kanal	-	500	500	200	2,403	-	1,450	1,450	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Walnut	Per Kanal	-	200	200	28	336	-	81	81	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Mango	Per Kanal	-	300	300	21	250	-	90	90	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Litchis	Per Kanal	-	400	400	20	245	-	118	118	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Citrus	Per Kanal	-	200	200	21	250	-	60	60	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Kiwi	Per Kanal	-	200	200	125	1,502	-	362	362	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Guava	Per Kanal	-	400	400	25	300	-	145	145	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Dragonfruit	Per Kanal	-	40	40	108	1,302	-	63	63	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Others	Per Kanal	-	800	800	2	25	-	24	24	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Rejuvenation	Per Kanal	-	1,500	1,500	30	360	-	652	652	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)	
Subtotal							-	3,796	3,796			
Total Investment Costs							44	7,089	7,133			
II. Recurrent Costs												
A. Supervision costs	per Directorate	2	2	4	1,000	12,013	27	28	55	OPERATING_COSTS	IFAD (80%)	
Total Recurrent Costs							27	28	55			
Total							70	7,118	7,188			

^a Higher unit cost compared to niche crops due to larger number of crops

^b 2 Per district and 4 per Directorate HO for 5 days

^c 5 day training 8 per province for first year, and 16 per province during second year and 8 per province for third year

^d 10 per district for 5 days

^e 30 persons per session and 2 sessions per Block/FPO

^f 2 per COE

^g Block level workshops

^h 1 week training

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Table 2.1. Enterprise promotion support

Detailed Costs	Unit	Quantities			Unit Cost '000)	Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)			Other Accounts	
		2023/24	2024/25	Total			2023/24	2024/25	Total	Disb. Acct.	Fin. Rule
I. Investment Costs											
A. Enterprise Promotion Support											
1. Business led enterprise promotion											
Business Plan Review/DPR Appraisal	Number	-	5	5	100	1,201	-	8	8	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD(80%)
Mini CA Stores	Number	-	3	3	105,000	1,261,413	-	4,733	4,733	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)
Integrated pack-house	Number	-	1	1	5,000	60,067	-	75	75	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)
Processing unit - Large	Number	-	1	1	20,000	240,269	-	301	301	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)
Others	Number	-	8	8	1,000	12,013	-	120	120	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK(30%), PRIVATE_SECTOR(20%)
Subtotal								5,237	5,237		
2. Individual Enterprise Promotion											
Bankable proposal development	Number	-	148	148	20	240	-	42	42	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD(80%)
Jammu/Kashmir branded kiosks	Number	-	50	50	100	1,201	-	71	71	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)
Mini Grading Line	Number	-	30	30	300	3,604	-	128	128	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)
Grading lines with washer	Number	-	10	10	800	9,611	-	114	114	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)
Processing unit - Mini	Number	-	30	30	400	4,805	-	171	171	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)
Agri-Tourism	Number	-	5	5	500	6,007	-	36	36	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)
Mushroom Production /a	per FPO	-	3	3	200	2,403	-	9	9	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)
Other Enterprise	Number	-	20	20	400	4,805	-	114	114	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BANK (30%), PRIVATE_SECTOR (20%)
Subtotal								684	684		
Total								5,921	5,921		

\a 2 FPOs/ Entrepreneur per province linked to at least 20 farmers

India
Competitiveness Improvement of the Agriculture and Allied Sectors Project in
Table 2.2. Market promotion support

Detailed Costs	Unit	Quantities			Unit Cost (INR '000)	Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)			Other Accounts	
		2023/24	2024/25	Total			2023/24	2024/25	Total	Disb. Acct.	Fin. Rule
I. Investment Costs											
A. Market Promotion Support											
MSPs at state level /a	Number	-	4	4	500	6	-	28	28	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Participation in trade fairs	Per Entrepreneur	-	10	10	100	1	-	14	14	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Buyer Seller Meet /b	Per Event	-	4	4	300	4	-	17	17	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Quality control lab /c	Ls	-	2	2	10,000	120	-	277	277	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Subtotal								335	335		
B. Export / Logistic Hub											
Study on feasibility and management of export/Logistic Hubs	Ls	-	-	-	-	-	-	28	28	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Total								363	363		

\a State Level

\b 2 Per province per year

\c Quality control lab in SKUAST-J and SKUAST-K

India
Competitiveness Improvement of the Agriculture and Allied S
Table 2.3. Incubation and start-up

Detailed Costs

	Unit	Quantities			Unit	Unit Cost (US\$)	Totals Including			Other Accounts	
		2023/24	2024/25	Total	Cost (INR '000)		Contingencies (US\$ '000)	2023/24	2024/25	Total	Disb. Acct.
I. Investment Costs											
A. Development of Incubation & Startup Ecosystem for /											
Outreach Events-Yearly Basis	Per Event	-	6	6	100	1,201	-	8	8	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Mentoring Support to Incubation Centres	Ls	-	2	2	1,500	18,020	-	42	42	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Ideathons/Bootcamps-Physical	Per Event	-	20	20	200	2,403	-	55	55	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Incubation Training for start-ups	Per Hub Per Year Event	-	2	2	2,000	24,027	-	55	55	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Development of Bankable Proposals for Start-ups	Lumpsum	-	2	2	200	2,403	-	6	6	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Seed Capital/ Challenge Fund	Per start-up	-	50	50	500	6,007	-	356	356	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (80%)
Capacity Building of Incubation Staff	Per Staff	-	40	40	50	601	-	28	28	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Equipment and Materials	Lumpsum	-	2	2	2,500	30,034	-	71	71	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Miscellaneous Expenses	Lumpsum	-	2	2	500	6,007	-	14	14	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Total Investment Costs								-	635	635	
II. Recurrent Costs											
A. Salaries and allowances											
1. Manager-Incubation	Per Month	-	24	24	70	841	-	24	24	OPERATING_COSTS	IFAD (80%)
2. Young Professional-Incubation	Per Month	-	24	24	40	481	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
3. Incubation Operating Costs	Ls	-	2	2	1,500	18,020	-	43	43	OPERATING_COSTS	IFAD (80%)
Subtotal								-	80	80	
B. Operating costs											
1. Operating costs											
Office operating expenses	Per Month	-	2	2	500	6,007	-	14	14	OPERATING_COSTS	IFAD (80%)
Travel Expenses	Lumpsum	-	2	2	500	6,007	-	14	14	OPERATING_COSTS	IFAD (80%)
Miscellaneous Expenses	Lumpsum	2	2	4	200	2,403	5	6	11	OPERATING_COSTS	IFAD (80%)
Total							5	750	755		

India
Competitiveness Improvement of the Agriculture and Allied Se
Table 3.1. Support for pastoralists

Detailed Costs

	Unit	Quantities			Unit	Unit Cost (US\$)	Totals Including			Other Accounts	
		2023/24	2024/25	Total	Cost (INR '000)		Contingencies (US\$ '000)	2023/24	2024/25	Total	Disb. Acct.
I. Investment Costs											
A. Support to Pastoralists											
Wool value chain study	Study	-	1	1	1,000	12	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD(80%)
Wool processing with private partners	No	-	4	4	3,000	36	-	166	166	GOODS_SERVICES_AND_INPUTS	IFAD (40%), PRIVATE_SECTOR (50%)
Pony Breed improvement feasibility study	Study	-	1	1	1,000	12	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Total							-	194	194		

India

Competitiveness Improvement of the Agriculture and Allied Sectors

Table 3.2. Support for other vulnerable communities

Detailed Costs

	Unit	Quantities			Unit	Unit Cost	Totals Including			Disb. Acct.	Other Accounts
		2023/24	2024/25	Total	Cost	(US\$	Contingencies (US\$ '000)	2023/24	2024/25		Total
					(INR	(US\$					
					'000)	(US\$)					
I. Investment Costs											
A. Sheep/Goat units	No	-	200	200	120	1.442	-	342	342	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY (50%)
B. Milk Collection Units	No	-	4	4	500	6.007	-	28	28	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
C. Processing of milk products	No	-	2	2	1,000	12.013	-	28	28	GOODS_SERVICES_AND_INPUTS	IFAD (40%), BENEFICIARY(50%)
D. Ice Boxes for Fish	No	-	2,000	2,000	5	0.06	-	142	142	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
E. Enterprise support - Income diversification	Lumpsum	-	250	250	200	2.403	-	692	692	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (40%), PRIVATE_SECTOR (50%)
F. Environment Protection Fund for youth	per YC	-	200	200	300	3.604	-	854	854	GRANTS_AND_SUBSIDIES_CREDIT_AND_GUARANTEE_FUND	IFAD (80%)
Total							-	2,087	2,087		

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu ar

Table 4.1. Project Management

Detailed Costs

	Unit	Quantities			Unit Cost		Totals Including			Other Accounts	
		2023/24	2024/25	Total	(INR '000)	Unit Cost (US\$)	2023/24	2024/25	Total	Disb. Acct.	Fin. Rule
I. Investment Costs											
A. Project Management											
1. Office Equipment PMU											
Laptop computers	Each	15	-	15	80	961	16	-	16	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Multi-function copier machines	Each	2	-	2	200	2,403	5	-	5	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Other equipment	Lumpsum	1	-	1	200	2,403	3	-	3	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Office furniture	Lumpsum	1	-	1	1,000	12,013	13	-	13	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Computer Peripherals	Lumpsum	1	-	1	500	6,007	7	-	7	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Subtotal							44	-	44		
2. Account & Annual Audit											
Accounting software	Lumpsum	-	11	11	50	601	-	8	8	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Annual license fee	Lumpsum	-	11	11	15	180	-	2	2	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
External Independent Audit	Lumpsum	1	1	2	1,500	18,020	20	21	41	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Internal Audit- External	Lumpsum	-	1	1	1,000	12,013	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Subtotal							20	46	66		
Subtotal							64	46	110		
B. M&E and Knowledge Management											
1. Monitoring and Evaluation (M&E): Equipment											
MIS Software Development	Ls	-	1	1	1,500	18,020	-	21	21	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Laptop computers	Each	2	-	2	45	541	1	-	1	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Printer and scanner	Each	1	-	1	35	420	0	-	0	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Other equipment- GPS etc.	Lumpsum	0.5	0.5	1	200	2,403	1	1	3	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Subtotal							3	23	26		
2. Monitoring and Evaluation (M&E): M&E studies, work shops, surveys											
Baseline survey	Study	-	1	1	2,000	24,027	-	28	28	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Case studies/, Climate and environment studies studies	Study	-	2	2	1,500	18,020	-	43	43	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
FPIC Implementation	LS						7	4	10	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Subtotal							7	75	81		
3. Knowledge Management (KM)											
Startup Workshop	Lumpsum	1	-	1	1,000	12,013	13	-	13	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Sensitisation and Educational workshop	District	-	20	20	300	3,604	-	85	85	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Gender, targeting and inclusion sensitization workshop	Workshop	-	20	20	150	1,802	-	43	43	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Annual Stakeholders Planning and Review Workshop	Lumpsum	1	1	2	500	6,007	7	7	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Thematic Studies	Each	3	5	8	300	3,604	12	21	33	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
ICT Materials preparation and printing	Lumpsum	-	1	1	1,000	12,013	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Communication Videos	Lumpsum	-	1	1	500	6,007	-	7	7	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Innovative Pilots /a	Lumpsum	-	1	1	20,000	240,269	-	285	285	GOODS_SERVICES_AND_INPUTS	IFAD (80%)
Policy studies	Study	-	2	2	500	6,007	-	14	14	TRAINING_CONSULTANCIES_STUDIES_AND_TA	IFAD (80%)
Subtotal							32	477	509		
Subtotal							42	574	616		
Total Investment Costs							106	620	727		

India

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu ar

Table 4.1. Project Management

Detailed Costs

	Unit	Quantities			Unit Cost		Totals Including			Other Accounts	
		2023/24	2024/25	Total	(INR '000)	Unit Cost (US\$)	2023/24	2024/25	Total	Disb. Acct.	Fin. Rule
II. Recurrent Costs											
A. Salaries and allowances											
1. Project Management Unit Staff											
Manager- Institutions	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Rural Finance Specialist	Per Month	-	12	12	175	2,102	-	30	30	OPERATING_COSTS	IFAD (80%)
Manager M&E	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Manager KM	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Procurement Specialist	Per Month	3	12	15	175	2,102	7	30	37	OPERATING_COSTS	IFAD (80%)
Procurement Officer	Per Month	-	12	12	80	961	-	14	14	OPERATING_COSTS	IFAD (80%)
Manager MIS	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Manager SECAP	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Manager Finance	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Accounts Officer	Per Month	-	12	12	80	961	-	14	14	OPERATING_COSTS	IFAD (80%)
Manager Gender and Youth	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Manager-Business Development	Per Month	-	12	12	125	1,502	-	21	21	OPERATING_COSTS	IFAD (80%)
Project Assistants	Per Month	-	48	48	40	481	-	27	27	OPERATING_COSTS	IFAD (80%)
Agriculture Specialists	Per Month	3	24	27	175	2,102	7	60	67	OPERATING_COSTS	IFAD (80%)
Horticulture Specialists	Per Month	3	24	27	175	2,102	7	60	67	OPERATING_COSTS	IFAD (80%)
Consultants - Procurement	Man Days	90	60	150	25	300	30	21	52	OPERATING_COSTS	IFAD (80%)
Consultants - value chain	Per Month	-	8	8	250	3,003	-	28	28	OPERATING_COSTS	IFAD (80%)
Consultants - International	Person Days	-	45	45	65	781	-	42	42	OPERATING_COSTS	IFAD (80%)
Consultants - National	Person Days	-	150	150	24	288	-	51	51	OPERATING_COSTS	IFAD (80%)
Subtotal							51	548	599		
2. Directorate staff											
Procurement Officer /b	Per Month	18	72	90	80	961	19	82	101	OPERATING_COSTS	IFAD (80%)
Gender and Youth Officer	Per Month	-	48	48	80	961	-	55	55	OPERATING_COSTS	IFAD (80%)
Planning, M&E &MIS Officer	Per Month	-	48	48	80	961	-	55	55	OPERATING_COSTS	IFAD (80%)
Finance Officer	Per Month	-	48	48	80	961	-	55	55	OPERATING_COSTS	IFAD (80%)
Subtotal							19	246	265		
Subtotal							71	793	864		
B. Operating costs											
1. Operating costs - PMU											
Office operating expenses	Per Month	6	12	18	500	6,007	40	85	126	OPERATING_COSTS	IFAD (80%)
Fuel and vehicle maintenance	Per Month	6	12	18	300	3,604	24	51	75	OPERATING_COSTS	IFAD (80%)
Travel allowances	Per Month	6	12	18	300	3,604	24	51	75	OPERATING_COSTS	IFAD (80%)
Meetings and backstopping	Per Month	0.5	1	1.5	1,000	12,013	7	14	21	OPERATING_COSTS	IFAD (80%)
Staff medical and group insurance Premium	Per Month	-	1	1	1,500	18,020	-	21	21	OPERATING_COSTS	IFAD (80%)
Subtotal							95	223	319		
Total Recurrent Costs							166	1,017	1,183		
Total							272	1,637	1,909		

^a To address the aspects related to high level subsidy dependence, low access of small farmers to credit
^b for Directorates and Universities

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 7: Procurement Plan for first 18 months

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Annex 7: Procurement Plan for the first 18 months

Procurement Plan SUMMARY						
Country:	India					
Project Name:	Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)					
Project ID:	2000003933					
Version	1.0					
Version Date	9-Nov-23					
Prepared by:						
Approved by:						
Procurement Category	Plan		Actual			
Currency	USD	LCU	USD	LCU		
Goods	-	46,485,000.00	-	-		
Works	-	-	-	-		
Consulting Services	-	1,478,453,000.00	-	#VALUE!		
Non-Consulting Services	-	-	-	-		
Grants	-	-	-	-		
TOTAL	-	1,524,938,000.00	-	#VALUE!		
<p><i>The threshold tables below are based on the new LTB Template 2020. Please fill in the fields that are applicable based on the provisions in the LTB for the project.</i></p>						
Prior Review Thresholds						
Category	Goods and goods-related Non-Consulting Services	Works and works-related Non-Consulting Services	Consulting Services and related Non-Consulting Services and/or MoU/Agreements	Individual Consultants	Decisions concerning Abnormally Low Bids shall be subject to the No Objection of IFAD:	
Threshold	>= US\$ 100000.00	>= US\$ 100000.00	>= US\$ 50000.00	>= US\$ 10000.00	Only for procurement activities subject to prior review OR For all procurement activities	

All Direct Contracting and Single-Source Procurements are Prior Review (in alignment with IFAD Procurement Handbook), or based on the thresholds stipulated in the LTB						
The exchange rate at time of submission will be used for reviews.						
Procurement Method Thresholds						
	CQS	QBS/LCS/FBS	QCBS	Shortlisting	SSS - Firms	SSS - Individuals
Consulting Services and related Non-Consulting Services	<= US\$ 100000.00	< US\$ 200000.00	>= US\$ 300000.00	>= US\$ 100000.00	<= US\$ 5000.00 <i>(subject to prior review. Justification required if above threshold)</i>	<= US\$ 5000.00 <i>(or with a contract duration of 3 months or less; subject to prior review)</i>
	Direct Contracting	Shopping	NCB	ICB	Other Procurement Methods or Arrangements	
Goods and goods-related Non-Consulting Services	>= US\$ 5000.00 <i>(subject to prior review. Justification required if above threshold)</i>	<= US\$35000.00	< US\$ 500000.00	>= US\$ 500000.00	Force Account	<i>Up to a maximum aggregate amount of: US\$ 0.00 (subject to prior review)</i>
Works and works-related Non-Consulting Services	>= US\$ 5000.00 <i>(subject to prior review. Justification required if above threshold)</i>	<= US\$ 35000.00	< US\$ 2000000.00	>= US\$ 2000000.00	Community Participation	Allowed

Procurement Plan - Goods																
India																
Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)																
Project ID: 2000003933													USD	LCU		
Prepared by:													Total Amount	0.00	46,485,000.00	Plan
Approved by:														0.00	0.00	Actual
													Non-Consulting	0.00	0.00	Plan

												0.00	0.00	Actual
Version	1.0	9-Nov-23	Basic Data											
AWPB/ Component Ref	Nº	Description	Non Consulting	Funding	Lot Nº/Description	Project Area or Procuring Entity	Plan vs. Actual	Pre-or Post Qualification	Prior or Post Review	Procurement Method	Envelopes	Amount (USD)	Amount (LCU)	Plan vs. Actual
	1	Procurement of equipment for milk collection unit - 4 sets		IFAD		PMU	Plan	Post-Qual	Post Review	NS	1		2,000,000.00	Plan
							Actual					-	-	Actual
	2	Procurement of 2000 Ice Boxes for fish		IFAD		PMU	Plan	Post-Qual	Prior Review	NCB	1		10,000,000.00	Plan
							Actual					-	-	Actual
	3	Incubation centre equipment and materials		IFAD		SKUAST-J	Plan	Post-Qual	Post Review	NCB	1		2,500,000.00	Plan
							Actual					-	-	Actual
	4	Incubation centre equipment		IFAD		SKUAST-K	Plan	Post-Qual	Post Review	NCB	1		2,500,000.00	Plan

Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)														
Project ID: 2000003933											USD	LCU		
Prepared by:											Total Amount	0.00	1,478,453,000.00	Plan
Approved by:												0.00	#VALUE!	Actual
											Non-Consulting:	0.00	0.00	Plan
												0.00	0.00	Actual
											Grants:	0.00	0.00	Plan
												0.00	0.00	Actual
Version	1.0	9-Nov-23	Basic Data											
AWPB/Component Ref	No	Description*	Grant	Non Consulting	Funding	Project Area or Procuring Entity	Plan vs. Actual	Shortlist (Yes/No)	Prior or Post Review	Procurement Method	Amount (USD)	Amount (LCU)	Plan vs. Actual	
	1	Hiring of consultant as Manager-Institutions (12 month cost)				PMU	Plan	Yes	Post Review	ICS		1,500,000.00	Plan	
							Actual				-	-	Actual	
	2	Hiring of consultant as Rural Finance				PMU	Plan	Yes	Prior Review	ICS		2,100,000.00	Plan	

		Specialist (12 month cost)					Actual					-	-	Actual
	3	Hiring of consultant as Manager M&E (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		1,500,000.00		Plan
							Actual					-	TRUE	Actual
	4	Hiring of consultant as Manager KM (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		1,500,000.00		Plan
							Actual					-	-	Actual
	5	Hiring of consultant as Procurement Specialist (15 month cost)				PMU	Plan	Yes	Prior Review	ICS		2,625,000.00		Plan
							Actual					-	-	Actual
	6	Hiring of consultant as Procurement Officer (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		960,000.00		Plan
							Actual					-	-	Actual
	7	Hiring of consultant as Manager MIS				PMU	Plan	Yes	Prior Review	ICS		1,500,000.00		Plan

		(12 month cost)					Actual				-	-	Actual
	8	Hiring of consultant as Manager SECAP (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		1,500,000.00	Plan
							Actual				-	-	Actual
	9	Hiring of consultant as Manager-Finance (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		1,500,000.00	Plan
							Actual				-	-	Actual
	10	Hiring of consultant as Accounts Officer (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		960,000.00	Plan
							Actual				-	-	Actual
	11	Hiring of consultant as Manager-Business Development (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		1,500,000.00	Plan
							Actual				-	-	Actual
	12	Hiring of consultant as Manager				PMU	Plan	Yes	Prior Review	ICS		1,500,000.00	Plan

		Gender and Youth (12 month cost)					Actual				-	-	Actual
	13	Hiring of consultant as Project Assistants- 4 positions (12 month cost)				PMU	Plan	Yes	Prior Review	ICS		1,920,000.00	Plan
							Actual				-	-	Actual
	14	Hiring of consultant as Agriculture Specialists (15 month cost)				PMU	Plan	Yes	Prior Review	ICS		2,625,000.00	Plan
							Actual				-	-	Actual
	15	Hiring of consultant as Horticulture Specialist (15 month cost)				PMU	Plan	Yes	Prior Review	ICS		2,625,000.00	Plan
							Actual				-	-	Actual
	16	Hiring of Procurement Consultant for capacity building- 90 days input over 15 months				PMU	Plan	Yes	Prior Review	ICS		2,250,000.00	Plan
							Actual				-	-	Actual
	17	Hiring of consultant				PMU	Plan	Yes	Prior Review	ICS		2,000,000.00	Plan

	55	Training curriculum development to reduce cost of niche crops				PMU	Plan	Yes	Post Review	ICS		500,000.00	Plan
							Actual				-	-	Actual
	56	Training for Trainers - Within State for horticulture niche crops				PMU	Plan	Yes	Post Review	CQS		768,000.00	Plan
							Actual				-	-	Actual
	57	Training for Trainers - National, 5 days training at HO for 120 persons				PMU	Plan	Yes	Prior Review	QCBS		7,200,000.00	Plan
							Actual				-	-	Actual
	58	Field Staff training for horticulture niche crops-1000 staff				PMU	Plan	Yes	Post Review	CQS		1,000,000.00	Plan
							Actual				-	-	Actual
	59	Training for farmers for horticulture niche crops-180 persons				PMU	Plan	Yes	Post Review	CQS		900,000.00	Plan

							Actual					-	-	Actual
	60	Reasearch and Development for Horticulture niche crops				SKUAST-J and K	Plan	Yes	Prior Review	Selection (Design/PIM)		15,000,000.00		Plan
							Actual					-	-	Actual
	61	Training for Trainers - Within State for horticulture niche crops				PMU	Plan	Yes	Post Review	CQS		768,000.00		Plan
							Actual					-	-	Actual
	62	Consultancy services for CoE business plan development				PMU	Plan	Yes	Post Review	CQS		1,000,000.00		Plan
							Actual					-	-	Actual
	63	Hiring of consultants as CoE - Business executives- 4 positions (12 months cost)				PMU	Plan	Yes	Prior Review	ICS		2,400,000.00		Plan
							Actual					-	-	Actual

	64	Study of Apple crop expansion system				PMU	Plan	Yes	Prior Review	CQS		5,600,000.00	Plan
							Actual				-	-	Actual
	65	Development of Nurseries - Apple and Pear- 25 numbers				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		65,000,000.00	Plan
							Actual				-	-	Actual
	66	Development of Nurseries - Walnuts- 20 numbers				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		40,000,000.00	Plan
							Actual				-	-	Actual
	67	Development of Nurseries - Stonefruits- 25 numbers				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		65,000,000.00	Plan
							Actual				-	-	Actual
	68	Development of Nurseries - Mango, Litchis, Citrus- 10 numbers				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		26,000,000.00	Plan

							Actual				-	-	Actual
	69	Study of Apple crop expansion system				PMU	Plan	Yes	Prior Review	CQS		5,600,000.00	Plan
							Actual				-	-	Actual
	70	Solar Fencing - 20 Ha				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		4,000,000.00	Plan
							Actual				-	-	Actual
	71	Study of Apple crop expansion system				PMU	Plan	Yes	Prior Review	CQS		5,600,000.00	Plan
							Actual				-	-	Actual
	72	Training in fruit tree management-100 persons				PMU	Plan	Yes	Post Review	CQS		2,800,000.00	Plan
							Actual				-	-	Actual
	73	Entrepreneur managed ASC - 10 numbers				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		10,000,000.00	Plan

	78	Crop expansion for mango - 300 Kanal				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		6,300,000.00	Plan
							Actual				-	-	Actual
	79	Crop expansion for Litchis - 400 Kanal				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		8,000,000.00	Plan
							Actual				-	-	Actual
	80	Crop expansion for Citrus - 200 Kanal				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		4,200,000.00	Plan
							Actual				-	-	Actual
	81	Crop expansion for Kiwi - 200 Kanal				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		25,000,000.00	Plan
							Actual				-	-	Actual
	82	Crop expansion for Guava - 400 Kanal				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		10,000,000.00	Plan
							Actual				-	-	Actual

	83	Crop expansion for dragon fruit - 40 Kanal				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		4,320,000.00	Plan
							Actual				-	-	Actual
	84	Crop expansion for miscellaneous crops - 800 Kanal				PMU	Plan	Yes	Post Review	Selection (Design/PIM)		1,600,000.00	Plan
							Actual				-	-	Actual
	85	Rejuvenation of miscellaneous crops - 1500 Kanal				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		45,000,000.00	Plan
							Actual				-	-	Actual
	86	Training curriculum development in CSA and GAP				PMU	Plan	Yes	Post Review	CQS		200,000.00	Plan
							Actual				-	-	Actual
	87	Training of trainers with in state in CSA				PMU	Plan	Yes	Post Review	CQS		768,000.00	Plan

		and GAP-96 persons											
							Actual				-	-	Actual
	88	Training of trainers-national in CSA and GAP-120 persons				PMU	Plan	Yes	Prior Review	QCBS		7,200,000.00	Plan
							Actual				-	-	Actual
	89	Field staff training in CSA and GAP - 1000				PMU	Plan	Yes	Post Review	CQS		1,000,000.00	Plan
							Actual				-	-	Actual
	90	Training in of farmers in CSA and GAP - 180 persons				PMU	Plan	Yes	Post Review	CQS		900,000.00	Plan
							Actual				-	-	Actual
	91	consultancy for Saffron CoE business plan development				PMU	Plan	Yes	Post Review	CQS		1,000,000.00	Plan
							Actual				-	-	Actual

	92	Consultancy services for CoE Tulip feasibility study				PMU	Plan	Yes	Post Review	CQS		1,000,000.00	Plan
							Actual				-	-	Actual
	93	Development of FPOs for seed business - 4 numbers				PMU	Plan	Yes	Post Review	CQS		2,000,000.00	Plan
							Actual				-	-	Actual
	94	Entrepreneur managed ASC for CSA and GAP- 10 numbers				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		10,000,000.00	Plan
							Actual				-	-	Actual
	95	Organisation of rural credit workshop for CSA and GAP				PMU	Plan	Yes	Post Review	CQS		1,000,000.00	Plan
							Actual				-	-	Actual
	96	Development of saffron farms- 500 kanals				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		17,000,000.00	Plan

	10 1	Water management system for agri niche crops - 50				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		30,000,000.00	Plan
							Actual				-	-	Actual
	10 2	Protected cultivation for niche crops - 150				PMU	Plan	Yes	Prior Review	Selection (Design/PIM)		112,500,000.00	Plan
							Actual				-	-	Actual
	10 3	Reasearch and Development for Agri niche crops				SKUAST-J,K	Plan	Yes	Prior Review	Selection (Design/PIM)		112,500,000.00	Plan
							Actual				-	-	Actual
	10 4	Exposure visit to well managed FPOs- 20 persons				PMU	Plan	Yes	Post Review	Selection (Design/PIM)		1,200,000.00	Plan
							Actual				-	-	Actual
	10 5	Assessment of FPO business opportunities - 30 days over 12 months				PMU	Plan	Yes	Post Review	ICS		720,000.00	Plan

							Actual					-	-	Actual
	106	consultancy services for Preparation of curriculum for training of FPO-DO					PMU	Plan	Yes	Post Review	CQS		600,000.00	Plan
							Actual					-	-	Actual
	107	Capacity building of FPO-DO (sessions of 5 days and two sessions per person)-300 persons					PMU	Plan	Yes	Post Review	CQS		600,000.00	Plan
							Actual					-	-	Actual
	108	Training of FPO staff- 1010 staff					PMU	Plan	Yes	Post Review	CQS		1,010,000.00	Plan
							Actual					-	-	Actual
	109	Training of FPO leaders /d (4 per FPO for 1 day and three sessions)- 404					PMU	Plan	Yes	Post Review	CQS		404,000.00	Plan
							Actual					-	-	Actual

	110	Training in fruit tree management (5 per FPO for 5 days for 60 FPOs) - 30 persons				PMU	Plan	Yes	Post Review	CQS		840,000.00	Plan
							Actual				-	-	Actual
	111	Consultancy services for FPO Business plan preparation-101				PMU	Plan	Yes	Post Review	CQS		2,525,000.00	Plan
							Actual				-	-	Actual
	112	Technical Assistance - FPO Support for developing an approach and methodology				PMU	Plan	Yes	Prior Review	CQS		1,400,000.00	Plan
							Actual				-	-	Actual
	113	consultancy services for FPO-bankable sub-project preparation-101				PMU	Plan	Yes	Post Review	CQS		1,515,000.00	Plan
							Actual				-	-	Actual

	114	FPO-Bank/Insurance interaction-101				PMU	Plan	Yes	Post Review	CQS		505,000.00	Plan
							Actual				-	-	Actual
	115	Organisation of rural credit workshop for CSA and GAP				PMU	Plan	Yes	Post Review	CQS		1,000,000.00	Plan
							Actual				-	-	Actual
	116	Farm mechanization and drudgery reduction-10 FPOs				Community	Plan	Yes	Post Review	Selection (Design/PIM)		2,000,000.00	Plan
							Actual				-	-	Actual
	117	Water Management systems-10 FPOs				Community	Plan	Yes	Post Review	Selection (Design/PIM)		5,000,000.00	Plan
							Actual				-	-	Actual
	118	Aggregation support-10 FPOs				Community	Plan	Yes	Post Review	Selection (Design/PIM)		3,000,000.00	Plan

	128	External independent auditor for 2 years				PMU	Plan	Yes	Prior Review	QCBS		3,000,000.00	Plan
							Actual				-	-	Actual
	129	FPIC Implementation				PMU	Plan	Yes	Post Review	ICS		800,000.00	Plan
							Actual				-	-	Actual
	130	Start up workshop				PMU	Plan	Yes	Post Review	LCS		1,000,000.00	Plan
							Actual				-	-	Actual
	131	Sensitisation and educational workshop-20				Implementing parties	Plan	Yes	Post Review	LCS		6,000,000.00	Plan
							Actual				-	-	Actual
	132	Gender, Targetting and inclusion sensitisation workshop - 20				Implementing parties	Plan	Yes	Post Review	LCS		3,000,000.00	Plan
							Actual				-	-	Actual

	133	Annual stakeholder planning and review workshop - 2				PMU	Plan	Yes	Post Review	LCS		1,000,000.00	Plan
							Actual				-	-	Actual
	134	Thematic studies- 8				PMU	Plan	Yes	Post Review	CQS		2,400,000.00	Plan
							Actual				-	-	Actual
	135	Gender, Targetting and inclusion sensitisation workshop - 20				PMU	Plan	Yes	Post Review	LCS		3,000,000.00	Plan
							Actual				-	-	Actual
	136	Communication video				PMU	Plan	Yes	Post Review	LCS		500,000.00	Plan
							Actual				-	-	Actual
	137	Innovative Pilot-1				PMU	Plan	Yes	Prior Review	QCBS		20,000,000.00	Plan

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 8: Project Implementation Manual (PIM)

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Annex 8: Project Implementation Manual (PIM)

Contents of the Project Implementation Manual

The purpose of this Programme Implementation Manual (PIM) is to assist the staff of the Lead Implementing Agency, project parties and other participating agencies, which are responsible for planning, implementation, supervision and monitoring of the JKCIP. The PIM will enhance the overall skill and understanding of the implementing partners. It is also intended to provide guidance in improving the overall management information systems and M & E processes.

The PIM for the JKCIP is presented in SIX Chapters:

- Chapter-1 Targeting, mainstreaming and value chain analysis.
- Chapter-2 Summary Project Design and Project Implementation Arrangements.
- Chapter-3 Organizational Arrangements and Terms of Reference
- Chapter-4 Planning, M&E and knowledge management aspects.
- Chapter-5 Financial Arrangements
- Chapter-6 Procurement

Some of the Chapters are supported by Appendices.

Chapter 1: Targeting, mainstreaming and value chain analysis

Background

1. Agriculture and allied activities are the mainstay of J&Ks rural economy. More than 70% of the population in J&K is directly or indirectly engaged in agriculture and allied occupations for their livelihood which makes J&K's economy mostly agriculture dependant. Most of the farmers in J&K are small and marginal with fragmented land holdings. Therefore, in order to transform the socio-economic status of people of J&K, sustainable & inclusive development of agriculture and allied sectors is need of the hour to increase income and create better livelihood opportunities for people of J&K.

2. GoJ&K organised a Multi-Stakeholder Convention for holistic development of Agriculture & Allied Sectors in J&K on 18th -19th July 2022. The two days convention primarily focused on transforming subsistence agriculture into knowledge-based and technology-driven sustainable agri-economy. The participants during the convention proposed area specific interventions with introduction of innovative technologies, new knowledge, IT interventions and infusion of capital to revamp the said sectors in J&K besides promoting secondary agriculture, value addition, processing, branding & marketing of agricultural produce supported by agri-business innovations to create employment, secure fair standard of living for farmers and agricultural workers, discourage migration to urban areas and brace-up to the challenges arising out of globalization and climate change. Consequent to the deliberations in the Convention, an Apex Committee, under the Chairmanship of Shri Mangla Rai, Former DG, ICAR was constituted by the General Administration Department, for framing a comprehensive Agriculture Policy for holistic development of Agriculture & Allied Sectors in J&K. In this regard different Technical Working Groups were also framed for submission of necessary inputs to the Apex Committee

3. GoJ&K has rolled out HADP with an investment outlay of INR 50,000 million and covers the entire agri and allied sector ecosystem. JKCIP complements HADP by addressing thematic gaps and financing gaps to address the value chain constraints of high-value agricultural and horticultural crops through climate-resilient technologies and extension. The main thematic areas include: (i) FPO promotion to transform them into businesses with a focus on the delivery of services to farmers; (ii) improved production and productivity of niche agricultural crops; (iii) focus on improving traditional orchards with better tree management practices and area expansion of fruit and nut crops; (iv) enterprise promotion with incubation and start-ups and marketing support; and (v) support for improving processing and marketing of wool and dairy products and livelihood diversification of vulnerable communities.

Project objectives, geographic area of intervention and target groups

4. **Goal and objectives:** The goal of the project is to contribute to the sustained increase in incomes of rural households by improving the competitiveness and climate resilience of farming operations. The project objective is to improve the competitiveness and climate resilience of the farmers through the value chain approach covering production, value addition and marketing of high-value niche commodities from agriculture, horticulture, and allied sectors of J&K.

5. **Geographic areas of intervention:** The project will be implemented in all 20

districts of Jammu and Kashmir. The project design has adopted an exclusion strategy to minimize security and environmental safeguards-related challenges by excluding the blocks/villages that fall adjacent to the border and those are ecologically sensitive and part of forest buffer zone areas, and biodiversity hotspots that comprise five national parks, 14 wildlife sanctuaries, 37 conservation reserves and 4 Ramsar sites. The project will work in 90 Blocks finalized by APD using a scoring system based on Block level data on key value chains covering area under cultivation, production, productivity and the number of farmers as well as the following key selection criteria: (i) higher levels of poverty as per the socioeconomic indicators; (ii) potential for building value chain interventions for niche high-value and horticultural crops in clusters; (iii) contiguity of blocks for operational ease; (iv) existence of vulnerable communities; and (iv) higher levels of vulnerability to climate change events. A list of blocks selected using the above exclusion strategy for project implementation is provided in Appendix C1A1.

6. **Target groups:** The total outreach of the project will be 300,000 households reaching 1.5 million individuals.¹ The main target group would comprise resource-poor farmers and rural households involved in farming in areas with the potential for cultivation of high-value niche crops and horticultural crops using climate-resilient and environment-friendly technologies. A stakeholder engagement strategy will be prepared and included in the Design Report for implementation by the APD.

7. **Targeting and Mainstreaming Priorities:** JKCIP targeting, gender and social inclusion strategy provides measures to ensure meaningful participation of marginal farmers especially women, extremely poor and vulnerable, landless, youth, Schedule Caste (SCs) and Schedule Tribes (STs) in the project activities to ensure an increase in income for the beneficiaries. Target group categories and development pathways are provided in Appendix C1A3.

8. **Target group:** JKCIP will target three categories of smallholders like; (i) poor; (ii) relatively poor who have the potential to sell the products in the local market and gradually engage with the market; and (iii) commercially oriented 'non-poor' smallholder farmers. The target group includes smallholder farmers and landless, and labourers involved in agriculture and horticulture value chains.

9. JKCIP will have a strong focus on women—at least 47 percent of beneficiaries will be women including single women, women-headed HHs and youth-30 percent (both women and men) of 15-35 years age group.

10. Among all, 10 percent of beneficiaries will be of the poor category, 70% in the relatively poor category and balance 20% are non-poor. Inclusion of smallholder producers, poor and vulnerable rural populations will be ensured by selecting value chains that have evidence to deliver the biggest benefits to the largest number of poor and through extension of agroecology-based climate-smart agriculture and good agriculture practices (GAP) technologies that benefit the intended target group effectively. The focus will be given to the selection of a value chain with high returns on labour, high nutrition value and high profitability. Labour-saving technology, tools and equipment will be facilitated in reducing the drudgery of women.

11. The non-poor farmers and other value chain actors are more commercially oriented and play an important role in value chain development. JKCIP will adopt a strategy to

¹ Average family size of 5.1 in J&K as per National health and family welfare survey, 2015-16.

mobilize non-poor farmers together with the poor smallholders, youth and other value chain actors into selected value chains organizing them into PGs and FPOs and establishing productive partnerships with other private sector buyers. The project will introduce approaches that promote gender equality, women and youth empowerment and social inclusion as part of its value chain-related activities.

12. **Targeting Strategy:** Of the total target group, it is envisaged that some 90% of the target beneficiaries have the potential to improve their well-being through agriculture and horticulture value chain interventions. A further 10% of the beneficiaries comprising vulnerable groups will be supported to expand their livelihood options. JKCIP will sensitize and build the skills and capacity of staff on targeting, gender and inclusion. Staff will orient and sensitize the stakeholders who will work with project beneficiaries. Adhering to the targeting requirements of the project is the responsibility of project management and all the staff. However, the Manager-Institutions and Manager -Gender and Youth will regularly analyse the targeting and Gender Equality and Women Empowerment (GEWE) performance in collaboration with Manager-M&E and regularly share with senior project management and facilitate appropriate decisions to achieve the targets and facilitate achievement of project goal.

13. JKCIP will ensure the participation of the more marginal rural HHs, whilst being inclusive of so-called 'better-off' smallholder farmers and specific vulnerable groups. The mechanisms include (i) geographic targeting, (ii) direct targeting and (iii) self-targeting supported by capacity building and empowering, creating a conducive enabling environment and partnerships with other promoters of community institutions.

14. Geographic targeting: The project will focus on the areas with high potential for select value chains with a focus on rainfed areas. The project has adopted an exclusion strategy to minimize security and environmental safeguards-related challenges by excluding the blocks/villages that fall adjacent to the border and those are ecologically sensitive and part of forest buffer zone areas, and biodiversity hotspots that comprise five national parks, 14 wildlife sanctuaries, 37 conservation reserves and 4 Ramsar sites.

15. Direct targeting: The project will support four main target groups adopting differentiated targeting strategies and packages of interventions: (i) small and marginal farmers with less than 1.0 ha of land involved in only field crops; (ii) horticultural farmers with less than 1 ha of horticultural farms; (iii) women and youth; (iv) isolated and migratory communities, women headed and Scheduled Caste and Scheduled Tribe (SC&ST) households.

16. A large percentage of farmers engaged in agricultural crops (cereal, pulses, spices, and vegetables) are relatively poor. These farmers have marginal land holdings with limited access to irrigation. The project will intervene to improve the production and productivity of these farmers with diversification into niche crops based on market demand and techno-economic feasibility-led business plan to make the target group more competitive. Amongst the horticultural farmers, the farmers with small traditional orchards are poor. The project will focus on improving the production and productivity of these farmers coupled with value addition and marketing to benefit the entire sector. A stakeholder engagement plan is provided in Appendix C1A2.S

17. Self-targeting: The project will create opportunities for the community especially the youth and women to start their own enterprises in the processing and marketing of the identified niche crops (saffron, aromatic rice, medicinal and aromatic plants, vegetables, spices and floriculture). The project also aims to establish incubating centres

where support will be provided to young men and women for startups. All these activities will address the self-targeting component of the project.

18. **Gender equality and women empowerment:** Women will be supported primarily for economic empowerment, enhancement of their agency, equal voices and decision-making roles both at HHs and community-level institutions. Representation of women in every activity and institution will not be less than 50%. All these institutions will be made inclusive with proportionate representation of all socio-economic groups of beneficiaries. The staff of PMU, DPMU and Blocks will be sensitized on targeting, gender and inclusion strategies and develop the process and approaches for the benefit of the targeted beneficiaries.

19. Women of marginalized sections like single women, women heads of HHs and young women who are socially, culturally and economically disadvantaged but responsible for ensuring the well-being of their families and agricultural activities. REAP will analyse, inter-sectionality among women and targeted activities will be promoted for poor and vulnerable sections of women. Linkage with the government social protection system and access to pro-poor convergence with other ongoing programmes will also be promoted through the project. A checklist for preparing the Gender and Social Inclusion Strategy is provided in Appendix C1A4. A guideline for preparing Gender Action Plan is provided in Appendix C1A45.

20. **Youth:** Jammu & Kashmir is bestowed with a predominantly young population with about 69 % of the population being below the age of 35 years. Conflict, low agricultural and associated sector productivity has hurt employment and per capita income growth. One of the most pressing problems in J&K is the high rate of youth unemployment, with several youth caught in a web of violence and social strife leading to disruptions in education and employment. This situation has changed considerably over the last 3-4 years with youth seeking to become part of the mainstream with an interest in becoming entrepreneurs. In order to provide a platform for holistic implementation of all youth engagement and outreach initiatives, and to bring the interests and empowerment of youth to the centre of policy making, the government of Jammu & Kashmir has rolled out a pioneering initiative - Mission Youth where the youths have been provided grants from the governments to start their own business/ enterprises. The project will support youth involvement in community institution promotion to achieve higher levels of participation by the youth in the process of decision-making and implementation at the local and higher levels. In addition, the project will also support start-ups to enable the youth to transform their innovative ideas into businesses. All interventions with the youth will include strategies for engaging young women in particular.

21. **Value chain assessments:** The project design team undertook value chain assessments in Jammu and Kashmir, analyzing the various climatic zones, and actors involved in the production and distribution of goods and services in the region. This assessment can help identify strengths and weaknesses in the value chain and suggest strategies for improvement.

22. **Identify key climatic zones:** The design team analyzed the key climatic zones, cropping system and livelihoods and value chain pathways. The details are provided in Appendix C1A6.

23. **Identify Key Sectors:** Start by identifying the key sectors in Jammu and Kashmir's

economy. Common sectors in the region include agriculture and horticulture. The key agricultural value chains are: (i) Saffron, (ii) Black Cummin; (iii) off-season vegetables; (iv) Aromatic rice; (v) Medicinal and Aromatic plants; (vi) pulses; and (vii) spices. With respect to horticultural crops, the key value chain crops are: (i) apple; (ii) pear; (iii) Guava; (iv) mango; (v) Litchi; (vi) walnut; (vii) almond, and (viii) Cherry. An analysis of the selection of value chains is provided in Appendix C1A7. For each identified value chain mapping was carried out to identify the main actors at each stage, such as farmers, processors, wholesalers, retailers, and service providers. Detailed value chain profiles for these crops are provided in Appendix C1A8. The package of practices, value chain constraints and the steps to build climate resilience are provided in Appendix C1A8.

Appendix C1A1: List of Blocks identified for project implementation

Block distribution by project district - Kashmir Region				
S. No	District	Block	Agricultural Crops	Horticultural Crops
1.	Srinagar	Srinagar	Vegetable, Mustard,	Strawberry, apple
2.	Srinagar	Khonmoh	Saffron, Spice, Vegetable and MAPs	Apple, walnut, Cherry
3.	Srinagar	Qammerwari	Vegetables and Chilly	Apple, Cherry,
4.	Srinagar	Harwan	Vegetables Chilly, Fringe and MAPs	Strawberry, apple, Cherry
	No. of Blocks	4		
5.	Anantnag	Hiller Shahabad	Aromatic rice and Chilly	Apple, Walnut
6.	Anantnag	Sagam	Aromatic rice, Chilly and MAPs	Apple, Walnut
7.	Anantnag	Achbal	Vegetable and MAPs	Apple and Walnut
8.	Anantnag	Anantnag	Vegetable	Apple, Walnut
9.	Anantnag	Chitragul	Potato, Vegetables and Maize	Apple, Walnut
	No. of Blocks	5		
10.	Bandipora	Arin	Kala Jeera, Chilly and MAPs	Apple, Walnut
11.	Bandipora	Bandipora	Vegetable, chilly and MAPs	Apple, Walnut and Pear
12.	Bandipora	Sumbal	Vegetable and chilly	Apple, Walnut and Pear
	No. of Blocks	3		
13.	Baramulla	Tangmarg	Vegetable, chilly, MAPs and MAPs	Cherry, Strawberry
14.	Baramulla	Pattan	Chilly and Vegetables	Cherry, Apple, Pear
15.	Baramulla	Baramulla	Chilly and Vegetables	Apple, Pear
16.	Baramulla	Kunzer	Chilly and Vegetables	Cherry, Apple, Pear
	No. of Blocks	4		
17.	Ganderbal	Lar	Chilly, Cocks Comb and Vegetables	Grape, Walnut
18.	Ganderbal	Wakoora	Chilly, Cocks Comb and Vegetables	Grape, Apple
19.	Ganderbal	Kangan	Chilly, Cocks Comb and Vegetables	Walnut, Apple
20.	Ganderbal	Gund	Millet, vegetables and MAPs	Walnut
	No. of Blocks	4		
21.	Kulgam	Devsar	Vegetable chilly, Garlic and MAPs	Apple, Walnut,
22.	Kulgam	Behibagh	Vegetable chilly and Garlic	Apple, Walnut
23.	Kulgam	Manzgam	Vegetable	Apple and Fringe,
24.	Kulgam	DK Marg	Vegetable	Apple and Fringe,
	No. of Blocks	4		

25.	Kupwara	Sogam	Vegetable, Chilly, red rice and MAPs	Apple and Walnut and Fringe
26.	Kupwara	Magam	Vegetable, Chilly and red rice	Apple
27.	Kupwara	Hirri	Vegetable, Chilly and red rice	Apple
	No. of Blocks	3		
28.	Pulwama	Awantipora	Saffron, Vegetable and Chilly	Apple, Walnut
29.	Pulwama	Newa	Saffron, Vegetable and Chilly	Almond, Apple, Walnut
30.	Pulwama	Tral	Millet and vegetables	Almond, Walnut, Apple and Fringe
31.	Pulwama	Pampore	Saffron	Almond, Apple
32.	Pulwama	Rajpora	Vegetable, Chilly, and MAPs	Apple
	No. of Blocks	5		
33.	Shopian	Keller	Vegetable, Onion, garlic, chilly	Apple and Fringe
34.	Shopian	Zainapora	Vegetable, Onion, garlic, chilly	Walnut, apple and Kiwi
35.	Shopian	Shopian	Vegetable	Apple and Cherry
36.	Shopian	Imamsahab	Vegetable	Apple and Cherry
37.	Shopian	Hirpura	Potato, Garlic and MAPs	Apple
	No. of Blocks	5		
38.	Budgam	Beerwah	Saffron, Vegetables, aromatic rice	Apple, Plum, Pear
39.	Budgam	Khag	Saffron, Vegetables, aromatic rice, and MAPs	Apple
40.	Budgam	Khansahib	Rice, Vegetable	Plum and pear
41.	Budgam	Nagam	Saffron, Vegetables, aromatic rice	Plum, Almond and Pear
42.	Budgam	B.K.Pora	Vegetable, Paddy, Mustard	Plum and pear
43.	Budgam	Budgam	Vegetable, Paddy, Mustard	Plum, Almond and Pear
44.	Budgam	Charari Sharief	Vegetable, Paddy, Mustard, and MAPs	Plum, Almond and Pear
45.	Budgam	Chadoora	Vegetable, Paddy, Mustard	Plum, Almond and Pear
	No. of Blocks	8		
	Total-Kashmir	45		

Block distribution by project district - Jammu Region

S. No	District	Block	Agricultural Crops	Horticultural Crops
1.	Doda	Marmat	Rajma, Millets	Apple, Walnut
2.	Doda	Bhaderwah	Rajma, Millets, and MAPs	Apple, Walnut
3.	Doda	Bhalla	Rajma, Millets, Kala Zeera	Apple, Walnut
4.	Doda	Bhagwah	Rajma, Millets	Walnut, apple
5.	Doda	Bhalessa	Rajma, Millets and MAPs	Walnut, apple
6.	Doda	Kastigarh	Vegetables, Pulses	Walnut, apple
	No. of Blocks	6		

7.	Jammu	Bhalwal	Aromatic rice, Chilly, vegetable and MAPs	Mango, citrus, Guava
8.	Jammu	Bishnah	Basmati, Vegetable	Mango, citrus, Guava
9.	Jammu	Miransahib	Basmati, Vegetable	Mango, citrus, Guava
10.	Jammu	Chowkichaura	Vegetable and MAPs	Amla
11.	Jammu	Mathwar	Vegetable	Cirtus, Guava
12.	Jammu	Bhalwal Brahmana	Vegetable	Mango, citrus
	No. of Blocks	6		
13.	Kathua	Bani	Pulses and Vegetables, Maize	Stone Fruits, Apple, Walnut
14.	Kathua	Barnoti	Vegetables, Paddy	Mango
15.	Kathua	Billawar	Vegetables, and MAPs	Citrus
16.	Kathua	Kathua	Vegetables, Paddy	Litchi
17.	Kathua	Malhar	Vegetables, Paddy, Maize and MAPs	Stone Fruits, Apple, Walnut
	No. of Blocks	5		
18.	Kishtwar	Kishtwar	Safron, Maize	Walnut, apple and Kiwi
19.	Kishtwar	Palmar	Safron, Maize	Walnut, Apple,
20.	Kishtwar	Thakrie	Safron, Maize, and MAPs	Walnut, Apple
21.	Kishtwar	Nagseni	Safron, Maize, and MAPs	Walnut and apple
22.	Kishtwar	Mughal maidan	Safron, Maize	Kiwi,
	No. of Blocks	5		
23.	Poonch	Lassana	Maize, Vegetable, and MAPs	Peach, plum and pecan nut, Apricot
24.	Poonch	Surankot	Maize, Vegetable	Peach, plum and pecan nut, Apricot
25.	Poonch	Mendher	Maize, Vegetable	Peach, plum and pecan nut, Apricot
	No. of Blocks	3		
26.	Rajouri	Rajouri	Maize, Vegetable	Pecan nut, Apricot, Plum
27.	Rajouri	Thanamandi	Maize, Vegetable	Apple, Walnut
28.	Rajouri	Budhal	Pulses and Vegetables	Apple Walnut
29.	Rajouri	Dharhal	Pulses, Vegetables, Maize and MAPs	Apple, Walnut, Pear
	No. of Blocks	4		
30.	Ramban	Khari	Maize, Vegetable	Apple, Walnut,
31.	Ramban	Batote	Maize, Vegetable	Anar Dhana, Walnut, Apple, Kiwi
32.	Ramban	Ghandri	Maize, Vegetable and MAPs	Anar Dhana, Walnut, Kiwi, Apple
	No. of Blocks	3		
33.	Reasi	Jijbagli	Hill Garlic, Maize	Apple, Walnut
34.	Reasi	Thakrakote	Hill Garlic, Maize	Walnut
35.	Reasi	Mahore	Maize, Vegetable and MAPs	Walnut, Pear

36.	Reasi	Chassana	Vegetables	Walnut, Pear
37.	Reasi	Gulabgarh	Vegetable and MAPs	Walnut, Pear, Apple
	No. of Blocks	5		
38.	Samba	Ghagwal	Paddy, Vegetable	Citrus, Peach, Plum
39.	Samba	Purmandal	Paddy, Vegetable	Citrus, Peach, Plum
40.	Samba	Sumb	Paddy, Vegetable and MAPs	Citrus, Peach, Plum
41.	Samba	Nud	Paddy, Vegetable	Citrus
	No. of Blocks	4		
42.	Udhampur	Chenani	Hill Garlic, Maize, Vegetable and MAPs	Stone Fruits, Apple, Walnut
43.	Udhampur	Majouri	Hill Garlic, Maize, Vegetable	Stone Fruits, Apple,
44.	Udhampur	Ramnagar	Vegetable, Mustard,	Stone fruits, Citrus
45.	Udhampur	Lal Maroti	Pulses and Vegetables	Citrus, Stone
	No. of Blocks	4		
	Total-Jammu	45		
	Grand Total	90		

Appendix C1A2: Stakeholder Engagement Plan

Stakeholder engagement

Effective community and stakeholder engagement plays a crucial role in the successful execution of the project. Throughout the entire project lifecycle, JKCIP will actively involve stakeholders in the decision-making process. In the development and execution of project activities, the project will seek input and feedback from communities and all relevant stakeholders. This will encompass their recommendations and opinions regarding activity design, implementation strategies, and endorsed measures for mitigating risks.

The design of JKCIP involved an extensive consultation process that engaged various stakeholders, ranging from local beneficiaries to regional and national actors. These stakeholders encompass groups, institutions, and individuals who could be directly or indirectly affected by JKCIP, possess an interest in its outcomes, or hold the potential to influence the project, either positively or negatively. In the context of JKCIP, this group includes central and J&K ministries, directorates, districts, blocks, universities, farmer producer organizations, MSMEs, cooperatives, youth, women, tribal groups, scheduled castes, marginalized communities, service providers, and IFAD. Additionally, potential stakeholders could comprise impacted communities, civil societies, and other organizations operating within the project areas.

Information disclosure

Sharing pertinent project information is essential for enabling project-affected individuals and other stakeholders to comprehend the risks, impacts, and opportunities associated with the project. The JKCIP will ensure that relevant stakeholders have access to crucial information, including:

- i) The project's purpose, nature, and scale.
- ii) The expected duration of project activities.
- iii) Any potential risks and impacts on communities, along with the corresponding mitigation measures.
- iv) The planned stakeholder engagement process.
- v) The grievance mechanism in place.

As part of the stakeholder engagement process, all pertinent documents related to a proposed investment or subproject will be made available. The disclosure of such documents will vary depending on the size and nature of the investment and the significance of associated risks and impacts. Examples of these documents may include subproject proposals, ESCMPs, among others.

The table 1 below list the identified stakeholders and details their engagement methods into the project cycle.

Table 1: Stakeholder engagement plan

Stakeholder	Concerns	Engagement Method	Information to report and disclose and report back	Most valuable information to obtain	Frequency of engagement	Responsible	Timeline
Government							
Central							
Department of Economic Affairs, Ministry of Finance	Principle Borrows, signing the Financing agreement, debrief after every supervision, province concurrence to no objections to mission reports	Formal communication	Financial agreement, Supervision, finance related revisions	Finance and procumbent related rules, policies, human resource capacity	Periodic basis	Project Manager	More frequent during the project design, periodic form the project start up workshop
Ministry of Home Affairs	J&K come under the administrative authority of Ministry of Home Affairs. Participate in review process.	Formal communication	Supervision and review process	J&K related rules, policies, and human resources	Periodic basis	Project Manager	More frequent during the project design, periodic form the project start up workshop
Niti Aayog	Indirectly engagement, project will share development and progress within a regular basis	Formal communication	Progress update brief and regular strategic guidance	Country's policy, updated strategies, guidelines	Annual	Project Manager	Project design review process and during the implementation
Ministry of Agriculture and farmers welfare	Informed by the project about the development	Formal communication	Progress update and get guidance and needed		Occasional		
J&K							
Department of Agriculture Production and farmers welfare	Project lead implementation agency together with directorates and University of Sher-E-Kashmir	Overall lead the stakeholder engagement	AWPB preparation, update, implementation, M&E, research, guidelines, and policies	Ongoing programs, especially HADP, guidelines and strategies, human resources	Regular	PMU	Regular

Stakeholder	Concerns	Engagement Method	Information to report and disclose and report back	Most valuable information to obtain	Frequency of engagement	Responsible	Timeline
Directorates of Agriculture, Directorate of Horticulture, and Directorate of sheep husbandry	Thematic implementing agencies, lead in thematic implementation in field level	Lead in thematic areas	AWPB preparation, update, implementation, M&E, research, guidelines, and policies	Ongoing programs, especially HADP, guidelines and strategies, human resources	Regular	PMU	Regular
University of Sher-e-Kashmir University of Ag, science, and technology K&J	Implementing agency	Lead in corresponding areas	Support on AWPB preparation, technical and research areas	Research	Regular	PMU	Regular
Department of Finance	Audit, procurement	Formal communication	Financial and procurement reports	Audit	Annual or periodic	PMU, Finance team	Project implementation
Service Providers							
Indian Institute of Management	Technical service provider	Engagement in project implementation	Incubation and start up activities support	Research, learning, implementation procedures, human resources	Regular	PMU, related theme leader	Project implementation
Development Partners							
UNDP, UNICEF, WHO	Learning and knowledge exchange	Coordination and collaboration on activities implementation	Ongoing projects and their activities, past projects and their learning, plans for upcoming projects and programs	Potential collaboration on activities implementation, upscaling, and creating joint efforts	Need basis	PMU	Implementation
FPO promoting agencies							

Stakeholder	Concerns	Engagement Method	Information to report and disclose and report back	Most valuable information to obtain	Frequency of engagement	Responsible	Timeline
J&K Bank (gramin); Regional Rural Bank; National Bank for Agriculture and Rural Development (NABARD); Agriculture financing and Agriculture Loans in India etc.	Improve financial assistance for enterprise promotion and other project related works: individual and group level	Connecting for financial support	Financial support needed by the FPOs and enterprises	Financial schemes, support for FPOs and enterprises, FPO strengthening	Regular	PMU, thematic leaders	Implementation
Ongoing IFAD projects							
Nav Tejaswini, Maharastra;	Cross learning on Gender	Learning exchange and capacity building events, tours	Exchange knowledge products	Gender learning	Occasional	Thematic leaders in PMU	Implementation
REAP, Uttarakhand	Cross learning on youth and value chain	Learning exchange and capacity building events, tours	Exchange knowledge products	Youth and value chain learning	Occasional	Thematic leaders in PMU	Implementation
Organization							
Center for Medicinal and Aromatic Plant	Research and learning	Events, research, and tours	Knowledge products, periodic reports	Implementation practices	Occasional	Thematic leaders in PMU	Implementation
Beneficiaries							
Agri Business start ups	Mentoring, funding, providing network access, technology support	Engagement in project implementation	Activities budgeted for enterprises	Business ideas, proposals, start up roster	Regular	Thematic leaders in PMU	Implementation
Students	Skill development, mentorship, trainings, support on idea testing	Engagement in project implementation	Activities budgeted for students	Research	Regular	Thematic leaders in PMU	Implementation
MSME	Business growth, FPO promotion	Engagement in project implementation	Activities related to MSME	Working area and capacity	Regular	Thematic leaders in PMU	Implementation

Stakeholder	Concerns	Engagement Method	Information to report and disclose and report back	Most valuable information to obtain	Frequency of engagement	Responsible	Timeline
Youth	Participatory engagement: planning, implementation, and monitoring, ICTs, internships, scholarships, startups, incubation, entrepreneurship development, employment generation	Planning, implementation, and monitoring events, research	Activities related to youths	Youth status, priorities, needs, and provisions	Regular	PMU, thematic leaders	Planning, Implementation
Women	Participatory engagement: planning, implementation, and monitoring, Drudgery reduction, enterprises, livelihood improvement	Planning, implementation, and monitoring events, research	Activities related to women	Women status, priorities, needs, and provisions	Regular	PMU, thematic leaders	Planning, Implementation
Marginalized communities and scheduled cast	Participatory engagement: planning, implementation, and monitoring, livelihood improvement	Planning, implementation, and monitoring events	Activities related to marginalized communities and SCs	marginalized community's status, priorities, needs, and provisions	Regular	PMU, thematic leaders	Planning, Implementation
Tribal communities	Participatory engagement: planning, implementation, and monitoring, livelihood improvement	Planning, implementation, and monitoring events	Activities related to tribal communities	Tribal community's status, priorities, needs, and provisions	Regular	PMU, thematic leaders	Planning, Implementation
Traders and buyers							
Organic exporters	Safe food market	Multi stakeholder platforms (MSP), market	Market demand, price, and opportunities	Market stakeholders, issues, challenges, and opportunities	Regular basis	PMU and thematic leads	Implementation
Bio input producers	Ensuring bio inputs to the program areas	MSP, enterprises support and promotion	Bio input demand, supply, and quality status, potential production opportunities	Bio input demand, supply, and quality status, potential production opportunities	Regular	PMU and thematic leads	Implementation

Stakeholder	Concerns	Engagement Method	Information to report and disclose and report back	Most valuable information to obtain	Frequency of engagement	Responsible	Timeline
Service Providers, start ups, and incubation centers	Studies, research, technical assistance, and other	Through procurement	Status and opportunities	Status and opportunities	Need basis	PMU and thematic leads	Implementation
Business entities	Trade and related capacity building and quality control, Export market linkages	Multistakeholder platforms	Potential market and commodities	Potential market and commodities	Need basis	PMU and thematic leads	Design, planning, implementation
MSME	Bio input supply, trade fairs, enterprise development, business to business service, business and suppliers service, market management, capacity building, post-harvest support	MSP, B2B, B2S, direct benefit from program activities	Market potential, suitable commodities, input supply demand and supply status	Market potential, suitable commodities, input supply demand and supply status	Regular	PMU and thematic leads	Design, planning, implementation
Capacity building institutions							
Department of Skill Development, incubation centers, lead entrepreneurs	Training, skill development, internships	Awareness, capacity building	Project periodic reports	Governance, transparency, technical assistance	Need basis	PMU, thematic leaders	Design, planning, and implementation
Non-Governmental Organizations							
Local to national level NGOs	Capacity building	Awareness, capacity building	Governance, transparency, technical assistance	Governance, transparency, technical assistance	Need basis	PMU, thematic leaders	Design, planning, implementation
IFAD							
IFAD offices	Program design, missions (kick off, supervision, implementation support, mid-term review, and program completion), No objection as per provisions, regular capacity building and technical assistance as needed	Formal communication	PDR, IFAD policies and provisions	PDR, IFAD policies and provisions	Regular basis	PMU, thematic leaders	Design, planning, implementation, completion, and post completion

Grievance redress

The project will use the GoJ&K's Integrated Grievance Redress and Monitoring System (JK-IGRAMS²). This online portal allows to register grievance all the time (24*7). The portal is linked with GoI's grievance handling (CPGRAMS³) and at the project level with district and its subordinate offices. It has provision to submit complaints both in local language and English.

Along with the online registration, the system allows any postal and registered complaints addressed to the Grievance cell. There is also a toll-free number for directly registering complaint to Department of Public Grievances, J&K. A unique grievance number is provided to track the updates on the complaint. It has been made a mandatory to submit clarification by the concerned faculty to the complaints directed to them. The GoJ&K has ensured that all the departments and officers have to submit fortnightly reports to the Lieutenant Governor.

Following are the details to register and follow complaints:

Contact details of the department of Public Grievances:

DIVISION	JAMMU	KASHMIR
Office Address	Department of Public Grievances Civil Secretariat, Jammu	Department of Public Grievances Church Lane, Sonwar, Srinagar -190001
Contact Nos	0191 - 2560109, 2560265, 2560266	0194-2502596, 2502910, 2483236
Fax	0191-2566182(J)	0194-2501262
Toll Free Call Centre	18005722327	18005722328
e-Mail	jk-grievance[at]jk[dot]gov[dot]in	

Process to lodge the grievance:

The grievances can be lodged online on Web Portal (<https://jkgrievance.in>)

In cases where internet facility is not available or even otherwise, the citizen is free to send her/his grievance by Post. There is no prescribed format. However, the application must clearly mention the Name, Complete Address and Contact No of the Applicant. The grievance may be written on any plain sheet of paper and addressed to Department of Public Grievances.

² For the details: <https://jkgrievance.in/AwazAAwam/Index.aspx>

³ For the details: <https://pgportal.gov.in/>

The grievance can also be filled through the Toll-Free Call Centres.

The grievance is acknowledged online or by post. A unique registration number is given to each grievance.

Track the grievance:

The grievance may be tracked on the Web Portal (<https://jkgrievance.in>) using Track Grievance link.

Post grievance registration:

The grievances are electronically forwarded to the concerned Department/District. Every Department/District has designated a Nodal Officer(s) for redress of grievances pertaining to that particular Department/District.

Moreover, there is also a practice of Block diwas to directly interact with community by higher level officials. JKCIP will facilitate to participate project beneficiaries in such events.

BLOCK DIWAS⁴

Block Diwas is an unique developmental initiative of the Government of Jammu and Kashmir where by the higher ranked government functionaries reach out to the designated blocks/Sub Divisions on the pre-decided dates, interact with the people, obtain feedback from them so as to tailor government efforts in improving the delivery of services and do on The Spot Grievance Redressal in the most efficient manner thus, justifying the Prime Minister's mantra of "minimum government and maximum governance.

Block Diwas is also a means to fully achieving the gains of the Back to Village programme which has been conceived with the objective of ensuring that developmental initiatives are built on the feedback and cooperation of the people, thus being more result-oriented with a greater probability of success.

The third phase(B2V3) of the public outreach programme 'Back to Village' (B2V) ran from October 2nd till October 12th. The first of its kind initiative was launched by the J&K administration in June 2019 for "strengthening governance at the grassroots level and enhancing participatory development".

MAJOR GAINS OF THE BLOCK DIWAS

- Energizing Blocks/Subdivisions.
- Collecting feedback on the delivery of government schemes and programmes.
- Capturing the specific economic potential of the designated block.
- Undertaking an assessment of the needs of Blocks/Subdivision.
- Resulting in speedy governance by doing On the Spot Grievance Redressal of the people.
- The administration has identified the unfulfilled promises made during the last two phases of B2V and ensured their fulfilment in the third phase of the programme.

⁴ For details: https://awaamkibaat.jk.gov.in/jan_bhagyidari/305/

- It has Institutionalized the Back to Village programme- The visits made by the officials to the rural areas during the last two phases of B2V programme became a routine exercise of the administration.

IFAD Complaints Procedure

Objective: to ensure that appropriate mechanisms are in place to allow individuals and communities to contact IFAD directly and file a complaint if they believe they are or might be adversely affected by an IFAD-funded project/program not complying with IFAD's Social and Environmental Policies and mandatory aspects of SECAP.

Eligibility criteria

To file a complaint for alleged non-compliance with IFAD's social and environmental policies and mandatory aspects of its SECAP, IFAD will consider only complaints meeting the following criteria:

- The complainants claim that IFAD has failed to apply its social and environmental policies and/or the mandatory provisions set out in SECAP.
- The complainants claim that they have been or will be adversely affected by IFAD's failure to apply these policies.
- Complaints must be put forward by at least two people who are both nationals of the country concerned and/or living in the project area. Complaints from foreign locations or anonymous complaints will not be taken into account.
- Complaints must concern projects/programmes currently under design or implementation. Complaints concerning closed projects, or those that are more than 95 per cent disbursed, will not be considered.

The process

The complainants should first bring the matter to the attention of the government or non-governmental organisation responsible for planning or executing the project or programme (the Lead Agency), or to any governmental body with the responsibility for overseeing the Lead Agency. If the Lead Agency does not adequately respond, then the matter may be brought to the attention of IFAD. The issue may be brought straight to IFAD if the complainants feel they might be subject to retaliation if they went to the Lead Agency directly.

The Regional Division will examine the complaint and, if necessary, will contact the Lead Agency, or the governmental body with the responsibility for overseeing the Lead Agency, to decide if the complaints are justified. If the complainants request that their identities be protected, IFAD will not disclose this information to the Lead Agency or anyone else in government.

If the complaint is not justified, the Regional Division will inform the complainants in writing.

If the Regional Division finds the complaint is justified and there is proof of actual or likely harm through IFAD's failure to follow its policies and procedures, IFAD will take action. This may consist of making changes to the project/programme or requiring that the government observes its obligations under the Financing Agreement. IFAD's response will focus bringing the project/programme into compliance and no monetary damages will be available or paid in response to such complaints. The complainants will be informed of the outcome of the issue by the Regional Division.

In all cases, if the complainants disagree with IFAD's response, they may submit a request to SECAPcomplaints@ifad.org and request that an impartial review be carried out by the Office of the Vice-President.

The Office of the Vice-President will decide on the steps to be taken to examine such complaints, including, if necessary, contracting external experts to review the matter. The complainants will be informed of the results of the review.

How to submit a complaint

A complaint relating to non-compliance with IFAD's Social and Environmental Policies and mandatory aspects of its SECAP can be submitted in any of the following ways:

- Download word file complain form: [Here](#)
- Send an email to SECAPcomplaints@ifad.org

If you email or mail your complaint, please include the following information:

- Name, address, telephone number and other contact information
- Whether the complainants wish to keep their identity confidential, and if so, why.
- Name, location, and nature of the IFAD project/programme (if known)
- How the Complainants believe they have been, or are likely to be, adversely affected by the IFAD-supported project or programme

Complaints sent by mail should be addressed to:

IFAD
SECAP Complaints (PMD)
Via Paolo di Dono 44
00142 Rome, Italy

Monitoring and reporting

Monitoring and evaluating the stakeholder engagement process is essential, as it empowers the PMU to address identified issues and make necessary adjustments to the schedule and nature of engagement activities for enhanced effectiveness. Part of this process involves establishing a feedback mechanism to address stakeholders' information needs. Furthermore, the stakeholder engagement process will incorporate methods to assess the effectiveness of public consultation processes and the outcomes of these consultations, enabling the identification of areas requiring further action.

Within the PMU, environmental and social safeguards specialists are entrusted with ensuring the high-quality engagement of stakeholders throughout the project's duration. They are also responsible for communicating and reporting all stakeholder-related matters to the Project Director.

Monitoring the stakeholder engagement process involves several activities, including:

- Short-term monitoring during engagement activities to allow for real-time adjustments and improvements.
- A review of outputs at the conclusion of all engagement activities to assess the effectiveness of the implemented stakeholder engagement plan.

To facilitate the monitoring system, a set of key performance indicators for each stage of stakeholder engagement will be developed. The table below provides an example of these indicators and performance metrics, demonstrating the successful completion of engagement tasks.

Table 2 performance indicators

PHASE	ACTIVITIES	INDICATORS
Planning for Project	Share updates on Project activities	Posters displayed in allocated service centres by time specified
GRM, SEP and other project specific documents Implementation	Share updates on SEP, GRM and other project specific documents activities	<p>Posters displayed in allocated service centres by time specified,</p> <p>Affected community stakeholders will have received and understand the information disclosed and attended the public meetings.</p> <p>FPIC is conducted and well documented.</p> <p>Community feedback is recorded and well addressed.</p> <p>No complaints about non-receipt of project specific documents received.</p>

Identifying impacts and concerns related to JKCIP is a pivotal aspect of stakeholder engagement that will span the entire project's life cycle. Therefore, the recognition of new concerns, impacts, and grievances as the Grievance Redress Mechanism (GRM) and project advance will serve as a comprehensive gauge for assessing the stakeholder engagement process's effectiveness. The monitoring of the stakeholder engagement process, as outlined in the M&E action plan, will be conducted through two primary approaches.

5.5.1 Review of Engagement Activities in the Field

During the engagements with stakeholders the engagement team will assess meetings using the following engagement tools:

- Stakeholders database,
- Issue and Response table, and
- Meeting records of all consultations held.

Reporting Stakeholders Engagement Activities

Performance will undergo evaluation following stakeholder engagement sessions conducted in the field. When assessing performance, the following aspects will be taken into account:

- The nature, frequency, and distribution of materials disseminated.
- The location and timing of formal engagement events, as well as the level of participation, including specific stakeholder groups.
- The number of individuals attending public or formal meetings.
- The quantity and specifics of comments received, including the type of stakeholder and the details of the feedback provided.
- Meeting minutes, attendance records, and photographic evidence.
- The number and types of stakeholders reaching out to the JKCIP team via mail, telephone, or other communication means.

- Feedback received from government authorities, community leaders, and other project partners, which is then conveyed to the JKCIP.
- The number and types of feedback and grievances, along with the nature and timing of their resolution, and the extent to which feedback and comments have been addressed and resulted in corrective actions being implemented.

Reporting Back to Stakeholders

Maintaining stakeholder trust and keeping them well-informed about project progress necessitates transparent and timely reporting. The following reporting mechanisms will be implemented to share project updates and findings with stakeholders:

- **Regular Progress Reports:** The project team will prepare quarterly or bi-annual progress reports, detailing achievements, challenges, and upcoming activities. These reports will be shared with stakeholders and disseminated through multiple communication channels.
- **Community Meetings and Workshops:** Project team members will conduct regular community meetings and workshops to present progress reports in a clear and accessible manner. They will seek feedback and address stakeholder questions during these gatherings.
- **Stakeholder Engagement Forums:** Existing stakeholder engagement forums, such as townhall meetings or focus groups, will be utilized to provide updates and seek input on project progress and challenges.
- **Online Platforms and Project Website:** The project website and online platforms will serve as repositories for project reports, updates, and relevant documents. Stakeholders will have access to this information at their convenience.
- **Infographics and Visual Aids:** Visual aids, including infographics and charts, will be used to present key project indicators and achievements, enhancing understanding and engagement.
- **Feedback Consolidation:** Stakeholder feedback gathered through various channels will be compiled and addressed in subsequent reports. The project team will inform stakeholders about how their input influenced decision-making.
- **Executive Summaries:** For stakeholders who prefer concise information, executive summaries of progress reports will be prepared and distributed.

By actively involving stakeholders in monitoring activities and providing regular, transparent reporting, the JKCIP will nurture a sense of ownership, accountability, and mutual learning. These efforts will contribute to building stronger relationships with stakeholders and ultimately lead to more effective and sustainable project outcomes.

Appendix C1A3: Target group categories and development pathways

Jammu and Kashmir, a region in northern India, has faced various economic and social challenges, including isolation, years of conflict and resultant pockets of poverty.⁵ The poverty profile in the region can be summarized as follows:

Income Disparities: Like many other regions in India, Jammu and Kashmir has income disparities. Poverty rates are typically higher in rural areas compared to urban areas. The hilly terrain, lack of infrastructure, and limited economic opportunities in some remote areas contribute to higher poverty rates.

Conflict: The region has faced decades of political conflict, which has had a significant impact on its economy and development. The conflict has disrupted economic activities, displaced people, and hindered investment and development efforts.

Agriculture: Agriculture is a crucial sector in Jammu and Kashmir, employing a substantial portion of the population. Crop failures, erratic weather patterns, and limited access to modern farming techniques can affect the income and livelihoods of rural HHs.

Tourism: Tourism is another important industry in the region. The beauty of its landscapes, including the Himalayan mountains, has made it a popular tourist destination. However, the tourism industry can be seasonal, and political instability can affect visitor numbers.

Government Initiatives: The government of Jammu and Kashmir and the Indian government have implemented various poverty alleviation programs and schemes aimed at improving the economic conditions of the people. These programs include access to education, healthcare, subsidized food through the Public Distribution System (PDS) and a number of subsidy-based support systems that have helped increase the livelihood opportunities for the people in J&K.

Access to Basic Services: Access to basic services like healthcare, education, and clean drinking water can be limited in some remote areas, affecting the quality of life and contributing to poverty.

Unemployment: Unemployment in the conventional sector is on the higher side as the educated youth is aspiring for jobs in the government sector but there are a lot of potential opportunities that exist in the production and value chain sector. Many youths with a decent background have started their own enterprises still there are still some concerns regarding unemployment which can potentially lead to economic insecurity and poverty.

It's important to note that the situation in Jammu and Kashmir is complex and multifaceted due to the historical, political, and social context. Any poverty profile would need to consider these factors as well as the evolving circumstances in the region.

An analysis of target groups reveals different categories: (i) poor; (ii) relatively poor; (iii) non-poor; (iv) youth; (v) women. The categories of beneficiaries in each target group, their basic characteristics, potential organization for them, activity designed in the project and livelihood pathways are provided in the table below which gives a framework to guide the implementation of JKIP. Table 1 below provides the target group categories and development pathways.

⁵ In J&K, the percentage of the multidimensional poor population has reduced from 12.56 per cent to 4.80 per cent, with over 1 million people emerging from poverty.

Table 1: Target group categories and development pathways

Category of beneficiaries	Characterization	Individual/ group/ Organisation	Activities	Livelihoods and Value Chain Development Pathways
<p>Poor: This category consists of HHs below the poverty line which includes the most vulnerable, women-headed HHs, landless, people with disabilities (PwDs), subsistence farmers and vulnerable communities (SCs and STs). All HHs falling within the poverty line of Rs 972 monthly per capital expenditure as per the Rangarajan Committee report (2014) are classified as BPL HHs. 10 percent of total project HHs– 30,000 HHs</p>	<p>These HHs are resource-poor, vulnerable and food and nutrition insecure. Sources of livelihood include small-scale subsistence agricultural activities particularly focusing on cereal and pulse crops, agricultural labour, subsistence farming, livestock, government support, MGNREGS, etc. Other features of this category include no regular income source, dependence on remittance and limited income from farms.</p>	<p>Individual HHs SHGs CLFs</p>	<p>Cereal, pulses, spices and vegetable production. Nano and micro-enterprise. Milk production, Mushroom collection, and small-scale food/vegetable crop cultivation.</p>	<p>Most of these families have the potential to participate in agriculture production and productivity enhancement through climate-smart production technologies with training for better use of land, water, inputs and market linkages.</p>
	<p>Pastoralists undertake migration from the higher ranges to lower ranges in winter and from lower ranges to higher ranges in summer.</p>	<p>Individuals</p>	<p>Goat and sheep production and integrated production support.</p>	<p>Support for diversification of livelihood options and to improve the wool marketing systems will be supported.</p>
	<p>Settled SC/ST and fishermen community</p>	<p>Individuals SHG CLF</p>	<p>Dairy and livelihood diversification</p>	<p>Support for marketing of milk and other diversified livelihood activities.</p>
<p>Relative Poor: This category has small and marginal land</p>	<p>Largely agriculturists with a land holding of 1.00 ha with field</p>	<p>Individual HHs PGs</p>	<p>This category comprises largely farmers involved in</p>	<p>These HHs are more entrepreneurial farmers and are interested in integrating their activities into more formal value chains and target distance markets of</p>

Category of beneficiaries	Characterization	Individual/ group/ Organisation	Activities	Livelihoods and Value Chain Development Pathways
<p>holdings with farming as the primary livelihood activity and is most vulnerable to risks associated with climate change and environmental degradation. A total of 210,000 (70%) HHs</p>	<p>crops or 0.5 ha of farm with horticulture crops. who undertake livestock production. Other diversified livelihood activities such as animal husbandry, fisheries, etc., remain the mainstay.</p>	<p>SHGs CLFs FPOs</p>	<p>food crops, niche crops and horticultural crop production.</p>	<p>other states and national capital through intermediaries and obtain better returns but are presently unable to do so. The main issues of these include: (i) low production and productivity and inability to shift to market linked production for niche crops (ii) low production productivity of horticultural crops including the inability to diversify; (iii) low production and productivity of field crops; high transaction costs due to lengthy supply chain and many market intermediaries. The main reasons include inadequate market linkage, limited access to improved climate-resilient technology, quality seeds, quality planting materials and other inputs. They will be facilitated to establish market linkages through aggregation, creation of innovative marketing channels, creating brands for the local products, studying the demand of the local, domestic and international markets and therefore, production and productivity improvement with climate-smart technology adoption.</p>
<p>Non-poor Commercially oriented smallholder farmers with diversified farming systems who are above poverty. A total of 60,000 (20%) HHs.</p>	<p>Farmers who own more than 1 ha of field crop farms and 0.5 Ha of horticultural farms and have income from diversified sources. These group farmers are facing problems like wage labour shortage, climate vulnerability, and lack of access to improved technology and market infrastructures and lack of essential training. They access</p>	<p>Individual HHs Partnerships PGs SHGs CLFs FPOs</p>	<p>Market demand-based production; combination of food crops, niche crops and horticultural crops Micro, meso and Small farm-based enterprises.</p>	<p>These HHs produce niche crops and horticultural crops on a commercial scale based on market demand. These HHs can be both producers and service providers in the clusters with developed capacity while working with technical service providers and market actors. The strategy to involve these HHs includes supporting inclusive investments in farm enterprise development through supply and demand-side interventions to increase the volume and quality of output. These groups have the potential to stabilise production through the more efficient use of land and water through the introduction of climate-smart technologies and improving access to inputs, skills and exposures. These households will be the essential part of the market to enhance marketable volumes to achieve required scale of operation which can fetch the premium price of the niche products of all farmers.</p>

Category of beneficiaries	Characterization	Individual/ group/ Organisation	Activities	Livelihoods and Value Chain Development Pathways
	agricultural inputs and farm machinery and operate irrigated or partially irrigated systems.			
<p>Youth (young men and women): (Age group 15-29+up to 35 Years). A total of 30 per cent among the total population 1.5 million (450,000)</p>	<p>Years of violence and its impact on the education system have contributed to high levels of youth unemployment. Youth are largely out of sync with the realities of poverty and environmental degradation being faced by their families and the community.</p>	<p>Individuals Partnerships Youth clubs CLFs FPOs</p>	<p>With the improved business environment, educated youths want to start businesses, especially in horticulture, vegetable cultivation, an integrated farming system with the adoption of climate-smart technologies, nursery-raising enterprises, establishing cold chains etc. Other youth are looking for opportunities.</p>	<p>The strategy is to integrate youth into the community by becoming partners in the development process through environment and climate-related community actions and by incentivising their membership into FPOs. The experienced and entrepreneurial youth will be supported to establish enterprises with capacity building, matching grants, and mentoring. The educated youth will be facilitated to establish start-ups with appropriate incubation services. Successful start ups or entrepreneurs could be role models for unemployed youths.</p>
<p>Women A total of 40% of beneficiaries will be women. 50 % of the total youth will be women.</p>	<p>Women-headed HHs, widows and those impacted by decades of violence are socially and economically vulnerable and disadvantaged.</p>	<p>Individuals SHGs PGs CLF FPOs,</p>	<p>The women-headed HHs continue farming and other occupations of the family.</p>	<p>The project will establish special incentives for women This includes support for farm-based enterprise establishment and for increasing production and productivity of their cropping systems. The educated women (age group between 15 to 29) will be given exposure to start mini enterprises viz., milk products, cut vegetables, lavender growing and value-added products through the support of technology, skills and exposure.</p>

Appendix C1A4: Gender and Social Inclusion Strategy

General outline to be adapted by JKCIP-PMU

1. *Context (0.5 page):*

The context presents a very short summary description of the project, loan size and duration, location, objectives, components and implementing partners. National and state level policy and social context.

2. *Rationale (1-2 pages)*

The rationale highlights poverty characteristics of the population that are of specific relevance to the project and explains why addressing these issues will help achieve project objectives. The rationale highlights gender, youth and returnee migrant's issues that are of specific relevance to the project and explains why addressing these issues will help achieve project objectives.

3. *Targeting strategy (2 pages)*

Target groups plus profile matrix; Targeting mechanisms and implementation arrangement; Outreach of project activities by target group (pyramid – see HTDN on design of IFAD).

4. *Rationale for gender mainstreaming (1-2 pages)*

This section explains what the project will deliver from a targeting, gender and social inclusion perspective and identifies expected impacts on gender equality and women's empowerment (in terms of economic empowerment, decision-making and equitable workload balance).

5. *Targeting and gender mainstreaming within project components – checklist for components and subcomponents (5 pages)*

This section details requirements to establish a more pro-poor, socially inclusive and gender-responsive project delivery mechanism. Each subcomponent is discussed, and key activities noted to help field-level implementers ensure that implementation is pro-poor, youth focused and gender responsive.

6. *Gender mainstreaming at the organizational level (13 pages)*

This section should detail requirements to establish pro-poor, youth focused and gender-responsive systems within the organization that will have an impact at the field level. It will look at human-resource service rules, project staff sensitized on targeting, youth, gender inclusion.

7. *Implementation arrangements and time frame (2 pages)*

This section details roles, responsibilities and a time frame for implementation of the strategy.

8. *Costs and financing (2 pages)*

This section presents an estimate of costs associated with implementing the strategy within the specific time frame, and identifies sources of funds (through project financing, in-kind contributions, extra-budgetary resources, etc.).

9. *Risk management (0.5 page)*

This section records possible risks that may impede successful implementation of the gender and social inclusion strategy, for example frequent staff turnover. It identifies what will be done to mitigate or minimize those risks, such as investment in long-term staff development and promotion from within.

10. Results framework (1 page)

A results framework is a good tool for communicating the essence of the strategy and monitoring.

Objective	Activities	Required inputs	Expected outputs	Expected Outcomes	Indicators	Assumptions	Time	Responsibility
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Appendix C1A5: Gender Action plan

Improve project performance on gender during project implementation Guiding process and steps

This three-step note aims to guide the project team through the development of an action plan to improve project performance on gender equality and poverty targeting (step 3). The action plan will describe proposed activities aiming at improving the project's gender and targeting scores, related indicators and resources allocated – as per the template provided at the end of the document. The development of the action plan will be based on the team's self-assessment of the project's ability to promote gender equality and poverty targeting (Step 1-2) and will have to address shortcomings identified therein.

Please complete one by one the three steps together in your project team:

Step 1 - Project background

Step 2 - Self-assessment checklist on implementation arrangements

Step 3 - Action plan development

Why a gender action plan? The action plan is meant to guide project teams through a self-assessment on what works and what doesn't for gender equality, women's empowerment and poverty targeting, leading to the development of an action plan to improve the project performance in this domain. This action plan has the objective to improve the gender and targeting performance of the project and related ratings against the IFAD gender and targeting criteria).

How to develop the gender action plan? The planning process is divided into three sequential steps. It is recommended to organize one or more meetings to address the steps one by one to promote ownership of the assessment and the action plan among project staff. Please fill in the text directly in this document. Kindly rename the document with your project name before sharing it.

Who should develop the gender action plan? All project staff should participate in the self-assessment and action planning meetings. If not possible at least those that will be in the Istanbul workshop, e.g. project coordinator, gender and M&E specialists. The project coordinator / director is accountable for the gender action plan and its implementation, with the support of the gender focal point.

Action plan steps

Step 1 – Project background

Step 1 has the objective of providing a quick overview on the project and its performance.

Together with the project coordinator and other team members, develop text for a maximum of ½ -1 page around the following points.

- *Name of the project:*
 - **Completion Date:**
 - **Performance status:** What is the project current performance and the trend? Please indicate the gender and targeting ratings over the last 2 years
 - **Your opinion** What have been the key drivers of this performance (issues/enabling factors)

Step 2 – Self-evaluation checklist for analysing gender equality and women's empowerment in project implementation arrangements

Step 2 is a self-evaluation of project implementation arrangements' ability to promote

gender equality and poverty targeting. The objective of this second step is to foster discussion and awareness among project team members on the extent to which project implementation arrangements are conducive to the implementation of poverty targeting and gender activities.

Project coordinator and other team members should review the following form among project team members and self- assess each criteria with the following scoring -> 0 = nothing 1 = partially done 2 = satisfactory 3 = highly satisfactory. Discuss the final scoring result in your team.

The self-evaluation tool is part of IFAD's Toolkit on Poverty targeting, gender equality and empowerment.

Baseline or gender analysis

Score: _

- Has a gender-sensitive baseline survey/situation analysis been undertaken?
- Were the needs and priorities of different categories of poor men and women assessed?
- Have the results of the analysis been used to plan and implement project activities?
- Have the project components/subcomponents been analysed from a beneficiary perspective (poor, gender, age)?

Project gender strategy

Score: _

- Does the project have a specific gender strategy that covers both project management and interventions?
- Does the strategy respond to the baseline analysis?
- Does the gender strategy also involve men?
- Does the strategy differentiate between the needs of young women and young men?
- Does it address economic empowerment, decision-making and workloads?
- Does it have indicators and timelines?
- Are responsibilities for implementation well delineated (who does what)?
- Does the strategy link to the various pro-women policies and programmes of the government?

Personnel/staff capacity

Score: _

- Is a commitment to gender equality reflected in the TORs of PMU staff?
- Is the recruitment of women/young staff encouraged?
- What is the proportion of women to men staff? At different levels of responsibility?
- Has technical gender training been provided to staff, including M&E?
- Is there a gender specialist or focal point in the PMU?
- Do staff possess the required skills to address gender issues and

- provide any special inputs/support required by women?
- Are women field staff used to deliver goods or services to women beneficiaries, when required?

Financing

Score: _

- Are funding levels adequate to support implementation of the gender strategy?
- Does the project have a system for tracking flow of funds to activities targeted at women compared with men?

Ways of working and planning process

Score: _

- Do the director and component heads take responsibility for gender mainstreaming in their respective work areas or do they leave it to the gender focal point?
- Does the PMU work as a team with the gender focal point?
- Are gender equality and women's empowerment issues regularly discussed during staff meetings?
- Does the annual work planning and budgeting process include a gender perspective and are specific activities regularly included?
- Is the working environment supportive of the specific needs of women staff, particularly field staff (e.g. flexible hours, mobility support, etc.)?

Partners and counterparts

Score: _

- Was experience in "working with women" a factor in selecting NGOs and other implementing partners?
- Do implementing partners make efforts to reach/include poorer women?
- Has the project involved institutional/government partners in gender training?

Policy environment

Score: _

- Does the project engage effectively in advocacy and policy dialogue when needed (to develop conducive policies or remove policy obstacles)?

Operational modalities and delivery mechanisms

Score: _

- Are there activities specifically targeted to women to increase their ability to participate (e.g. capacity-building, confidence-building, group formation, leadership training,

etc.)?

- Are any proactive/positive discrimination measures taken (e.g. quotas) to promote women benefiting and participating in key project-related decision-making bodies?
- Are meetings/consultations with women at the community level as inclusive as possible (i.e. women of different ages, marital status, caste, etc.), for example by holding meetings open to all women, thus changing traditional practices that may exclude specific categories of women, such as widows or young women, etc.)?
- Has information on the project and how to access benefits and services reached women to the same degree as men, and poor women in particular?
- Is access to project services simple (e.g. form to fill in, location, language, etc.)?
- Are beneficiary contributions, where required, affordable to different categories of women?

Monitoring and evaluation

Score: _

- Are there specific targets for women (outreach, other?)?
- Are sex- and age-disaggregated data collected to track outcomes and verify the indicators contained in the logframe?
- Does the project's M&E system explicitly measure the project's impact on gender equality and women's empowerment?
- Does the project conduct qualitative and quantitative analyses to measure progress on gender equality and women's empowerment?
- Do monitoring reports analyse and interpret data from a gender perspective? Are the findings fed back to beneficiaries (women and men) and stakeholders (PMU and fieldworkers, partner agencies) in an understandable format and in a timely manner to allow project adjustments?
- Are the tools and methods used for data collection inclusive and gender-friendly (e.g. use of appropriate questions and language; timing of meetings; holding women-only meetings, etc.)?

Total score for your project

Score: _

Compare the total score with the ranges below:

Gender blind: 0-9

Gender neutral: 10-14

Gender aware 15-19

Gender transformative approaches 20 and over

Step 3: Development of a Gender action plan to improve gender equality and poverty targeting performance

You have now arrived to the final step where you will be developing the gender action plan. Based on the findings emerged during step 1-3, please:

respond to the questions listed below, and populate the action plan table.

Monitoring of the plan

The gender action plan will be regularly monitored to assess progress of its implementation. **The project coordinator is accountable for the timely and effective implementation of the action plan** and will **report on it every three months** to the country director and gender team. The Gender and M&E specialists in the project will support the coordinator in this endeavour.

IFAD country director and the gender team IFAD will assess the implementation of the actions included in the plan and provide support – both remotely and during supervision missions.

What are the Gender-related Objectives for each of the project's outcomes?

Please indicate what the gender action plan intends to achieve in the project (e.g. *Expand women's access to and control over fundamental assets, such as capital, land, knowledge and technologies? Strengthen their agency and thus their decision-making role in community affairs and representation in local institutions? Improve well-being and ease women's workload? Ensure a more gender-equitable participation in and benefit from planned activities?*)

What are the concrete activities that will be implemented meeting the strategic objectives of the IFAD gender policy and contributing to project outcomes?

Please describe which concrete activities will be implemented under each project component to achieve your gender equality and poverty targeting goals. These activities will have to be included in the AWPB and should therefore be described also in terms of who will benefit from them (beneficiaries), financial implications (budget) indicator, target and deadline.

Implementing the strategy. Please indicate:

- Who will be responsible for the implementation of the activities described (e.g. implementing providers, project staff, etc.)

Summarize the details of the action plan by populating the following table (linking gender-related activities to the project's logical framework)

Activities		Performance Indicators	Performance Targets	Responsibility	Deadline	Budget
Gender-related objective	Outcome 1:					
	Activity ^{SOx}					
	Output 1.1:					
	Activity ^{SOx}					
	Output 1.2:					
	Activity ^{SOx}					
	Output 1.3:					
Gender-related objective	Activity ^{SOx}					
	Outcome 2:					
	Output 2.1:					
	Activity ^{SOx}					
	Output 2.2:					
Activity ^{SOx}						
Gender actions related to project management						
Activity						

SO1 Addresses strategic objective 1 of IFAD's Gender Policy

SO2 Addresses strategic objective 2 of IFAD's Gender Policy

SO3 Addresses strategic objective 3 of IFAD's Gender Policy

Appendix C1A6: Agro-climatic analysis, cropping system and livelihood and value chain pathways J&K

has diverse ecological regions from lower plains to mountainous regions that offer potential and challenges for agriculture and livestock-related activities which are critical in developing pathways for livelihood expansion and value chain development. The characteristics of the ecological zones, livelihood, and value chain pathways for different ecological zones: (i) Sub-tropical; (ii) temperate; and (iii) intermediate and the districts covered are provided in the table below:

Name of the Agro-climatic zone	Sub-region	Predominant cropping system	Districts covered	Livelihood/Value chain pathways
Jammu and Kashmir Regions - Horticulture				
Sub-tropical Normal summer monsoon ranges 1200-1500mm from mid-June to mid-September.	Irrigated	Jammu: Mango, Litchi, Citrus, Guava, Strawberry, Dragon fruit	Jammu: Jammu, Kathua	Production expansion – High density Storage Value addition & processing Market linkages
	Rainfed	Jammu: Mango, Citrus, Guava	Jammu: samba, Kathua, Reasi	Production expansion Storage Value addition & processing Market linkages
Temperate zone has relatively mild but dry summers with little monsoon and fairly cold-wet winters.	Irrigated	Jammu: Apple, Pear, Stone fruits (Plum, Apricot and Cherry) Nuts: Walnut, Pecan nut, Almond, and Macadamia. Kashmir: Apple, Pear, Stone fruits (Plum, Apricot, Peaches and Cherry) Nuts: Walnut, Pecan nut, Almond, and Macadamia.	Jammu: Doda, Kishtwar, Ramban, Poonch, Rajouri & Kathua Kashmir: Anantnag, Pulwama, Srinagar, Budgam, Baramulla, Kupwara, Kulgam, Shopian, Ganderbal, Bandipore	Production expansion – High density Storage Value addition & processing Market linkages
	Rainfed	Jammu: Apple, Pear, Stone fruits (Plum, Apricot and Cherry) Nuts: Walnut, Pecan nut, Almond, and Macadamia. Kashmir: Apple, Pear, Stone fruits (Plum, Apricot, Peaches and Cherry)	Jammu: Doda, Kishtwar, Ramban, Poonch, Rajouri & Kathua Kashmir: Anantnag, Pulwama, Srinagar, Budgam, Baramulla, Kupwara, Kulgam, Shopian, Ganderbal, Bandipore	Production expansion Storage Value addition & processing Market linkages

Name of the Agro-climatic zone	Sub-region	Predominant cropping system	Districts covered	Livelihood/Value chain pathways
		Nuts: Walnut, Pecan nut, Almond, and Macadamia.		
Intermediate zone has mild summers, monsoons are fair during summer and winters are relatively wet.	Irrigated	Jammu and Kashmir: Stone fruits (Peach, Plum, Apricot), Pear. , Kiwi, Apple, walnut, pecan Sweet Orange, lemon, lime, Guava	Jammu: Udhampur, Rajouri, Reasi, Poonch, Ramban Kashmir: None	Production expansion – High density Storage Value addition & processing Market linkages
	Rainfed	Jammu and Kashmir: Stone fruits (Peach, Plum, Apricot), Pear. Kiwi, Apple, walnut, Pecan Sweet Orange, lemon, lime, Guava	Jammu: Udhampur, Rajouri, Reasi, Poonch, Ramban Kashmir: None	Production expansion Storage Value addition & processing Market linkages
Jammu and Kashmir Regions - Agriculture				
Sub-tropical Normal summer monsoon ranges 1200-1500mm from mid-June to mid-September largely in Jammu.	Irrigated	Basmati rice, wheat, (fodder, oilseeds)	Jammu: Jammu, Kathua, Samba districts. Kashmir: None	Cereal production but not included in the project. This is grown largely close to border areas.
		Non-Basmati rice, wheat/ fodder/ pulses / oilseeds	Jammu: Jammu, Kathua, Samba, Udhampur, Rajouri and Reasi districts. Kashmir: None	Cereal production but not included in the project. This is a low-value crop and is grown largely close to border areas. Rice may be a low value but is an important crop from food security point of view and is also grown in non-border areas.
		Off-season vegetable-based cropping system	Jammu: Jammu, Kathua, Samba, Udhampur, Rajouri and Reasi districts. Kashmir: None	Off-season vegetables and vegetable seed production. High market demand coupled with profitability. Suitable for expansion.
	Rainfed/ Unirrigated	Maize / wheat-based cropping system	Jammu: Kathua, Samba, Udhampur, Rajouri and Reasi districts. Kashmir: None	Cereal-based cropping system which is subsistence agriculture.

Name of the Agro-climatic zone	Sub-region	Predominant cropping system	Districts covered	Livelihood/Value chain pathways
		Millets –sorghum, Finger millet, Kodo millet, Foxtail millet-based cropping system.	Jammu: Kathua, Samba, Udhampur, Rajouri and Reasi	Millets are newly introduced under the subsistence farming system and remain highly priced, but low-value product in the local market. Value chain and domestic trade and export can be developed.
Temperate/sub temperate zones have relatively mild but dry summer with little monsoon and fairly cold-wet winter.	Irrigated	Rice-based / Rice (mono-cropped). Cannot be grown under severe winters.	Jammu: Areas of Ramban, Doda, Kishtwar, Kathua, Reasi, Udhampur, Rajouri, Kashmir: Srinagar and surrounding districts, Ganderwal, Bandipora, Baramula, Anantnag, Kulgaon	High-value aromatic rice, value chain can be developed. High market demand coupled with profitability. Suitable for area expansion.
		Off-season vegetables (vegetable peas, tomato, cucurbits, etc.)	Jammu: Ramban, Doda, Kishtwar, Kathua, Reasi, Udhampur, Rajouri, Kashmir: Srinagar and surrounding districts, Anantnag, Bandipora, Kulgaon, Ganderwal,	Off-season vegetables and vegetable seed production. High market demand. Profitable value chain. Suitable for production expansion.
	Rainfed/Unirrigated	Rice-based / Rice (mono-cropped)	Jammu: Areas of Ramban, Doda, Kishtwar, Kathua, Reasi, Udhampur, Rajouri, Kashmir: Srinagar and surrounding districts, Anantnag, Bandipora, Ganderwal, Kulgaon, Badgam	Important for food security, High-value aromatic rice value chain can be developed. High market demand. Profitable value chain. Suitable for production expansion.
		Maize based / Rajmash	Jammu: Ramban, Doda, Kishtwar, Kathua, Reasi, Udhampur, Rajouri, Kashmir: Srinagar and surrounding districts, Anantnag, Bandipora, Ganderwal, Kulgaon, Badgam	High market demand. Profitable value chain. Suitable for production expansion.
		Saffron and Kala Zeera	Jammu: Kishtwar Kashmir: Srinagar and surrounding districts, Anantnag,	High market demand. Highly profitable value chain. Suitable for production expansion.

Name of the Agro-climatic zone	Sub-region	Predominant cropping system	Districts covered	Livelihood/Value chain pathways
			Bandipora, Ganderwal, Kulgaon, Badgam	
		Potato	Jammu: Ramban, Udhampur Kashmir: Srinagar and surrounding districts, Bandipora, Ganderwal, Kulgaon	Scope for expanding into the potato seed value chain which has high demand
		Minor Millets based	Jammu: Doda, Kishtwar Kashmir: Srinagar and surrounding districts, Anantnag, Bandipora, Ganderwal, Kulgaon, Poonch, Badgam	Millet is under subsistence farming system and remains a low-value product.
Intermediate zone has mild summers, monsoons are fair during summer and winters are relatively wet.	Irrigated	Cereals and pulses	Jammu: Ramban, Doda, Kishtwar, Kathua, Reasi, Udhampur, Rajouri, Kashmir: None	Japonica rice and aromatic rice value chains have the potential for production expansion
		Off-season vegetables	Jammu: Ramban, Doda, Kishtwar, Kathua, Reasi, Udhampur, Rajouri, Kashmir: None	Off-season vegetables and vegetable seed production. High market demand. Profitable value chain. Suitable for production expansion.
	Unirrigated	Cereals and pulses	Jammu: Ramban, Doda, Kishtwar, Kathua, Reasi, Udhampur, Rajouri, Kashmir: None	Cereal-based cropping system is subsistence focussed.

Appendix C1A7: Selection of Value Chains

Implementing a value chain modality in Jammu and Kashmir can have several compelling rationales and benefits, particularly in the context of economic development and growth in the region. Value chains refer to the series of activities that a product or service goes through from its conception to its final consumption, with each step adding value to the product. Here are some key reasons for implementing a value chain modality in Jammu and Kashmir.

Economic Diversification: Jammu and Kashmir's economy has historically been heavily reliant on agriculture and tourism. Diversifying the economy through value chain development can help reduce vulnerability to external shocks, such as fluctuating tourist numbers or crop failures.

Job Creation: Building and strengthening value chains can create employment opportunities throughout the entire production and distribution process. This is crucial in a region like Jammu and Kashmir with a large and growing youth population.

Income Generation: A well-developed value chain can increase the income of individuals and communities involved in various stages of production, from farmers to manufacturers to distributors.

Export Potential: Developing value chains can lead to the production of higher-quality goods that can compete in national and international markets. This can enhance the region's export potential and generate foreign exchange earnings.

Technology Transfer and Innovation: Value chains often require technological advancements and innovation at various stages. Implementing a value chain modality can lead to the transfer of technology and the adoption of modern agricultural, manufacturing, and marketing practices.

Rural Development: Many parts of Jammu and Kashmir are rural and remote. Value chain development can bring infrastructure improvements, better transportation, and access to markets to these areas, leading to overall rural development.

Poverty Alleviation: By increasing the income of those involved in the value chains, there is a direct impact on poverty reduction, which is a critical developmental goal.

Sustainable Development: Value chains can be designed with sustainability in mind, focusing on eco-friendly practices and responsible resource management, which is essential for the fragile ecosystems in the region.

Private Sector Development: Encouraging private sector involvement in value chains can lead to investments in the region and boost economic growth.

Government Revenue: As the economy grows and value chains expand, the government can collect more tax revenue, which can be reinvested in public services and infrastructure.

Conflict Mitigation: Economic development can contribute to stability by providing livelihoods and reducing the incentives for conflict.

Gender Inclusivity: Value chain development can also be designed to promote gender inclusivity by providing women with opportunities to participate in various stages of the production process.

However, it's important to note that implementing a value chain modality in any region requires careful planning, investment, and coordination among various stakeholders, including government agencies, private sector actors, and local communities. Additionally, the specific industries and sectors chosen for value chain development should be based on the region's comparative advantages and potential for growth. A tailored approach that considers the unique characteristics and challenges of Jammu and Kashmir will be essential for success.

As a starting point, a shortlist has been produced of the main commodities grown in the various districts of Jammu and Kashmir which have a potential comparative advantage. The shortlisting of commodities has been done based on off-season availability in the plains, exclusivity of production in the hills, and the intrinsic value of the product amongst others.

The following table gives a categorization according to production and potential marketing features of the produce which are targeted for inclusive value chain development.

Crop	Reason for Inclusion	Amenability for Scale-Up	Remarks
Fresh Produce			
Off-Season Vegetables: - Peas - Cauliflower - Cabbage - Beans - Capsicum, or Bell pepper - Tomato - Knolkhol - Watermelon - Gourds - Okhra	High demand and high price due to geo-climatic advantage Economic diversification Income Generation Gender inclusivity	High	Scope for expansion of production with climate change adaptations related to water, fertilizer and pesticide use.
Temperate Fruits Fruits: Apple, Pear, Stone fruits (Peach, Plum, and Apricot) Nuts: Walnut, Pecan nut, and Almond.	High demand and high price due to geo-climatic advantage Economic diversification Income Generation High scope of increasing production and productivity	High	Scope for expansion, productivity and quality improvement, improving orchard management through rejuvenation, GAP, soil and water management, post-harvest management for improvement of quality and shelf life, and for access to premium markets. In addition, value addition activities need to be expanded.
Sub-tropical fruits Mango, Litchi, Citrus, Guava, Kiwi, Strawberry, Dragon fruit	Geo-climatic advantage Economic diversification Income Generation High scope of increasing production and productivity	High	Scope for expansion, productivity and quality improvement, improving orchard management through rejuvenation, GAP, soil and water management, post-harvest management for improvement of quality and shelf life, and for access to premium markets. In addition, value-addition activities need to be

			expanded.
Grains & Pulses			
Specialty Rice	Geo-climatic advantage Economic diversification Income Generation High scope of increasing production and productivity Chosen for distinct colour/taste/aroma/nutritional quality and grown in selected pockets. Speciality rice has an exclusive market.	High	The small pockets can be scaled up to viable clusters with interventions in planting and crop management, cultural practices, and specific market linkages.
Kidney Beans	Rated as a premium product. Economic diversification Income Generation High scope of increasing production and productivity	High	A strong case for preserving the local varieties using GAP and targeting the prime retail customers.
Spices			
Saffron	High demand and high price due to geo-climatic advantage Economic diversification Income Generation Gender inclusivity	High	Scope for expansion of production with climate change adaptations related to water, fertilizer and pesticide use.
Black Zeera	High demand and high price due to geo-climatic advantage Economic diversification Income Generation Gender inclusivity	High	Scope for expansion of production with climate change adaptations related to water, fertilizer and pesticide use.
Wool			
Organic Wool	High demand and high price due to geo-climatic advantage Economic diversification Income Generation	High.	Scope for collection, processing and marketing of wool exists.

Appendix C1A8: Identified Niche Agricultural and Horticultural Crops

Agricultural Niche crops

Saffron

Saffron is a spice derived from the dried stigma of the saffron crocus flower. It is a valuable spice with a high market price, and Kashmir is known for producing the finest saffron in the world. The expansion of saffron cultivation in Jammu and Kashmir (J&K) has the potential to boost the region's economy and improve the livelihoods of farmers.

Rationale of expansion in J&K

The expansion of saffron cultivation in Jammu and Kashmir holds multifaceted benefits, primarily driven by its high economic value. With Kashmiri saffron fetching an average price of Rs. 2.5 lakh per kilogram, significantly surpassing other spices, its cultivation presents a lucrative avenue for farmers, promising substantial income.

This economic opportunity has the potential to uplift rural communities and reduce poverty in J&K, improving the overall standard of living. The region's climatic and soil conditions further underscore the suitability of Kashmir for saffron cultivation. Cold winters, dry summers, and fertile soil collectively contribute to producing saffron of the highest quality. Beyond economic considerations, the expansion of saffron cultivation aligns with environmental preservation goals.

Saffron cultivation is deeply ingrained in Kashmir's traditions and has played a role in conserving the region's biodiversity. Expanding saffron cultivation becomes not only an economic endeavour but also a means to protect and sustain the unique ecosystem of the region. Moreover, saffron cultivation promotes sustainable agriculture practices. Its cultivation requires less water and fertilizer compared to other crops, and it does not inflict damage on the soil.

This aspect contributes to the broader promotion of eco-friendly farming methods in J&K. In essence, the expansion of saffron cultivation emerges as a holistic strategy, intertwining economic prosperity, environmental conservation, and the promotion of sustainable agricultural practices in the picturesque region of Jammu and Kashmir.

Cultivation Practice in J&K

Saffron cultivation in the Karewa regions of Kashmir follows a meticulous process. Undertaken in rainfed conditions, the crop requires well-drained soil with a pH of 6.5-7.5.

The cultivation stages involve rigorous land preparation through deep ploughing, planting saffron corms in September-October, and irrigation during the flowering period using sprinklers. Being a low-fertilizer crop, saffron benefits from manure or compost application before planting, with regular weed control essential to mitigate nutrient and water competition.

Flower picking, a critical phase, occurs during October-November, with immediate drying of stigmas in the sun or dehydrator, followed by storage in airtight containers.

While saffron cultivation is labour-intensive, the rewards are substantial, with an average yield of 1.5-2 kg/ha and some farmers achieving up to 3 kg/ha. However, data reveals a concerning decline in saffron cultivation area in J&K, decreasing from 5,707 hectares in 2009-10 to 3,715 hectares in 2020-21.

Average productivity, standing at 1.5-2 kg/ha, falls below the global average of 2.5-3 kg/ha. Challenges such as climate change, pests, diseases, and insufficient irrigation facilities hinder the sector.

Packages of Practices of Saffron

Packages of Practices (POPs) are indispensable guidelines for optimizing crop cultivation, and for saffron, these recommendations are pivotal in achieving high yields and quality.

Key aspects of saffron POPs encompass land preparation, emphasizing well-drained soil with a pH of 6.5-7.5, and thorough ploughing and harrowing. Planting saffron corms in rows with specific spacing and depth during September-October ensures optimal growth.

While saffron is drought-tolerant, POPs recommend irrigation using sprinklers during the flowering period. The low-fertilizer nature of saffron doesn't negate the importance of applying manure or compost before planting, and regular weed control is crucial to prevent nutrient and water competition. Data-driven insights from studies conducted by institutions like the Indian Council of Agricultural Research (ICAR) and Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST) highlight the efficacy of adhering to POPs.

Implementing POPs can increase saffron yields by up to 20%, using high-yielding saffron bulbs may enhance yields by 30%, drip irrigation can boost yields by 10%, and integrated pest management practices can reduce losses due to pests and diseases by 50%.

For the saffron sector to flourish, the adoption of POPs is paramount. Government agencies and agricultural extension services must collaborate to disseminate these practices among saffron farmers, ensuring widespread adoption and facilitating a significant improvement in both yields and the overall quality of saffron cultivation.

Best Practices of Saffron Cultivation

Successful saffron cultivation hinges on meticulous adherence to best practices, starting with precise land selection. Well-drained soil with a pH of 6.5-7.5, exposed to a minimum of 6 hours of sunlight daily, creates an optimal environment for saffron.

Planting saffron corms in September-October at a depth of 15 cm and a spacing of 20 x 10 cm establishes a foundation for robust growth. While saffron is drought-tolerant, careful irrigation during flowering, utilizing sprinklers or drip systems, is essential.

Additionally, applying manure or compost before planting ensures adequate soil nutrition. Studies by the Indian Council of Agricultural Research (ICAR) reveal that adherence to recommended practices can enhance yields by up to 20%. Using high-yielding saffron bulbs, as indicated by another ICAR study, can further boost yields by up to 30%.

Research from the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST) emphasizes the positive influence of drip irrigation, potentially increasing yields by 10%. Integrated pest management practices, also identified by SKUAST, contribute to a 50% reduction in saffron losses due to pests and diseases.

Additional best practices include using high-quality saffron bulbs, ensuring proper spacing of plants, providing adequate sunlight, and implementing vigilant pest and disease control.

Harvesting saffron flowers early in the morning when fully open ensures the highest quality stigmas. These comprehensive best practices not only optimize saffron yields but also contribute to the overall sustainability and success of saffron cultivation.

Innovations in Saffron Crop

Innovations in saffron cultivation and production are poised to revolutionize the industry, addressing challenges and enhancing overall efficiency. One significant innovation is the development of high-yielding saffron varieties resistant to pests and diseases.

Studies by the Indian Council of Agricultural Research (ICAR) highlight the potential of these varieties to increase yields by up to 30%, offering a promising avenue for improved production. Tissue culture technology emerges as another game-changer, enabling the rapid production of high-quality saffron plants in just six months, a stark contrast to the 2-3 years required by traditional methods, as indicated by ICAR research.

Precision agriculture, incorporating technologies like GPS and remote sensing, is proving instrumental in optimizing inputs and enhancing saffron yields, with potential increases of up to 15%, according to studies by the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST).

Indoor saffron cultivation is an emerging technology that holds promise for expanding

production beyond traditional saffron-growing regions. SKUAST's findings reveal that indoor cultivation can yield up to four harvests per year, compared to the traditional one harvest annually, potentially transforming saffron production dynamics. Beyond cultivation practices, innovations extend to harvesting and processing technologies, aiming to make these processes more efficient and cost-effective.

Moreover, the development of new marketing and distribution channels seeks to increase accessibility for consumers, potentially boosting demand and prices.

Overall, these innovations in saffron cultivation and production not only hold the promise of increased yields and improved quality but also offer avenues for cost reduction, income enhancement, and improved livelihoods for saffron farmers.

Value Addition Possibilities in Saffron

Saffron, renowned for its culinary and medicinal applications, presents a myriad of value addition possibilities that extend beyond traditional consumption. Saffron extracts, derived from the spice, find applications in various food and beverage products, cosmetics, and personal care items.

Additionally, these extracts can be incorporated into innovative products such as saffron honey, saffron sugar, and saffron salt, enhancing their versatility in cooking, baking, and beverage preparation. Studies by the Indian Council of Agricultural Research (ICAR) and the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST) underscore the growing global demand for saffron value-added products.

Projections indicate a significant market expansion, with a forecasted Compound Annual Growth Rate (CAGR) of 10% for saffron extracts, 15% for saffron blends, and an impressive 20% for saffron-based products over the next five years. This burgeoning demand provides a lucrative opportunity for saffron farmers and processors to augment their income, thereby improving their overall livelihoods.

Moreover, diversification into saffron tourism and branding offers additional avenues for value addition. Saffron tourism, a rising trend, allows farmers to attract visitors to saffron-growing regions, offering insights into cultivation and production processes. Developing and promoting distinct saffron brands enables farmers to differentiate their products in a competitive market, potentially fetching higher prices and establishing a unique market presence.

Interventions to build climate resilience in Saffron:

Climate change poses a substantial threat to saffron cultivation, necessitating proactive measures to enhance climate resilience. One pivotal intervention involves the development and utilization of climate-resilient saffron varieties.

Scientists are working on creating strains resistant to drought, heat, pests, and diseases, providing farmers with tools to maintain production amid changing climatic conditions. Improved irrigation practices, including the adoption of techniques like drip irrigation and rainwater harvesting, are crucial for ensuring water availability during droughts.

Furthermore, climate-smart agricultural practices such as crop rotation, mulching, and conservation agriculture can enhance soil health, reduce water evaporation, and sequester carbon, contributing to overall climate resilience. Farmers can mitigate financial risks through climate risk management strategies like crop insurance.

Diversifying income sources by cultivating alternative crops or engaging in livestock farming adds another layer of resilience, reducing dependence on saffron alone. Developing early warning systems aids farmers in anticipating and preparing for climate shocks, while improved access to credit and financial services is vital for investing in climate adaptation measures.

Government initiatives play a pivotal role in building climate resilience. Financial and technical assistance, policies supporting saffron farmers, and programs for industry development are essential.

Additionally, research institutions, extension agencies, and the private sector contribute by developing climate-resilient saffron varieties, providing training, and creating innovative products and services.

The collaborative efforts of farmers, governments, and stakeholders are crucial for building climate resilience in the saffron industry, safeguarding livelihoods amid changing environmental conditions.

Aromatic Rice

Aromatic rice, known for its distinctive fragrance and flavour, includes varieties like Basmati and Jasmine. Celebrated for its long grains, Basmati originates from the Indian subcontinent, while Jasmine rice, with its floral scent, is a staple in Southeast Asian cuisine. These aromatic grains elevate culinary experiences with their enticing aroma and delightful taste.

Rationale of expansion in J&K

The expansion of aromatic rice cultivation in Jammu and Kashmir (J&K) is underpinned by several compelling rationales. The region's favourable climatic conditions, characterized by a prolonged growing season, cool nights, and ample sunshine, create an ideal environment for producing high-quality aromatic rice.

This unique combination of factors contributes to the distinct flavour and aroma of the rice, meeting the high demand from both domestic and international markets. Aromatic rice, being a high-value crop, not only fetches premium prices but also holds the potential to significantly increase the income of farmers in J&K.

The labour-intensive nature of aromatic rice cultivation, requiring substantial manpower for planting, harvesting, and processing, further contributes to employment generation, particularly in rural areas. The sustainability aspect of aromatic rice cultivation aligns with the principles of sustainable agriculture. With lower water and fertilizer requirements compared to other rice varieties, aromatic rice contributes to resource efficiency.

Additionally, the practice enhances soil health and reduces erosion, further emphasizing its eco-friendly nature. Expanding aromatic rice cultivation in J&K goes beyond economic considerations. It promotes crop diversification, making agriculture more resilient to climate change and other uncertainties.

Moreover, the cultivation of aromatic rice helps conserve the region's biodiversity, preserving the unique ecosystem. The expansion of aromatic rice cultivation is viewed as a catalyst for rural development in J&K. The generation of income and employment opportunities in rural areas not only supports poverty reduction but also contributes to an overall improvement in the standard of living.

Cultivation Practice in J&K

Aromatic rice cultivation in Jammu and Kashmir (J&K) involves nuanced practices distinct from conventional rice cultivation, with key considerations ensuring the optimal quality of the aromatic varieties. Land preparation is critical, demanding well-drained soil with a pH of 6.5-7.5.

Thorough ploughing and harrowing eliminate weeds, creating an ideal seedbed. Sowing commences in March-April, with aromatic rice seeds placed in nursery beds. Transplanting occurs 6-8 weeks later when seedlings reach 20-25 cm height.

Regular irrigation is imperative, especially during flowering and grain filling, necessitating careful water management through methods like sprinklers or drip irrigation to prevent waterlogging. Fertilization is a two-step process, providing a balanced mix of nitrogen, phosphorus, and potassium before transplanting and during the panicle initiation stage.

Weed control is crucial, either through manual weeding or herbicides, to prevent nutrient and water competition. Harvesting, typically in October-November, is timed to ensure mature and hardened grains. Threshing and drying precede the milling process.

To optimize aromatic rice cultivation in J&K, employing high-yielding varieties like Mushkbudji and Kamad, timely seeding for germination and seedling growth, maintaining consistent soil moisture, applying balanced fertilization, regular weed control, and harvesting at the appropriate time are essential practices for ensuring a successful harvest of high-quality aromatic rice.

Packages of Practices of Aromatic Rice

The Package of Practices (POPs) for aromatic rice cultivation provides a comprehensive guide for farmers to optimize yields and grain quality. Key recommendations encompass various stages of cultivation, beginning with meticulous land selection, favouring well-drained soil with a pH of 6.5-7.5, and adequate exposure to sunlight.

The choice of high-yielding aromatic rice varieties, including Mushkbudji, Kamad, and Basmati, is pivotal for success. The nursery management phase involves sowing seeds in March-April, with subsequent transplantation into the main field after 6-8 weeks, when seedlings attain a height of 20-25 cm. Proper spacing at transplanting (20 x 15 cm), coupled with regular irrigation using methods like sprinklers or drip irrigation, is crucial, particularly during flowering and grain filling.

A balanced fertilization strategy, divided into two applications before transplanting and at the panicle initiation stage, ensures the nutritional needs of the moderate-feeding aromatic rice crop. Weed control, pest and disease management, and timely harvesting in October-November are emphasized to safeguard crop health and optimize yield quality.

Additionally, integrating best practices such as using high-quality seeds, maintaining good soil health through organic manure, employing balanced fertilizers based on soil tests, and vigilant pest and disease protection contribute to the overall success of aromatic rice cultivation. Implementation of these practices not only enhances yields but also fosters increased income and improved livelihoods for farmers engaged in aromatic rice cultivation.

Best Practices of Aromatic Rice Cultivation

Successful aromatic rice cultivation hinges on adhering to a set of best practices that optimize yield and grain quality. Land selection involves choosing well-drained soil with a pH of 6.5-7.5 and ensuring adequate sunlight exposure.

Selection of high-yielding varieties like Mushkbudji, Kamad, and Basmati is paramount, with a meticulous approach to nursery management, transplanting, and irrigation practices. Balanced fertilization, weed control, and vigilant pest and disease management are critical components in the cultivation process.

Harvesting, a culmination of these efforts, is conducted when grains mature and harden, typically in October-November.

Beyond the fundamental practices, additional tips include using high-quality seeds, maintaining soil health through regular application of organic manure and compost, and applying fertilizers judiciously based on soil test results.

Protection against pests and diseases is sustained through regular inspection and timely control measures. Harvesting at the right time further ensures the production of high-quality grain.

Aromatic rice cultivation benefits from a holistic approach, incorporating practices such as crop rotation to enhance soil health and water management to prevent waterlogging. Providing support to tall and heavy plants prevents lodging, contributing to overall crop stability. Post-harvest management is equally crucial, involving careful drying and storage to preserve the quality of the valuable aromatic rice. By embracing these best practices and tips, farmers can not only achieve optimal yields and grain quality but also secure increased income and improved livelihoods.

Innovations in Aromatic Rice Crop:

In the realm of aromatic rice cultivation, a plethora of innovative approaches is shaping

the industry's future. High-yielding aromatic rice varieties, such as Mushkbudji and Kamad developed by the Indian Council of Agricultural Research (ICAR), showcase resistance to pests and diseases, offering the potential for substantial yield increases of up to 8 tons per hectare.

Tissue culture technology, spearheaded by the Chinese Academy of Agricultural Sciences, accelerates the production of high-quality aromatic rice plants, generating up to 100,000 plants from a single explant in just six months. Precision agriculture, championed by researchers at the University of California, Davis, introduces technologies like GPS-guided tractors, remote sensing, and variable rate irrigation to optimize inputs and enhance aromatic rice yields.

Simultaneously, in Japan, pioneering efforts in indoor aromatic rice cultivation leverage artificial light and hydroponics, allowing for year-round production in non-traditional growing areas. These innovations transcend borders, promising to revolutionize the aromatic rice industry globally.

From streamlined harvesting and processing technologies to novel marketing channels, these advancements stand to benefit all stakeholders in the aromatic rice supply chain, ranging from farmers and processors to consumers. The ongoing integration of cutting-edge techniques reaffirm the commitment to sustainable, efficient, and resilient aromatic rice production.

Value Addition Possibilities in Aromatic Rice

Aromatic rice, being a high-value crop, presents numerous avenues for value addition that can significantly enhance its market appeal and economic returns. Processing aromatic rice into diverse products, including rice flour, rice bran oil, and rice milk, broadens its utility in various food and beverage applications, adding value to the crop.

Effective branding is another strategy, creating a premium product identity that attracts consumers willing to pay higher prices for quality. Innovations in packaging, such as vacuum-sealed bags, contribute to preserving the freshness and distinctive aroma of aromatic rice, making it more appealing on store shelves. Strategic marketing efforts play a crucial role in expanding the consumer base.

Both online and offline retail channels, along with collaborations with food service establishments, provide avenues to reach a wider audience. According to the ICAR study, the global market for aromatic rice is poised for a 10% Compound Annual Growth Rate (CAGR) over the next 5 years, with increasing demand from developed nations. Moreover, the study underscores the economic advantage of processed aromatic rice products, indicating a 20% premium in the average price of processed aromatic rice flour compared to unprocessed aromatic rice.

This highlights the potential for increased income and improved livelihoods for farmers and processors through effective value addition strategies. Several success stories exemplify these strategies in practice. For instance, ITC's "Basmati Rice" in India, Thai Jasmine Rice Co., Ltd.'s "Hom Mali Rice" in Thailand, and California Rice's "California Basmati Rice" in the United States are brands that have effectively capitalized on the unique qualities of aromatic rice, successfully marketing them to consumers domestically and globally. These examples demonstrate the transformative impact of value addition on aromatic rice, making it a sustainable and lucrative venture for producers.

Interventions to build climate resilience in Aromatic Rice:

Climate change poses a substantial threat to aromatic rice cultivation, necessitating proactive measures for climate resilience. Scientists and agricultural institutions are at the forefront of developing climate-resilient aromatic rice varieties, exemplified by India's ICAR introducing varieties like Mushkbudji and Kamad with heightened resistance to drought, heat, pests, and diseases.

These resilient varieties act as a buffer, enabling farmers to maintain production levels even in the face of adverse climate conditions. Improving irrigation practices is crucial, especially

in drought-prone areas. Initiatives by companies like Thai Jasmine Rice Co., Ltd. in Thailand, involve working closely with farmers to enhance irrigation techniques, ensuring aromatic rice plants have consistent access to water.

Additionally, the promotion of climate-smart agricultural practices, such as crop rotation, mulching, and conservation agriculture, becomes imperative.

Climate risk management strategies, including crop insurance and index-based insurance, offer financial safeguards against climate shocks. California Rice in the United States is actively involved in working with farmers to develop and implement such strategies.

Access to credit and financial services further assists farmers in making crucial investments in climate adaptation measures. Embracing diversified income sources and early warning systems can further fortify aromatic rice farmers against the multifaceted challenges posed by climate change.

Collectively, these interventions serve as a comprehensive approach to bolstering climate resilience in aromatic rice cultivation, safeguarding the livelihoods of farmers and sustaining the industry in the face of evolving climate patterns.

Black Cummin (Kala Jeera)

Kala Jeera, also known as Black Cumin or Shahi Jeera, is a popular spice with a distinct flavour and numerous culinary and medicinal uses. It is not to be confused with regular cumin (*Cuminum cyminum*), as Kala Jeera belongs to a different plant species, *Bunium bulbocastanum*.

Rationale for kala Jeera Expansion

Rich Cultural and Culinary Heritage: J&K has a rich culinary tradition that heavily relies on spices. Kala Jeera has been a part of Indian cuisine for centuries and is a key ingredient in various regional dishes. Expanding its cultivation can help preserve and promote the cultural and culinary heritage of the country.

Health Benefits: Kala Jeera is believed to have several health benefits. It is considered to be a natural remedy for digestive issues, respiratory problems, and more. Expanding its availability can contribute to holistic and natural healthcare solutions in India.

Diverse Agricultural Practices: J&K has diverse agro-climatic zones and regions suitable for different crops. Expanding the cultivation of Kala Jeera can help utilize underutilized land and provide farmers with a new crop to grow, reducing dependency on a few major crops and diversifying agricultural practices.

Economic Opportunities: Expanding Kala Jeera production can create economic opportunities, particularly for small-scale and rural farmers. This spice has the potential to become a valuable cash crop, generating income for many households.

Export Potential: Kala Jeera is in demand not only in India but also internationally. The expansion of its cultivation can open up opportunities for exports, contributing to India's foreign exchange earnings.

Research and Innovation: Investing in the expansion of Kala Jeera can spur research and innovation in spice cultivation, leading to improved agricultural practices and crop yields.

Cultivation practice for Kala Jeera:

Cultivating dragon fruit in Jammu and Kashmir (J&K) demands strategic practices attuned to the region's unique climate. Optimal locations with well-drained soil and abundant sunlight, particularly in lower altitudes and warmer areas, set the stage for successful dragon fruit cultivation.

The selection of disease-resistant and high-yielding varieties, like *Hylocereus undatus* or *Hylocereus megalanthus*, tailored to local conditions is pivotal. Supporting the climbing dragon fruit vines with trellises or structures safeguards against damage and promotes proper growth.

Ensuring well-drained soil fortified with organic matter enhances water retention and nutrient availability. Careful planting of dragon fruit cuttings in adequately spaced trenches facilitates optimal growth and airflow.

A regulated irrigation system is crucial, given dragon fruit's sensitivity to drought, and the application of balanced organic fertilizers sustains plant growth and fruit production.

Implementing integrated pest management practices protects dragon fruit plants from potential threats, contributing to healthy yields. Harvesting when ripe, indicated by colour change and slight yield to pressure, completes the cultivation cycle.

These practices not only foster healthy and high-quality dragon fruit but also contribute to the agricultural diversity and economic growth of the J&K region.

Packaging practice to export and transport kala Jeera domestically

Effective packaging is vital for maintaining the quality and safety of Kala Jeera (Black Cumin) during export and domestic transportation. Airtight containers, such as high-quality plastic or metal, should be used to prevent moisture ingress, and they must have secure, leak-proof seals.

Prior to packaging, a thorough quality check should be conducted to ensure that only clean and high-quality seeds are included. Moisture control measures, like desiccants, are essential to prevent moisture build-up. Proper labelling with crucial details like product name, origin, batch/lot number, packaging date, net weight, and regulatory information is necessary.

Choosing food-grade packaging materials, ensuring seal integrity, and employing palletization for bulk shipments are additional considerations. Bulk packaging in breathable materials, such as jute or woven polypropylene bags, lined with a food-grade liner, is suitable for larger quantities.

Implementation of Hazard Analysis and Critical Control Points (HACCP) principles ensures product safety. Pest-resistant packaging is crucial, and fumigation may be necessary.

Thorough documentation, including compliance with import/export regulations, invoices, and certificates of origin, is essential for both export and domestic transportation. Proper handling, storage, and traceability, along with careful selection of transportation methods and vehicles, further contribute to the success of Kala Jeera in the market.

Innovations in Kala jeera crops

Innovations in Kala Jeera (Black Cumin) cultivation play a pivotal role in enhancing crop productivity, quality, and sustainability. Biotechnological advancements enable the development of genetically modified varieties with improved traits, including resistance to pests and diseases.

Precision agriculture, utilizing technologies like GPS and drones, allows for efficient monitoring and resource management, optimizing yields.

The implementation of drip irrigation conserves water, ensuring consistent moisture for healthier Kala Jeera growth. Embracing organic farming practices addresses the demand for chemical-free produce in domestic and international markets.

Climate-resilient varieties help mitigate the impact of changing weather conditions. Crop rotation and intercropping enhance soil health and diversify income sources.

Smart pest management, integrating pheromone traps and beneficial insects, minimizes the use of chemical pesticides. Mechanization through modern agricultural machinery improves efficiency and reduces labour costs.

Community-based farming fosters resource and knowledge-sharing among farmers. Quality control innovations ensure Kala Jeera meets desired standards. Leveraging digital platforms for market linkages reduces reliance on intermediaries.

Ongoing research and development focus on genetics, cultivation practices, and processing

techniques. Exploring value-added products such as essential oils and spice blends broadens market opportunities. Sustainable practices, digital farming resources, and collaborative efforts contribute to the overall sustainability and growth of Kala Jeera cultivation in India and beyond.

Value Addition Possibilities in Kala Jeera

Value addition in Kala Jeera (Black Cumin) can enhance its economic potential and broaden its appeal to consumers. Here are some possibilities for adding value to Kala Jeera:

Kala Jeera Oil Production: Extracting essential oil from Kala Jeera seeds can be a valuable value addition. Kala Jeera oil is used in aromatherapy, perfumery, and traditional medicine due to its distinctive aroma and potential health benefits.

Spice Blends: Create spice blends that incorporate Kala Jeera as a key ingredient. These blends can be used in various dishes, such as curries, rice preparations, or spice rubs for meats. Develop ready-to-use spice mixes that include Kala Jeera along with other complementary spices.

Health Supplements: Kala Jeera is known for its potential health benefits. Create health supplements or capsules containing Kala Jeera extract or oil, marketed for its digestive and therapeutic properties.

Herbal Tea Blends: Blend Kala Jeera with other herbs and spices to create herbal tea blends that can be sold as wellness teas. Highlight its potential digestive and soothing properties.

Essential Oils for Skincare: Develop skincare products, such as creams or oils, that contain Kala Jeera essential oil due to its aromatic and potentially beneficial properties for the skin.

Educational Workshops and Culinary Classes: Offer workshops and classes to educate consumers on the various uses of Kala Jeera in cooking and traditional medicine. This can create awareness and promote its use.

Intervention to develop climate resilience in Kala Jeera crops:

Developing climate resilience in Kala Jeera (Black Cumin) crops is essential to mitigate the adverse effects of climate change and ensure consistent yields. Here are some key interventions to enhance the resilience of Kala Jeera crops:

Climate-Resilient Varieties: Develop and promote Kala Jeera varieties that are adapted to changing climate conditions. These varieties should be bred to withstand extreme temperatures, drought, and increased susceptibility to pests and diseases.

Crop Rotation and Diversification: Encourage farmers to rotate Kala Jeera with other crops to improve soil health and reduce the risk of pest and disease buildup. Diversification can also help spread the economic risk associated with changing climate conditions.

Water Management: Implement efficient irrigation systems, such as drip irrigation, to reduce water wastage and ensure consistent moisture supply to Kala Jeera plants. Rainwater harvesting can also be promoted to enhance water availability during dry spells.

Soil Health Improvement: Promote organic farming practices that improve soil fertility and structure. These practices include the use of organic manure, cover cropping, and reduced tillage.

Crop Insurance: Encourage farmers to enrol in crop insurance programs that provide financial protection in the event of climate-related crop losses.

Integrated Pest Management (IPM): Train farmers in IPM techniques that reduce the reliance on chemical pesticides and encourage the use of natural predators and organic pest control methods.

To enhance Kala Jeera's climate resilience, employ shade netting to protect against heat stress, promote crop residue incorporation for improved moisture retention, and implement community-based initiatives for collaborative water management.

Floriculture

Floriculture, the cultivation of flowers and ornamental plants, has gained prominence in Jammu and Kashmir, contributing significantly to the state's agricultural landscape. With its diverse climatic conditions, the region provides an ideal environment for a wide variety of flowers. Jammu and Kashmir's floriculture sector not only enhances the aesthetic appeal but also serves as a vital source of income for local farmers.

The rationale of expansion in J&K

Ideal Climatic Conditions: J&K's diverse climate and topography provide an ideal environment for growing a wide variety of flowers. The region's varying altitudes offer different microclimates suitable for cultivating various ornamental plants, ensuring year-round production.

Economic Growth and Income Generation: Floriculture expansion serves as a significant catalyst for economic growth. By nurturing a vibrant flower industry, J&K can create employment opportunities, enhance agricultural income, and stimulate economic activities in rural areas, thereby uplifting livelihoods.

Tourism and Aesthetics: Beautiful gardens and flower displays enhance the visual appeal of the region, attracting tourists and bolstering the tourism industry. Additionally, well-maintained public spaces contribute to the overall aesthetics of cities and towns, fostering civic pride and cultural enrichment.

Export Potential: J&K's unique flowers have the potential to capture national and international markets. Cultivating exotic and indigenous flower varieties can boost exports, generating foreign exchange and improving the state's trade balance.

Biodiversity Conservation: Floriculture, especially the cultivation of native and endangered plant species, contributes to biodiversity conservation. Preserving indigenous flora helps in maintaining ecological balance, preserving genetic diversity, and protecting native species from extinction.

Employment Opportunities: Expansion in floriculture creates employment opportunities not only in cultivation but also in areas like landscaping, flower arrangement, and agro-processing. This, in turn, addresses unemployment issues and supports skill development.

Cultivation Practice for Floriculture in J&K

Floriculture in Jammu and Kashmir (J&K) stands as a thriving agricultural endeavour, encompassing diverse ornamental plants across the region. With meticulous care, over 100,000 hectares of land host a myriad of flowers.

Popular varieties including roses, tulips, and lilies are cultivated, with a particular emphasis on preserving native species. The cultivation process involves strategic planning, where varying altitudes provide unique microclimates for different flower types. Adequate irrigation, averaging 800-1000 mm annually, sustains these vibrant blooms.

Farmers employ modern horticultural techniques, including soil testing to tailor fertilization, ensuring optimal growth conditions. Integrated pest management strategies, emphasizing natural predators, have notably reduced chemical pesticide usage, promoting eco-friendly practices. Cultivation calendars are finely tuned, with blooming periods strategically timed for local and international flower shows, enhancing market value.

Harvesting, a delicate process, occurs during specific blooming seasons, often from spring to early autumn. Post-harvest, careful handling and refrigeration in state-of-the-art facilities preserve the freshness and longevity of the flowers.

This meticulous approach not only sustains the region's rich biodiversity but also fuels the ornamental plant industry, contributing significantly to the local economy and cultural heritage.

Packaging Practice to export and transport floriculture products domestically

In the floriculture industry of Jammu and Kashmir, careful packaging practices ensure the safe and fresh transportation of flowers both domestically and for export.

For international export, flowers are meticulously packed in specialized packaging materials designed to maintain their freshness during extended journeys. Flowers destined for overseas markets are often packaged in sturdy cardboard boxes with built-in cooling systems to regulate temperature and humidity.

Additionally, flowers are cushioned with soft materials like foam and tissue paper to prevent bruising and damage during transit.

Domestically, flowers are usually transported in ventilated plastic crates, allowing proper airflow to preserve their quality. For delicate or premium flowers, individual pouches or bags made from breathable materials safeguard them from damage and maintain their freshness.

Additionally, careful grading based on bloom size and quality ensures uniformity, enhancing the visual appeal of bouquets and arrangements. These packaging practices not only preserve the aesthetic beauty of the flowers but also extend their shelf life, meeting the demands of both local and international markets.

Best Practices of Floriculture Cultivation

In floriculture cultivation, adherence to best practices is crucial for ensuring the production of high-quality and visually appealing flowers. Begin with meticulous selection of flower varieties tailored to the local climate and soil conditions.

Optimal site selection on well-drained, sunny terrain with adequate spacing between plants facilitates proper air circulation, reducing the risk of diseases. Regular pruning and training maintain plant shape, enhance sunlight exposure, and aid in disease prevention.

Implement efficient irrigation systems such as drip or sprinkler irrigation to ensure consistent moisture supply, while regular soil testing guides precise and balanced fertilizer application. Integrated pest management (IPM) techniques minimize chemical pesticide usage, promoting environmentally friendly practices.

Harvesting flowers at the appropriate maturity stage, specific to each variety, and handling them gently to prevent damage is essential.

Post-harvest, employing cold storage facilities extends flower freshness and shelf life. Conducting market research helps align production with consumer preferences, ensuring market demand is met.

Embracing eco-friendly practices like cover cropping and biodiversity enhancement fosters environmental sustainability, reducing the ecological footprint of floriculture.

Innovations in Floriculture

Innovations in floriculture have revolutionized the industry, enhancing productivity, quality, and environmental sustainability. Smart technologies have been instrumental, with the integration of sensor systems and data analytics enabling real-time monitoring of plant health and environmental conditions.

These advancements allow precise control over irrigation, leading to optimal water usage and conservation, reducing water consumption by approximately 30%.

Genetic advancements have played a pivotal role. Disease-resistant flower varieties developed through genetic modification have significantly reduced the need for chemical pesticides, lowering pesticide usage by up to 50%. This not only benefits the environment but also ensures the safety of farmworkers.

Vertical farming, employing stacked layers to grow plants, has maximized space utilization. Utilizing controlled environments, this method allows year-round cultivation, optimizing production efficiency and increasing overall yield.

Furthermore, innovations in breeding techniques have led to the development of novel

flower varieties with enhanced traits such as longer vase life, vibrant colours, and unique fragrances, meeting diverse market demands.

Robotics and automation have streamlined tasks like pruning and harvesting, reducing labour costs and enhancing precision. These technologies have not only increased the yield of flowers but also improved the quality by minimizing damage during harvesting.

Additionally, the implementation of sustainable packaging materials, such as biodegradable wraps and eco-friendly containers, has reduced plastic usage, promoting environmentally responsible practices.

These innovations collectively have propelled floriculture into a new era of sustainable and high-yield cultivation, ensuring the industry meets growing demands while minimizing its ecological impact.

Value Addition Possibilities in Floriculture

Value addition in floriculture opens a plethora of opportunities, transforming flowers into various high-demand products and contributing to economic sustainability. One avenue is the creation of exquisite floral arrangements and bouquets tailored for events and special occasions, catering to a niche market.

These customized arrangements command premium prices, significantly increasing the value of the flowers. Another avenue lies in essential oils and perfumes extracted from aromatic flowers, serving both the cosmetic and therapeutic industries.

Aromatherapy and herbal products utilizing floral essences have gained popularity, offering added value.

Dried flowers, utilized in potpourri and decorative crafts, extend the shelf life and market appeal of the blooms. Additionally, the production of flower-based natural dyes for textiles taps into eco-friendly practices, meeting the rising demand for sustainable fashion.

The utilization of spent flowers and plant material for organic compost and biodegradable packaging materials further adds value, creating circular economy practices within the floriculture industry. By exploring these value addition possibilities, floriculturists can enhance profits, reduce waste, and contribute to a more environmentally conscious agricultural sector.

Interventions to build climate resilience in Floriculture

Climate-Adapted Varieties: Selecting flower varieties resilient to temperature fluctuations and water stress is essential. Breeding programs can develop hybrids capable of thriving in changing climates, ensuring consistent yields.

Water Management: Implementing efficient irrigation systems, like drip irrigation, conserves water and ensures precise moisture control. Rainwater harvesting and water recycling techniques further enhance water availability, mitigating drought risks.

Weather Forecasting: Utilizing advanced weather forecasting technologies aids in anticipating extreme weather events. Timely information enables farmers to implement preventive measures, reducing losses during unpredictable weather conditions.

Integrated Pest Management (IPM): Implementing IPM practices reduces reliance on chemical pesticides. Beneficial insects, natural predators, and disease-resistant plant varieties minimize pest damage, ensuring healthier crops and increased yields.

Post-Harvest Preservation: Investing in modern cold storage facilities and efficient transportation systems extends flower freshness. Enhanced post-harvest management reduces losses, ensuring a consistent supply of high-quality flowers to the market.

Soil Health Enhancement: Climate-smart agricultural practices like mulching and cover cropping improve soil structure and water retention. These methods foster soil carbon sequestration, enhancing soil health and resilience against climate-induced stresses.

Climate-Resilience Financing: Providing financial support and insurance mechanisms to

floriculturists safeguards their livelihoods during climate-related crop losses. Access to climate-resilient financing ensures economic stability for growers.

Willow

Willow trees in Kashmir, second only to Chinar trees in their ability to provide coolness, freshness, and oxygen, have a rich history of traditional use, including being used for firewood and crafting high-quality cricket bats. While once extensively cultivated alongside paddy fields and marshy lands, the willow industry in the region has faced significant challenges. Factors such as mass urbanization, shrinking agricultural land, and a decline in sports activities due to terrorism-related violence have led to a crisis in the willow industry. Thousands of people in Jammu and Kashmir and neighbouring states depend on willow-related activities for their livelihoods. The government is aware of these issues and needs to implement protective policies to safeguard the industry and the livelihoods it supports. Willow alone constitutes more than 36% of total broad leaf tree plantation in Jammu & Kashmir. Total population willow may be about 38million trees present absolutely in Kashmir.

Rationale for expansion of willow cultivation in Jammu and Kashmir

Economic Benefits: Willow is a valuable crop with a wide range of commercial uses, including the manufacture of cricket bats, fruit boxes, wicker products, and other items. Expanding willow cultivation would create jobs and boost the local economy, an income source for farmers & locals.

Environmental Benefits: Willow trees are beneficial for the environment in a number of ways. They help to improve air and water quality, reduce soil erosion, and provide habitat for wildlife. Expanding willow cultivation would help to protect and enhance the natural environment of Jammu and Kashmir and help to mitigate the effects of climate change by absorbing carbon dioxide from the atmosphere and also help to improve water quality by filtering pollutants from runoff.

Social Benefits: Willow cultivation is a traditional practice in Jammu and Kashmir, and it plays an important role in the cultural heritage of the region. Expanding willow cultivation would help to preserve and promote this cultural heritage as associated with a number of cultural festivals and events.

Cultivation practices for willows in Jammu and Kashmir

Climate and soil requirements: Willow trees are best suited to temperate climates with well-drained soils. Jammu and Kashmir has favourable climate and soil conditions for willow cultivation.

Propagation: Willow trees can be propagated from seed or cuttings. Cuttings are the most common method of propagation in Jammu and Kashmir. Willow cuttings are taken from healthy trees in the fall or winter. The cuttings should be about 6-12 inches long and have at least two buds. The cuttings should be planted in a moist, well-drained medium.

Planting: Willow cuttings are planted in the spring or fall. The cuttings should be planted about 6 inches deep and spaced 2-3 feet apart. Willow trees also prefer full sun, but they can tolerate partial shade.

Watering: Willow trees require regular watering, especially during the first year after planting. Willow trees should be watered deeply once a week. During hot, dry weather, willow trees may need to be watered more often.

Fertilization: Willow trees should be fertilized annually with a balanced fertilizer.

Pruning: Willow trees should be pruned regularly to remove dead or diseased branches and to promote growth. When pruning willow trees, it is important to remove any branches that are dead, diseased, or damaged. It is also important to remove any branches that are crossing or rubbing against each other.

Packaging practices for willows

Willow logs: Willow logs are typically packaged in bundles and wrapped in plastic or burlap, protecting the logs from damage and moisture during transportation and storage.

Willow cuttings: Willow cuttings are typically bundled and wrapped in wet paper or plastic. This helps to keep the cuttings moist and prevents them from drying out.

Willow wicker: Willow wicker is typically bundled and wrapped in plastic or burlap, protecting from damage while transportation.

Best practices for willow cultivation

Choose the right cultivar: There are many different cultivars of willow trees, each with its own unique characteristics. It is important to choose a cultivar that is well-suited to the climate and soil conditions in Jammu and Kashmir.

Plant at the right time: Willow cuttings should be planted in the spring or fall, when the soil is cool and moist.

Water regularly: Willow trees require regular watering, especially during the first year after planting.

Fertilize annually: Willow trees should be fertilized annually with a balanced fertilizer. . A nitrogen-rich fertilizer can help to promote growth, while a phosphorus-rich fertilizer can help to improve root development.

Prune regularly: Willow trees should be pruned regularly to remove dead or diseased branches and to promote growth and can also be used to shape the tree and to control its size.

Protect from pests and diseases: Willow trees are susceptible to a number of pests and diseases. It is important to inspect trees regularly and to take steps to control pests and diseases if they are found.

Innovations in willow cultivation

Tissue culture: Tissue culture is a technique that can be used to produce large numbers of willow plants from a small amount of plant material. This technique can help to reduce the cost of willow propagation and to produce plants that are free of pests and diseases by producing plants of desired characteristics.

Genetic modification: Genetic modification can be used to develop willow trees with improved characteristics, such as faster growth, resistance to pests and diseases, and improved wood quality.

Value addition that could be done to willows from Jammu and Kashmir

Willow cricket bats: Willow cricket bats from Jammu and Kashmir are known for their high quality. The willow wood used to make these bats is strong and durable, and it has good grain structure. The global cricket bat market is estimated to be worth USD 1.7 billion in 2023 and is expected to grow at a CAGR of 6.5% from 2023 to 2028.

Willow fruit boxes: Willow fruit boxes are lightweight and durable, making them ideal for transporting fruits and vegetables.

Willow wicker products: Willow wicker from Jammu and Kashmir is used to make a wide range of products, including baskets, furniture, and decorative items.

Willow wood products: Willow wood can be used to make a variety of products, including flooring, panelling, and furniture.

The government of J&K can promote the export of willow products by participating in trade shows and exhibitions, launching export promotion programs, and establishing export facilitation centres.

Interventions to develop climate resilience in willows

Choose climate-resilient cultivars: There are a number of willow cultivars that are more

tolerant of drought, heat, and other climate stresses. It is important to choose cultivars that are well-suited to the changing climate in Jammu and Kashmir.

Some examples of climate-resilient willow cultivars include peachleaf willow (*Salix amygdalina*), black willow (*Salix nigra*), sandbar willow (*Salix interior*), and diamond willow (*Salix eriocephala*).

Improve water management: Willow trees require adequate water to survive and thrive. It is important to implement water management practices that help to conserve water and to protect willow trees from drought. **Mulching:** Mulching willow trees can help to retain moisture in the soil and reduce evaporation

Mulch trees: Mulching willow trees can help to retain moisture in the soil and to suppress weeds. Mulching can be done with Wood chips, Bark chips, Straw, Leaves.

Protect trees from pests and diseases: Climate change can make willow trees more susceptible to pests and diseases. It is important to inspect trees regularly and to take steps to control pests and diseases if they are found.

Kidney Beans

Rationale for expansion in JK for Kidney Beans:

The rationale behind expanding kidney bean cultivation in Jammu and Kashmir (JK) is multifaceted. Firstly, kidney beans are a rich source of protein, making them an excellent dietary staple, particularly for vegetarian diets.

They also contain significant amounts of fibre, which aids digestion, helps manage weight, improves gut health, and prevents spikes in blood sugar levels, thereby helping manage type 2 diabetes.

By promoting kidney bean cultivation, JK can enhance local diets' nutritional quality while also contributing to food security.

Cultivation practices in JK for Kidney Beans:

Cultivating kidney beans in JK involves several key steps. The crop is typically grown during the Kharif season in hilly regions or during the spring season in lower hills/Tarai regions.

The soil should be well-drained loamy soil with a pH range of 5.5-6.0¹¹, which is conducive to kidney bean growth. Seeds are sown at a depth of 6-7 cm¹⁶, ensuring they are adequately covered but not too deep to hinder germination.

Regular watering is essential, particularly during dry spells¹⁷, to maintain soil moisture levels conducive to growth.

Package of practices of Kidney Beans:

A comprehensive package of practices can optimize kidney bean cultivation outcomes. Before sowing, seeds should be treated with Thiram@4gm per Kg of seeds.

To protect against fungal diseases that could affect germination or seedling health. Fertilization involves applying Nitrogen@40kg/acre and Phosphorus@25kg/acre using Urea@87kg and SSP@150kg/acre respectively, providing essential nutrients for plant growth and development.

Weed control is crucial during the initial growth period¹⁶ as weeds compete with crops for nutrients, water, light, and space.

Best practices of Kidney Beans cultivation:

Successful kidney bean cultivation involves several best practices. Choosing the right variety that suits your climate and soil conditions is crucial as different varieties have varying adaptability to environmental conditions.

Preparing the soil by removing weeds and adding organic matter improves soil fertility and structure while reducing competition from weeds.

Planting seeds at the appropriate depth and spacing ensures optimal growth, while regular watering and fertilization promote healthy plant development.

Innovation in Kidney Beans crop:

Innovation in kidney bean cultivation has led to the development of new varieties with improved characteristics. For instance, researchers led by Juan Osorno at North Dakota State University have recently released two new kidney bean varieties – Talon and Rosie.

These varieties exhibit improved resistance to root pathogens and bacterial diseases, enhancing their resilience and yield potential.

Value addition possibilities in Kidney Beans:

Kidney beans offer numerous possibilities for value addition. They can be processed into various products such as flour, snacks, protein isolates, and extracts. These value-added products can be used in the food industry, offering diverse culinary applications while enhancing the nutritional profile of food products.

Interventions to build climate resilience in Kidney Beans:

Building climate resilience in kidney bean cultivation involves research and development (R&D) efforts aimed at developing climate-resilient crops and agricultural practices.

Such interventions can help smallholder farmers adapt to changing climatic conditions, enhance crop productivity, and bolster food security. This could involve breeding new varieties with improved tolerance to environmental stresses or developing innovative cultivation practices that optimize resource use efficiency under varying climatic conditions.

Shallot

Rationale for expansion in JK for shallot

The rationale for expanding shallot cultivation in Jammu and Kashmir (JK) is multifaceted. Shallots, a type of onion that are smaller and have a milder, sweeter flavour, are highly valued in culinary applications for their unique flavour and potential health benefits.

They are also known to have medicinal properties, which could contribute to the health and well-being of the local population. Expanding shallot cultivation in JK could diversify agricultural production, increase income for farmers, and contribute to food security in the region.

This could also stimulate local economies by creating jobs related to the cultivation, processing, and marketing of shallots.

However, it's important to note that successful expansion would require careful planning and consideration of various factors such as local climate conditions, soil quality, availability of quality seeds or sets, and market demand.

Cultivation practices in JK for shallot

Cultivation practices for shallots in JK would likely be similar to those used for other types of onions. This typically involves preparing the soil with organic matter to ensure it is well-draining. Shallots are usually planted from sets (small immature bulbs) in late fall or early spring.

They require full sun and regular watering. It's also important to keep the area around them weed-free to prevent competition for nutrients. In addition, farmers would need to monitor for pests and diseases that could affect the crop's health and yield.

Package of practices of shallot

The package of practices for shallot cultivation includes several steps:

Preparation: The soil should be prepared with organic matter to ensure it is well-draining. This can be achieved through the addition of compost or other organic materials.

Planting: Shallots are usually planted from sets (small immature bulbs). The sets should

be planted with their tips just showing above the surface of the soil.

Care: Shallots need regular watering and weeding. They also benefit from mulching to conserve moisture and suppress weeds.

Harvesting: Shallots are ready to harvest when the foliage starts to die down. It's important to allow the bulbs to dry properly before storing them.

Best practices of shallot cultivation

Successful shallot cultivation relies on several key practices. Optimal site selection involves full sun exposure and well-drained soil, with avoidance of flood-prone areas.

Soil preparation, especially for heavy clay, includes incorporating sand or compost and raising beds to enhance drainage. Planting in either spring or fall, with shallots set 1-2 inches deep and 3-6 inches apart, ensures proper spacing.

Regular watering, particularly in the initial weeks after planting, is crucial, with deep watering weekly or more in hot, dry weather. Fertilization using a balanced formula like 10-10-10 every few weeks supports shallot growth.

Mulching with a 2-3-inch layer helps retain soil moisture and suppress weeds. Vigilance against pests like thrips, aphids, and diseases such as white rot is essential, necessitating regular monitoring and prompt control measures. Harvesting occurs in the fall as the plant tops yellow.

Shallots can be stored in a cool, dark place for up to six months. Additional tips encompass selecting healthy shallots, crop rotation for pest and disease prevention, regular weeding, deep watering, consistent fertilization, and vigilant monitoring for immediate issue resolution. Following these practices contributes to a thriving and abundant shallot harvest.

Innovation in shallot crop

The shallot crop industry is experiencing a wave of innovations aimed at enhancing various aspects of cultivation, from improved varieties to sustainable practices. New shallot varieties, exemplified by the 'Innovator,' exhibit enhanced characteristics like taste, texture, storability, and resistance to pests and diseases.

Growing practices are evolving with the adoption of precision agriculture technologies, optimizing resource use and increasing efficiency. Innovations in harvesting and packing technologies, such as automated machines, contribute to improved quality and extended shelf life, minimizing bruising and damage. Additionally, novel marketing and distribution strategies, like online sales and direct marketing channels, are connecting growers with consumers more directly.

Sustainability is a growing focus in the industry, with practices like the use of renewable energy, waste reduction, and improved water management.

Further innovations include the development of shallot seed varieties offering advantages like earlier maturity and reduced risk of pests. Shallot hydroponics, a soil-less growing system, brings benefits such as higher yields and reduced water usage. Value-added products like shallot chips, powder, and oil are expanding the market and attracting new consumers.

These innovations collectively contribute to the industry's sustainability, efficiency, and market reach, empowering growers to enhance the overall quality and profitability of shallot production.

Value addition possibilities in shallot

Value addition possibilities in shallots include processing them into various products such as peeled onions, flakes, powder, paste, and pickles. These value-added products can have a longer shelf life and offer convenience to consumers.

Additionally, shallots can be used in the production of essential oils, which have potential applications in the pharmaceutical and cosmetic industries.

Furthermore, shallots can be used as a base for various sauces and condiments, adding value to other food products. They can also be incorporated into ready-to-eat meals, providing convenience for consumers and adding value to the product.

Interventions to build climate resilience in shallot

Building climate resilience in shallot cultivation involves adopting practices that can help the crop withstand changing climate conditions. This could include the use of drought-tolerant varieties, implementing water-saving irrigation techniques, and practicing crop rotation to maintain soil health and fertility.

Additionally, using cover crops can help improve soil structure, increase organic matter, and reduce erosion. It's also important to monitor and manage pests and diseases, as these can become more prevalent with changing climate conditions.

Other interventions could include the use of climate-smart agricultural practices such as conservation agriculture, agroforestry, and integrated pest management. These practices not only help build resilience to climate change but also contribute to sustainable agricultural production.

Medicinal and Aromatic Plants

Aromatic and medicinal plants (MAPs) are plant species cultivated for their fragrance, flavour, or therapeutic properties. They are used in various industries, including food, cosmetics, pharmaceuticals, and traditional medicine. MAPs provide economic, environmental, health, and cultural benefits, and India is poised to become a global leader in MAP cultivation.

Rationale for Expansion

Expanding the cultivation of aromatic and medicinal plants (MAPs) in India offers a multitude of benefits.

Economically, MAPs serve as a lucrative income source, in demand for flavourings, cosmetics, pharmaceuticals, and essential oils.

Environmentally, MAPs contribute to soil health, erosion reduction, biodiversity increase, and carbon sequestration, aiding in climate change mitigation.

Medicinally, MAPs have historical use in treating various conditions, promoting immune health, and overall well-being. Socially, MAPs hold cultural significance in ceremonies and traditional medicine.

Specifically in India, with a rich tradition in MAP use, there's a robust demand both domestically and internationally. India's diverse climates and soils position it as a potential major global MAP producer.

Cultivating MAPs can stimulate job creation, particularly benefiting small-scale farmers, thereby boosting rural economies and reducing poverty.

Supported by initiatives like the National Medicinal Plants Board, India has the potential to emerge as a global leader in MAP production. In essence, expanding MAP cultivation aligns with economic, environmental, health, and social objectives.

Cultivation Practices in Jammu and Kashmir:

Cultivation practices in Jammu and Kashmir encompass various general principles applicable across the state, promoting optimal crop growth.

Fertile, well-drained soil undergoes preparation with manure or compost, coupled with ploughing for enhanced fertility. The temperate climate prompts a need for irrigation, achieved through diverse methods.

Fertilization is crucial for most crops, its type and quantity varying by crop type. Vigilant pest and disease control, utilizing pesticides, biological methods, and cultural practices, is essential due to the region's susceptibility.

Crop-specific practices highlight the significance of staple crops like rice, cultivated in terraced fields from May to September, and wheat, grown in plains and foothills from October to April.

Maize, a popular crop, is planted in April and harvested in September. Renowned for its fruits, Jammu and Kashmir's valleys yield apples, pears, peaches, and cherries, while vegetables like tomatoes, potatoes, onions, and garlic thrive in plains and foothills. Harvesting methods vary, with most crops hand-harvested, while mechanized harvesting is adopted for wheat and rice.

The agricultural landscape is dynamic, with ongoing adoption of new technologies and sustainable practices by farmers to enhance productivity and minimize environmental impact.

Packaging Practices:

Packaging practices in Jammu and Kashmir are diverse, adapting to product types and market destinations. Utilized materials encompass wood, metal, glass, plastic, and paper, with selection based on the nature of the product and the target market.

Wood is often chosen for exporting fruits and vegetables, while plastic is prevalent in packaging food and beverages for domestic consumption.

Key principles include eye-catching and informative packaging designs that safeguard products during transport and storage.

Labelling adheres to strict guidelines, including product details, manufacturing and expiry dates, and manufacturer information according to Indian Food Safety and Standards Authority (FSSAI) regulations.

Specifically, fruits and vegetables are commonly packaged in wooden crates lined with protective materials.

Food and beverage items find their place in plastic bottles, jars, or bags, labelled comprehensively for consumer information and protection. Handicrafts, significant to the region, are typically packaged in cardboard or wooden containers, ensuring protection through materials like paper or foam.

Jammu and Kashmir's packaging landscape is evolving, with companies embracing new technologies and materials to enhance quality and sustainability.

Government initiatives, such as subsidies for packaging companies utilizing recycled materials, signify a commitment to fostering sustainable packaging practices in the state. Overall, these efforts contribute to the continuous improvement of packaging practices in Jammu and Kashmir.

Best Practices of Aromatic and Medicinal Plant Cultivation:

Successful aromatic and medicinal plant cultivation relies on careful adherence to best practices. Key principles encompass site selection in well-drained, sunlit areas, avoiding waterlogged conditions.

Soil preparation involves ensuring loose, friable soil through techniques like adding compost or sand and raising beds. Planting methods vary, including seeds, cuttings, or transplants, with timing depending on specific plant species and climate.

Regular but cautious watering, balanced fertilizer application, and mulching for moisture retention are essential. Monitoring for pests and diseases, timely harvesting, and proper storage methods contribute to plant health and product quality.

Additional tips include cultivating plant variety, practicing crop rotation, employing organic methods, and maintaining thorough records for progress tracking and improvement. Adhering to these practices fosters a robust harvest of aromatic and medicinal plants.

Innovations in Aromatic and Medicinal Plant:

In the aromatic and medicinal plant (AMP) industry, various innovations are transforming cultivation, harvesting, and processing practices.

New plant varieties with enhanced characteristics, like improved resistance to pests and diseases, are being developed, such as lavender varieties with higher oil yields.

Precision agriculture technologies are optimizing growing practices, reducing resource use like water and fertilizer.

Automated harvesting machines are enhancing efficiency while minimizing damage risks. Advanced extraction methods, including microwave-assisted techniques, are improving the quality and yield of essential oils.

Innovative products like essential oil-based cleaning items and cosmetics are expanding the market. Sustainability is a growing focus, incorporating practices such as renewable energy use, waste reduction, and improved water management.

Additional innovations include molecular breeding for desired traits, gene editing tools for improved crop characteristics, and the development of value-added products like nutraceuticals and cosmetics.

Collectively, these innovations are elevating the sustainability, efficiency, and quality of AMP production, opening up new consumer markets.

Value addition possibilities in Aromatic and Medicinal Plant:

Value addition in aromatic and medicinal plants (AMPs) opens diverse avenues, enhancing profitability and appealing to broader consumer markets.

Essential oils, extracted through methods like steam distillation, find applications in aromatherapy, cosmetics, and food products. Oleoresins, containing both oils and resins, are utilized in food, spices, and pharmaceuticals.

Herbal extracts, obtained through techniques like maceration, feature in supplements, teas, and topicals.

Phytochemicals, the active ingredients, extracted through methods like supercritical fluid extraction, contribute to dietary supplements, functional foods, and pharmaceuticals.

Further value-added products include essential oil-based cleaning items, cosmetics, and fortified functional foods and beverages.

These additions, such as AMP-based nutraceuticals and cosmetics, not only diversify product offerings but also tap into health-conscious markets, establishing AMPs as versatile and beneficial components in various industries.

Interventions to build climate resilience in Aromatic and Medicinal Plant:

Climate change poses a significant threat to the production of aromatic and medicinal plants (AMPs), impacting crops through rising temperatures, extreme weather events, and altered precipitation patterns.

To enhance climate resilience in AMPs, interventions involve selecting climate-resilient plant varieties, employing precision agriculture technologies for better monitoring, and adopting sustainable practices to improve soil health.

Diversifying crops, implementing efficient water management, and protecting against extreme weather events are crucial strategies.

Additionally, fostering sustainability in the AMP industry includes practices like using renewable energy, waste reduction, and improved water management.

Developing early warning systems, providing access to climate information, offering financial support to growers, and promoting collaborative knowledge-sharing further contribute to building resilience in the face of climate change, ensuring the continued viability and productivity of the AMP industry.

II. Fruit and Nut crops

Kiwi

Kiwi, a nutrient-rich fruit, is packed with vitamin C, K, and E. Its vibrant green flesh, speckled with tiny seeds, offers a unique sweet-tart flavour. Known for its health benefits, kiwi promotes digestion, boosts immunity, and supports heart health. This small, fuzzy fruit is a delicious addition to a balanced diet.

Rationale of expansion in J&K

The expansion of kiwi cultivation in Jammu and Kashmir (J&K) is strategically founded on the region's favourable climate and well-drained soils. With a temperate climate and a prolonged growing season, J&K provides an ideal environment for kiwi cultivation, ensuring optimal fruit development.

This data-driven initiative is bolstered by global trends, as the kiwi market is projected to grow from USD 10.31 billion in 2022 to USD 14.46 billion by 2027, at a Compound Annual Growth Rate (CAGR) of 6.04%. J&K's potential to become a major supplier of high-quality kiwi aligns with the increasing global and domestic demand for this nutritious fruit. India, ranking as the third-largest kiwi importer globally, spends an average of INR 200 per kilogram on kiwi imports.

By locally cultivating kiwi, J&K can not only meet domestic demand but also contribute to import substitution, reducing India's reliance on external sources. Economically, kiwi cultivation in J&K holds promising prospects, offering farmers the opportunity to earn up to INR 500,000 per hectare.

This high-value crop not only benefits individual farmers but also contributes to job creation and overall rural economic development. The government's data-driven approach, supported by subsidies for planting materials, irrigation systems, and technical assistance, ensures the sustainable and successful expansion of kiwi cultivation in J&K. This initiative is poised to bring about substantial economic and social gains, establishing J&K as a key player in the thriving kiwi market.

Cultivation Practice in J&K

In cultivating kiwi in Jammu and Kashmir (J&K), it's crucial to align practices with the unique climate and soil conditions. The selection of well-drained soils with a pH of 6.0-7.0 and protection from winds is essential.

Planting in the optimal seasons, with a spacing of 4-5 meters between plants, ensures proper growth. Regular irrigation, especially during initial years, is vital, but caution must be exercised to avoid overwatering and subsequent root rot.

For optimal yields, regular fertilization with a balanced, nitrogen-rich fertilizer is recommended. Pruning, typically conducted in late winter or early spring, is necessary for maintaining shape and encouraging fruiting.

Due to the dioecious nature of kiwi plants, ensuring one male plant for every 8-10 female plants is critical for pollination. Harvesting in the fall when the fruit is firm and slightly yellow is standard.

Additional considerations for J&K include selecting cultivars suited to the region, planting in sheltered locations, mulching for moisture conservation, and vigilant monitoring for pests and diseases. These data-driven practices, adapted to the region's specifics, can lead to sustained kiwi production in J&K, contributing to agricultural success.

Packages of Practices of Kiwi

In Jammu and Kashmir (J&K), the kiwi cultivation begins with precise site selection. Utilizing climate data ensures the choice of regions with a temperate climate, well-drained soils (pH 6.0-7.0), and an ideal elevation of 1500-2500 meters above sea level. Optimal

slopes, less than 30%, are considered for gentle terrain.

Kiwi cultivation relies on well-defined packages of practices tailored to ensure optimal growth and fruit production. Irrespective of location, the fundamental principles encompass site selection in a moderate climate with well-drained soil, planting in spring with proper spacing, implementing a trellis system for vine support, regular irrigation especially in initial years, balanced fertilizer application, routine pruning for shape maintenance, and ensuring pollination for fruit set.

The harvesting process, typically in fall, involves careful clipping of ripe kiwis. Storage in a cool, dark place for up to six months and ripening facilitation in a paper bag at room temperature complete the cycle.

While these practices form a universal foundation, regional variations, as seen in specific examples like kiwi cultivation in India, underscore the need for adaptations based on local climates, soil types, and other nuanced factors for optimal results. Consulting local agricultural expertise remains pivotal in refining these practices for specific contexts.

Best Practices of Kiwi Cultivation

Kiwis thrive in moderate climates with specific chilling hour requirements below 70 degrees Fahrenheit. Optimal soil conditions include well-drained, organic-rich soil with a pH ranging from 5.5 to 6.5. Since kiwis are dioecious, both male and female plants are necessary for fruit production, and planting should occur in spring, post-last frost.

Implementing a trellis system, such as a T-bar or pergola, supports the vine growth characteristic of kiwis. Regular irrigation, especially in the initial two years, is crucial. Weekly deep watering is recommended, increasing in hot and dry conditions.

Regular fertilization with a balanced fertilizer, like 10-10-10, throughout the growing season is essential. Pruning in late winter or early spring aids in shaping and encouraging fruit production.

For pollination, both male and female plants are ideal; otherwise, hand pollination using a cotton swab is necessary. Harvest in the fall when ripe, handle with care, and store in a cool, dark place for up to six months. Following these practices ensures a thriving kiwi crop.

Innovations in Kiwi crop

The kiwi crop industry is experiencing a wave of innovation across various fronts. New kiwifruit varieties, exemplified by Zespri Red, showcase improved traits such as enhanced taste, texture, storability, and resistance to diseases.

Growing practices are evolving with the integration of precision agriculture technologies, enabling growers to monitor and manage crops more efficiently, thereby reducing resource inputs like water and fertilizer.

Harvesting and packing technologies are advancing, incorporating automated machines to ensure efficient harvesting and minimize fruit damage. Novel marketing and distribution strategies, including online sales and direct marketing, are emerging to broaden consumer reach and diversify market channels.

Sustainability is a key focus, with efforts directed at reducing environmental impact. Practices such as incorporating renewable energy sources, minimizing waste, and enhancing water management underscore the industry's commitment to environmentally conscious kiwifruit production.

Value Addition Possibilities in Kiwi

Kiwi, with its delightful taste and nutritional richness, offers a plethora of value-added products catering to diverse consumer preferences.

Fresh-cut kiwi, conveniently packaged in clamshells or bags, is a popular, ready-to-eat option. Dried kiwi, available in various flavors, serves as a healthy and fibre-rich snack.

Candied kiwi, in assorted shapes and sizes, appeals to both children and adults seeking a

sweet, chewy treat. Kiwi's versatility extends to beverages, including refreshing kiwi juice, thick kiwi nectar, and healthy kiwi smoothies.

Dessert options abound with kiwi ice cream and yogurt, while kiwi jams, jellies, chutneys, and salsas add flavourful dimensions to meals. Kiwi's utility extends to unconventional products like kiwi wine, vinegar, oil, powder, flakes, chips, bars, and dietary supplements, showcasing its adaptability in various culinary domains.

With these value additions, kiwi stands as a versatile fruit poised for a bright future in the ever-evolving food and beverage landscape.

Interventions to build climate resilience in Kiwi

Climate change poses a substantial threat to kiwi production, prompting a range of on-farm and off-farm interventions to enhance climate resilience. On-farm strategies include adopting climate-resilient kiwifruit varieties, improving soil health through sustainable practices, diversifying crops, implementing water management techniques, and safeguarding crops from extreme weather events.

Off-farm initiatives involve developing early warning systems, facilitating access to climate information, providing financial support for adaptation measures, and promoting collaboration among growers and researchers.

Moreover, additional interventions include transitioning to renewable energy sources to reduce greenhouse gas emissions, implementing waste reduction measures, enhancing water management practices to conserve resources, and protecting ecosystems to maintain crucial services for kiwi production, such as pollination and pest control.

These multifaceted interventions collectively aim to ensure the sustainability and climate resilience of the kiwi industry, mitigating the impacts of climate change and fostering a more environmentally conscious approach to kiwi cultivation.

Litchi

Litchi, scientifically known as *Litchi chinensis*, is a tropical and subtropical fruit tree renowned for its sweet and fragrant fruit. The lychee tree produces small, oval to heart-shaped fruits with rough, textured reddish-pink skin and juicy, translucent, white flesh. The flesh surrounds a single large seed, which is inedible. Lychee fruits are treasured for their sweet, floral flavour and are often described as a combination of strawberries and grapes with hints of rose and pear.

Rationale for Litchi Expansion in J&K

Promoting lychee cultivation in Jammu and Kashmir (J&K) holds multifaceted benefits. The region's climate, particularly in Jammu, aligns with lychee requirements, fostering optimal growth.

Agricultural diversification, crucial for risk mitigation, can be achieved by introducing lychee, a high-value fruit that promises increased farm income.

The venture not only generates employment opportunities but also positions J&K as a potential exporter to international markets, boosting foreign exchange earnings.

Lychee expansion necessitates improved rural infrastructure, contributing to overall development. Furthermore, lychee orchards offer potential for agro-tourism, providing additional income streams.

With drought-resistant qualities, lychee aligns with J&K's occasional water scarcity. Sustainable farming practices, required for lychee care, promote eco-friendly agriculture.

Importantly, by reducing dependency on lychee imports, the region can enhance self-sufficiency, making lychee cultivation a key player in J&K's economic development and agricultural diversification strategy. Local considerations and sustainability practices must guide this expansion.

Cultivation practice in J&K for Litchi

Cultivating lychee in Jammu and Kashmir (J&K) holds profit potential given the region's favourable climate. Key practices include selecting suitable varieties like Shahi or Rose Scented, planting in well-drained, sunny sites, and using grafted saplings for desired characteristics.

Adequate soil preparation, incorporating organic matter, and maintaining slightly acidic to neutral pH are crucial. Irrigation with drip systems, balanced fertilization, and prudent pruning for shaping and disease prevention are integral to successful cultivation.

Mulching aids moisture retention, weed suppression, and temperature regulation. Vigilance against pests and diseases is necessary, and harvesting mature, firm fruits requires careful handling.

Post-harvest, storage in a cool, humid environment preserves freshness. Establishing effective marketing channels, be it local markets or direct sales, ensures a successful venture. Adaptation to local conditions and seeking guidance from agricultural experts enhance the likelihood of profitable lychee cultivation in J&K.

Packaging practice to export and transport Litchi domestically

Effective packaging is paramount for both domestic transport and international export of lychees to ensure their safe arrival in optimal condition. Key considerations include the choice of sturdy, clean, and food-grade materials such as cardboard, plastic, or wooden crates.

Sorting and grading, based on size, colour, and quality, are essential to prevent damage during transport. Ventilated packaging designs promote air circulation, crucial for maintaining freshness, and the use of trays or compartments prevents lychees from rolling and causing damage.

Cushioning materials like foam or paper protect against bruising, while proper labelling with essential information aids in tracking and traceability. Packaging size and weight should be manageable to avoid damage or spoilage.

For long-distance transport, refrigerated or cold storage containers are recommended, and ventilation ensures gas exchange to prevent premature ripening. Insulated packaging or climate-controlled features are vital when lychees are transported to different climate zones.

Collaboration with packaging experts and professionals in the agriculture and export industry is advisable to meet all necessary standards and ensure lychee packaging aligns with quality preservation and transportation requirements.

Innovations in Litchi crops

Innovations in lychee cultivation are shaping a more sustainable and productive industry. Disease-resistant varieties reduce reliance on pesticides, enhancing sustainability. High-density planting optimizes land use, addressing growing demand.

Drip irrigation and precision farming technologies improve water and nutrient efficiency, combating water wastage. Integrated Pest Management integrates biological control, minimizing pesticide use.

Post-harvest innovations extend lychee shelf life, reducing losses. Biological control agents offer environmentally friendly pest management. Biotechnology explores genetically modified varieties with enhanced traits.

Climate-resilient practices adapt to changing conditions, including adjusting planting times and introducing drought-resistant varieties. Data analytics, monitoring, and smart farming enhance orchard management.

Organic practices gain traction, emphasizing sustainability. Improved pollination practices boost yields. Marketing and branding innovations help growers access new markets. Resource-efficient systems, such as controlled environment agriculture, explore year-round production and efficient resource use.

These advancements ensure lychee cultivation's sustainability, competitiveness, and adaptation to market dynamics and environmental changes. Farmers and researchers are integral in implementing and further exploring these innovations.

Value Addition Possibilities in Litchi

Value addition in lychee involves enhancing its economic value through various methods. Processing lychee into diverse products expands market opportunities and increases profits for growers and processors. Lychee can be turned into juices, purees, jams, syrups, dried fruits, and concentrates, serving as ingredients in beverages, desserts, and snacks.

Innovative lychee-based snacks, confections, and alcoholic beverages offer unique and exotic options for consumers. Canned lychee and frozen lychee extend its availability year-round. Lychee's aromatic and flavourful properties find applications in skincare, beauty products, health supplements, and aromatherapy items.

Gift sets, souvenirs, and organic fertilizers can be derived from lychee products. While value addition opens new markets, adherence to food safety regulations and quality standards is essential. Collaboration with experts ensures the safety and quality of lychee value-added products, contributing to sustainable economic growth.

Intervention to develop climate resilience in lychee crop

Enhancing climate resilience in lychee crops is imperative for sustainable cultivation amid changing climate conditions. Key strategies include selecting lychee varieties tolerant to climate stress, incorporating adaptive planting practices like diverse site selection and elevation considerations, and efficient irrigation systems, such as drip irrigation and rainwater harvesting.

Soil health maintenance, pest management through integrated approaches, and the utilization of weather forecasting and early warning systems are vital.

Pruning, shade management, and climate-resilient infrastructure, like windbreaks and shelters, protect against extreme weather. Continuous monitoring, data collection, and research contribute to informed decision-making.

Farmer education, training, and insurance options mitigate risks. Tailoring these interventions to local climate challenges and fostering collaboration among government agencies, experts, and farmers are critical components of building climate resilience in the lychee sector.

Guava

Guava is a popular fruit crop grown in Jammu and Kashmir, with an area of 2,648 hectares under cultivation in 2023. The major guava producing districts in the state are Jammu, Kathua, Samba, Udhampur, Pulwama, Anantnag, Srinagar, and Budgam. The popular guava varieties grown in the state are Allahabad Safeda, Sardar, L-49, Shweta, Red Delicious, Thailand Pink, and Ruby Red.

Rationale for expansion of Guava Cultivation in J&K

There are a number of reasons why guava cultivation expansion in Jammu and Kashmir is a good idea for data-driven analysis.

Guava is a high-value crop. Guava is a popular fruit in India and around the world, and it commands a good price in the market. Expanding guava cultivation in Jammu and Kashmir could help to increase the income of farmers in the state.

Guava is a nutritious fruit. Guava is a good source of vitamins A and C, as well as fibre. Expanding guava cultivation could help to improve the health of people in Jammu and Kashmir.

Guava is a climate-resilient crop. Guava is a drought-tolerant crop that can be grown in a wide range of climatic conditions. Expanding guava cultivation could help to make agriculture in Jammu and Kashmir more resilient to the effects of climate change.

Guava cultivation has the potential to create jobs. Expanding guava cultivation would require additional inputs, such as labour, fertilizer, and pesticides. This would create jobs in the agricultural sector and support the rural economy of Jammu and Kashmir.

Cultivation Practice for Guava in J&K

Land preparation: The land is prepared by deep ploughing and levelling. Organic matter such as compost or manure is added to the soil to improve its fertility.

Planting: Guava trees can be planted from seed, air layering, or grafting. However, grafting is the most common method of propagation in Jammu and Kashmir. Guava trees are generally planted in pits of 60 cm x 60 cm x 60 cm size. The spacing between the plants is 5-6 meters.

Irrigation: Guava trees require regular irrigation, especially during the first year of planting. The frequency of irrigation depends on the climate and the type of soil. In Jammu and Kashmir, guava trees are generally irrigated every 2-3 days during the summer months.

Fertilization: Guava trees require regular fertilization for good growth and fruiting. Fertilizers are applied to guava trees in two splits, once in February-March and again in September-October. The amount of fertilizer applied depends on the age of the tree and the type of soil.

Pest and disease management: Guava trees are susceptible to a number of pests and diseases. Common pests of guava include fruit flies, whiteflies, and aphids. Common diseases of guava include anthracnose, powdery mildew, and leaf spot. Regular inspection of guava trees is essential to identify pests and diseases early and to take appropriate control measures.

Harvesting: Guava trees start bearing fruits in 2-3 years after planting. The harvesting season for guava in Jammu and Kashmir is from June to September. Guava fruits are harvested when they are fully ripe and have a deep green or pink colour.

Packaging Practice to export and transport Guava domestically

Grading: Guava fruits are first graded according to their size, colour, and ripeness. This helps to ensure that fruits of similar quality are packed together.

Packing: Guava fruits are packed in a variety of materials, including cardboard boxes, wooden crates, and plastic trays. The type of packaging used depends on the distance and mode of transport. For long-distance transport, such as export, guava fruits are typically packed in sturdy wooden crates or plastic trays. For domestic transport, cardboard boxes are often used.

Cushioning: Guava fruits are cushioned with soft materials, such as paper, foam, or shredded wood, to protect them from damage during transport.

Ventilation: Guava fruits require proper ventilation to prevent them from rotting. Packaging materials with ventilation holes are used to ensure that the fruits have enough airflow.

Guava fruits are also sometimes packaged in individual bags or pouches for domestic transport. This helps to protect the fruits from damage and bruising.

Best Practices in Guava Cultivation

Guava is a tropical and subtropical fruit crop, but it can also be grown in colder regions like Jammu and Kashmir with proper care and management. Here are some best practices for guava cultivation in Jammu and Kashmir:

Choose the right variety: There are a number of guava varieties that are tolerant to cold weather. Some of the popular cold-tolerant guava varieties grown in Jammu and Kashmir include Allahabad Safed, Sardar, and Shweta. Pruning helps to remove dead and diseased branches, and it also stimulates new growth. Pruning guava trees regularly can help to improve their cold tolerance.

Plant in a sheltered location: Guava trees should be planted in a sheltered location to

protect them from cold winds and frost. Planting guava trees near a wall or building can help to provide shelter. Mulching around guava trees with organic matter, such as straw, wood chips, or compost, can help to insulate the roots and protect them from cold weather. During the winter months, guava trees may need to be protected from frost. This can be done by covering the trees with a frost blanket or by using a frost protection system.

Water the trees regularly: Guava trees need regular watering, especially during the first year of planting. However, it is important to avoid overwatering guava trees, as this can lead to root rot. Guava trees need regular fertilization for good growth and fruiting. However, it is important to avoid overfertilizing guava trees, as this can lead to problems such as leaf scorching and fruit drop.

Innovation in Guava Cultivation Practices

Innovative guava cultivation practices tailored for cold regions like Jammu and Kashmir aim to enhance productivity and resilience in adverse weather conditions. High-density planting involves closer tree placement, creating a protective microclimate with cover crops insulating roots.

Drip irrigation minimizes root rot risk by delivering water directly to roots, while fertigation ensures optimal nutrient supply through the irrigation system. Protected cultivation practices, including greenhouses and polytunnels, shield guava trees from cold, pests, and diseases. Biotechnology offers the potential for developing cold-tolerant guava varieties, while precision agriculture technologies such as drones and sensors assist in effective tree management.

Artificial intelligence applications can aid decision-making regarding planting, irrigation, fertilization, and pest and disease control. Implementing these strategies empowers guava growers in cold regions to improve tree productivity, produce high-quality fruits, and adapt to challenging climatic conditions.

Value Addition Possibilities for Guava

Guava, a versatile fruit, lends itself to a plethora of value-added products, both traditional and innovative. Traditional offerings include guava juice, nectar, pulp, puree, jam, jelly, marmalade, chutney, candy, ice cream, yogurt, smoothies, wine, vinegar, dried fruit, powder, seed oil, leaf extract, and bark extract.

Beyond these, innovative products emerge, such as guava probiotic drinks, blending guava juice with probiotics for a healthy beverage. Guava energy bars, crafted from guava pulp, nuts, seeds, and nutritious ingredients, serve as convenient on-the-go snacks.

Guava protein powder, derived from guava seeds, offers a plant-based protein source rich in essential amino acids. Guava skincare products, infused with guava extracts and oils, capitalize on the fruit's antioxidant and vitamin content, promoting skin health.

These varied products cater to diverse consumer preferences, expanding the market for guava and capitalizing on its nutritional benefits.

Intervention to develop climate resilience in Guava Crops

Choose the right varieties: There are a number of guava varieties that are more tolerant to heat stress, drought, and other climate-related challenges. Guava growers should choose varieties that are well-suited to the local climate and conditions.

Plant in the right location: Guava trees should be planted in a location that is protected from strong winds and hail. It is also important to plant guava trees in well-drained soil. Mulching around guava trees can help to retain moisture in the soil and protect the roots from heat stress.

Water the trees regularly: Guava trees need regular watering, especially during the first year of planting. However, it is important to avoid overwatering guava trees, as this can lead to root rot.

Fertilize the trees regularly: Guava trees need regular fertilization for good growth and

fruiting. However, it is important to avoid overfertilizing guava trees, as this can lead to problems such as leaf scorching and fruit drop.

Monitor the trees for pests and diseases: Guava trees are susceptible to a number of pests and diseases. Guava growers should monitor the trees regularly and take appropriate control measures when necessary.

In addition to these general practices, there are a number of specific things that guava growers in Jammu and Kashmir can do to develop climate resilience for their crops. For example, guava growers can:

Adopting water-efficient drip irrigation minimizes waterlogging and root rot risks in guava cultivation amidst changing climates.

Employing protected cultivation practices like greenhouses shields guava trees from extreme weather events, such as frost and hailstorms.

Utilizing precision agriculture technologies, including drones and sensors, aids in effective monitoring and management of guava trees, enhancing resilience under evolving climate conditions.

Apple

Scientifically known as *Malus domestica*, is one of the most widely cultivated and consumed fruits globally, appreciated for its sweet and crisp texture. This versatile fruit comes in a variety of colours and Flavors, making it a popular choice for fresh consumption, cooking, and a range of culinary applications. Apple farming in Jammu and Kashmir is a thriving industry due to the region's ideal climate and fertile soil, producing high-quality apples. These orchards yield some of the finest and most sought-after apple varieties, making Jammu and Kashmir a significant contributor to India's apple production.

The rationale of expansion in J&K

The expansion of apple farming in Jammu and Kashmir (J&K) is not only a strategic agricultural decision but also a vital economic and environmental one. Several compelling reasons justify this expansion:

Ideal Climatic Conditions: J&K's unique geography and altitude offer an ideal climate for apple cultivation. The temperate climate with cold winters and mild summers provides the necessary chilling hours for apple trees to thrive, resulting in high-quality fruit production.

Economic Growth: Apple farming is a major contributor to J&K's economy, providing livelihoods for a substantial portion of its population. Expanding apple cultivation can boost agricultural income and reduce dependency on other sectors, thus promoting economic self-sufficiency.

Export Potential: J&K apples are renowned for their taste and quality, making them highly sought after in domestic and international markets. Increased production can open up opportunities for export, increasing foreign exchange earnings and trade balance.

Diversification: Expanding apple farming diversifies the agricultural sector, reducing dependence on traditional crops. This mitigates risks associated with crop failures and price fluctuations, leading to a more resilient agricultural economy.

Environmental Benefits: Apple orchards contribute to environmental conservation through soil erosion prevention, carbon sequestration, and providing a green cover. Increased cultivation aids in environmental sustainability, which is particularly crucial in ecologically sensitive regions like J&K.

Employment Generation: The expansion of apple farming creates employment opportunities across the entire value chain, from orchard management to post-harvest handling and marketing. This addresses unemployment issues and fosters rural development.

Technology Adoption: The modernization and expansion of apple farming in J&K offer an

opportunity to adopt advanced agricultural practices and technologies, enhancing productivity and yield.

The rationale for expanding apple farming in Jammu and Kashmir is multi-faceted, encompassing economic, environmental, and social benefits. This strategic move not only augments the region's agricultural output but also aligns with global efforts towards sustainable and climate-resilient agriculture.

Cultivation Practice in J&K

Apple cultivation in Jammu and Kashmir (J&K) is a prominent agricultural activity, with over 20 lakh metric tonnes of apples produced annually. The region hosts more than 2.4 million apple trees, covering approximately 98,000 hectares of land.

Varieties such as Red Delicious, Golden Delicious, and Ambri are cultivated, with Red Delicious comprising nearly 70% of the total production. Orchards undergo regular pruning and training, benefiting from an efficient irrigation system requiring approximately 600-800 mm of water annually.

Soil testing guides fertilization practices, and integrated pest management has reduced chemical pesticide usage by 20%. Harvesting occurs from August to October, and post-harvest, apples are stored in cold storage facilities to extend their shelf life, contributing significantly to the region's economy.

Packages of Practices of Apple

The packaging practices for apples are a critical aspect of the apple industry, ensuring that the fruit reaches consumers in optimal condition and maintains its quality. Packaging begins at the orchard, where freshly harvested apples are carefully sorted and graded. Apples are sorted based on size, colour, and blemishes. These grading criteria help create uniformity in packaging and ensure consistent quality. The apples are then placed in various types of packaging containers, with the most common being wooden crates and corrugated cardboard boxes. These containers provide protection during transportation and allow for proper ventilation, preventing moisture buildup that can lead to decay.

To further protect the apples, each fruit is often wrapped in soft, protective paper to prevent bruising. Some packages include foam or plastic separators between layers of apples to minimize physical contact and damage during transit.

Packaging may also include labelling to convey essential information such as the apple variety, origin, nutritional facts, and handling instructions. These labels help consumers make informed choices and ensure food safety.

Once packaged, apples are typically stored in cold storage facilities to maintain their freshness. Proper temperature and humidity control are essential to extending the shelf life of the fruit.

Packaging practices for apples prioritize not only protecting the fruit but also presenting it in an attractive and informative manner for consumers. These practices play a crucial role in the apple supply chain, from orchard to table, ensuring that consumers receive high-quality apples that meet their expectations for taste and appearance.

Best Practices of Apple Cultivation

Best practices in apple cultivation are essential to ensure the production of high-quality, healthy apples. Proper variety selection is the first step, considering local climate and altitude. Orchards should be sited on well-drained, sunny slopes with sufficient spacing between trees to promote airflow and reduce disease risk.

Pruning and training trees regularly maintain their shape, encourages sunlight penetration, and aids in disease prevention. Efficient irrigation systems, like drip or sprinkler irrigation, ensure consistent moisture supply, while soil testing guides fertilizer application. Integrated pest management (IPM) minimizes chemical pesticide use, promoting environmental sustainability.

Apples should be harvested at the right maturity stage, varying by variety, and handled with care to prevent bruising. Post-harvest storage in cold facilities extends shelf life. Market research helps align production with consumer preferences. Embracing eco-friendly practices, such as cover cropping and biodiversity enhancement, reduces environmental impact. Implementing these best practices enhances apple yield and quality while promoting sustainable and environmentally responsible farming.

Innovations in Apple Fruit

Innovations in apple crop management have significantly transformed the way apples are cultivated, resulting in improved yield, quality, and sustainability. Precision agriculture, for instance, incorporates technology such as GPS-guided machinery to optimize planting and harvesting processes, leading to a remarkable increase in productivity.

According to recent studies, precision agriculture techniques have boosted apple yields by up to 20% while reducing resource utilization by nearly 30%, enhancing both economic and environmental aspects of apple farming. Additionally, the implementation of advanced sensor systems and data analytics has allowed for real-time monitoring of environmental conditions, leading to more efficient irrigation practices.

This has led to water savings of approximately 25% in apple orchards, contributing to water resource conservation. Moreover, the adoption of disease-resistant apple varieties and genetically modified organisms (GMOs) has resulted in reduced pesticide usage by around 40%, benefiting both the environment and the health of farmworkers. These innovations have not only increased the global apple production by more than 40% over the past decade but have also reduced the carbon footprint of apple farming, aligning the industry with sustainable agricultural practices.

Value Addition Possibilities in Apple

Value addition in the apple industry offers diverse opportunities to enhance the economic viability of apple cultivation and processing. A significant avenue is apple processing into various products, such as apple juice, cider, applesauce, and dried apples. For example, converting apples into juice and cider can significantly increase their value. One ton of apples can yield approximately 750 litres of juice, valued at around \$1,000, compared to the raw apple's market value of about \$200.

Similarly, applesauce and dried apples provide higher returns, with significant potential for exports. Furthermore, the utilization of apple waste, like peels and cores, for the production of biogas and animal feed contributes to additional revenue streams.

The extraction of pectin and other by-products from apples also presents opportunities for value addition, with pectin, in particular, being in high demand in the food industry. These value-added products not only reduce post-harvest losses and waste but also extend the shelf life of apples. By diversifying the apple product range and exploring these value addition possibilities, growers can significantly increase their income while reducing food waste and contributing to a more sustainable agricultural system.

Interventions to build climate resilience in Apple

Building climate resilience in apple cultivation is of paramount importance given the increasing challenges posed by climate change. Multiple interventions can bolster the resilience of apple farming.

First, the selection of climate-resilient apple varieties adapted to changing temperature and precipitation patterns is crucial. Varietal shifts have been associated with a 10-15% increase in apple yields in some regions.

Second, effective water management, including the use of efficient irrigation systems and rainwater harvesting, can reduce water use by 20-30%, mitigating the impact of both droughts and erratic rainfall patterns. Weather forecasting technologies offer data-driven decision-making, reducing crop losses by up to 25% during extreme weather events. Integrated Pest Management (IPM) strategies have successfully cut pesticide use by 40%

while simultaneously boosting apple yields by 15-20% through healthier orchards.

Additionally, investing in modern cold storage facilities has extended the shelf life of apples by several months, resulting in post-harvest loss reductions of 15-20%. Climate-smart agricultural practices, such as mulching and cover cropping, have demonstrated a 10-15% increase in soil carbon sequestration, bolstering soil health and resilience. Lastly, climate-resilience financing and insurance mechanisms have provided economic security to apple growers, safeguarding their livelihoods during climate-induced crop losses. By embracing these multifaceted interventions, apple farmers can adapt to a changing climate, maintain or increase their yields, and enhance their overall economic stability.

Citrus fruit

Citrus fruits, scientifically classified under the genus *Citrus*, stand as a beloved and widely cultivated fruit family worldwide. This diverse group includes iconic fruits like oranges, lemons, limes, and grapefruits, celebrated for their vibrant, zesty profiles. Renowned for their remarkable versatility, citrus fruits add a burst of flavour to both culinary creations and refreshing beverages. Jammu and Kashmir, with its optimal climate and fertile soils, boasts thriving citrus orchards that yield an impressive array of citrus varieties. This region plays a pivotal role in meeting the global demand for citrus fruits, making it a vital contributor to the citrus industry.

The rationale of expansion of citrus crops in J&K

Promoting citrus cultivation in Jammu and Kashmir (J&K) holds several compelling rationales from both economic and agricultural development perspectives. Here are key reasons for advancing the expansion of the citrus industry in the region:

Climatic Advantage: Jammu and Kashmir's climate is well-suited for citrus cultivation. The region's varying altitudes and temperate climate, characterized by cold winters and mild summers, create an optimal environment for citrus trees to thrive, ensuring the production of high-quality fruits.

Economic Diversification: Citrus cultivation introduces diversification to J&K's agricultural landscape, reducing reliance on traditional crops like rice and wheat. This diversification enhances income opportunities for farmers, contributing to a more robust and resilient agricultural economy.

Employment Generation: The citrus industry, from orchard management to post-harvest processing and marketing, offers significant employment prospects in rural areas. Expanding citrus production can help alleviate rural unemployment, fostering economic development and poverty reduction in J&K.

Sustainable Agriculture: Citrus crops are typically perennial and require less frequent planting compared to annual crops. This characteristic promotes sustainable agricultural practices by reducing soil erosion and providing a stable, year-round source of income for farmers.

Government Support: The government of Jammu and Kashmir, along with the central government of India, may extend incentives, subsidies, and technical assistance to encourage and bolster the citrus industry, making it an attractive proposition for local farmers.

Cultural Significance: Citrus cultivation has a historical presence in the region, deeply embedded in the culture and traditions of Jammu and Kashmir. Expanding the citrus industry helps preserve cultural heritage and traditional farming practices while fostering economic growth.

The expansion of citrus farming in Jammu and Kashmir is a holistic approach that can contribute to economic diversification, employment generation, sustainable agriculture, and the preservation of cultural heritage, positioning J&K as a significant player in the citrus industry.

Cultivation practice in J&K for citrus

Citrus cultivation in Jammu and Kashmir (J&K) relies on specific practices to ensure a successful and productive crop. Here are key cultivation practices for citrus in the region:

Variety Selection: Opt for citrus varieties well-suited to the local climate and soil conditions. Popular citrus varieties in J&K include oranges, lemons, limes, and grapefruits, each adapted to the region's unique environment.

Site Selection: Citrus thrives in well-drained soils and benefits from elevated sites that prevent waterlogging and ensure proper air circulation. The varying altitudes in J&K offer suitable conditions for citrus cultivation.

Soil Preparation: Adequate soil preparation is essential. Ploughing and incorporating organic matter, such as compost or well-rotted manure, enhances soil quality and supports robust root development.

Planting: Citrus trees are typically planted during the dormant season, which is often in late winter or early spring. Proper spacing should be maintained to accommodate the trees' mature growth, which can vary based on the specific citrus variety and rootstock.

Pruning: Pruning citrus trees is vital for shaping them, removing dead or diseased branches, and promoting sunlight penetration. Pruning should be carried out during the dormant season to minimize stress on the trees.

These cultivation practices ensure the success and productivity of citrus farming in Jammu and Kashmir, contributing to the region's agricultural prosperity.

Packaging practice to export and transport citrus domestically

Packaging and handling are critical aspects of preserving the quality and safety of citrus fruits for domestic transportation and export. Proper packaging practices safeguard the fruits from physical damage, maintain their freshness, and prevent contamination. Here are essential packaging practices for citrus fruits:

Primary Packaging

Cleaning: Ensure the citrus fruits are thoroughly cleaned and free from dirt or debris before packaging. Clean fruits reduce the risk of contamination during storage and transportation.

Sorting: Categorize the fruits based on their quality, size, and grade. Only high-quality fruits should be selected for export or sale.

Protection: Shield citrus fruits from direct sunlight, extreme temperatures, and excess moisture during transportation. Utilize suitable transportation methods like refrigerated trucks or temperature-controlled containers, especially for long-distance shipping.

Quality Control: Implement quality control measures throughout the packaging and transportation processes to promptly identify and address any issues affecting the fruits' quality and safety.

Adhering to these best practices ensures that citrus fruits reach their destination in optimal condition, preserving their market value and reputation, whether for domestic consumption or international export.

Innovation in Citrus crops

Innovations in citrus cultivation hold the potential to enhance productivity, sustainability, and fruit quality. Here are some promising innovations for citrus crops:

Citrus Varieties: Developing new citrus varieties with high yield, disease resistance, and adaptability to specific climates can significantly boost citrus production.

Post-Harvest Technologies: Innovations in post-harvest processing, such as advanced drying methods, sorting, and storage techniques, can elevate citrus fruit quality and shelf life.

Sustainable Practices: Implementing sustainable farming practices, like precision agriculture, integrated pest management, and organic farming, can improve soil health

and reduce the environmental footprint of citrus cultivation.

Propagation Techniques: Advancements in propagation methods, including grafting and tissue culture, can expedite the production of healthy and high-yielding citrus trees.

Genetic Modification: Exploring genetic modification for desired traits, such as pest resistance and longer fruiting seasons, can contribute to improved citrus crops.

Harvesting Technologies: Innovations in citrus harvesting equipment and automation can streamline the harvesting process, reducing labour costs and fruit damage.

Product Diversification: Exploring new markets and citrus-based product innovations, like juices, essential oils, and value-added citrus products, can broaden the citrus industry's offerings.

Value addition for Citrus crops

Citrus fruits offer a multitude of value-addition possibilities, creating a range of products that cater to diverse consumer needs and preferences. Some possibilities include:

Citrus Juices: Processing citrus fruits into fresh juices, blends, and concentrates, catering to the demand for healthy and convenient beverages.

Essential Oils: Extracting essential oils from citrus peels for use in cosmetics, aromatherapy, and food flavouring.

Citrus-based Snacks: Developing citrus-flavoured snacks, like candied peels or dried citrus segments, as healthy and tasty alternatives.

Preserves and Marmalades: Creating citrus preserves, jams, and marmalades with a burst of natural flavour.

Citrus Zest and Gratings: Packaging and selling citrus zest and gratings as flavour enhancers for various dishes.

Citrus-based Condiments: Producing citrus-infused sauces, dressings, and marinades for culinary applications.

Citrus-based Cosmetics: Utilizing citrus extracts in skincare and cosmetic products for their refreshing and aromatic qualities.

Citrus-based Cleaning Products: Developing eco-friendly cleaning solutions with natural citrus ingredients for their degreasing and fragrance properties.

Value addition not only reduces food waste but also opens up new markets and revenue streams while leveraging the delightful and aromatic qualities of citrus fruits.

Intervention to develop climate resilience in Citrus Crops

Developing climate resilience in citrus crops is critical to mitigate the impact of climate change. Key interventions include:

Crop Diversification: Cultivate a variety of citrus species and local varieties with varying climate tolerances to reduce susceptibility to changing weather conditions.

Advanced Irrigation: Implement efficient and precise irrigation methods, such as drip irrigation, to conserve water and ensure consistent moisture supply to citrus trees during droughts.

Weather Monitoring: Employ weather forecasting and monitoring systems to anticipate extreme weather events and take preventive measures.

Soil Health Management: Promote soil conservation practices, organic matter incorporation, and soil testing to maintain healthy soil and nutrient balance.

Pest and Disease Management: Implement integrated pest management strategies to combat emerging pests and diseases that may proliferate with changing climatic conditions.

Research and Innovation: Invest in citrus research for heat-tolerant varieties, climate-resilient rootstocks, and sustainable farming practices.

Farmer Training: Educate farmers on climate-resilient practices, emphasizing adaptive measures and sustainable farming techniques.

Dragon fruit

Dragon fruit, scientifically known as *Hylocereus*, is gaining popularity in Jammu and Kashmir for its exotic appeal and potential for cultivation. This unique tropical fruit, with its vibrant pink or white flesh speckled with black seeds, is being explored as a new addition to the region's agricultural landscape. While Jammu and Kashmir's climate is traditionally suited to temperate crops, dragon fruit's adaptability to various climatic conditions offers an exciting opportunity. The introduction of dragon fruit signifies diversification in agricultural practices, potentially opening new horizons for local farmers and contributing to the region's agricultural and economic growth.

The rationale of expansion for Dragon Fruits in J&K

The expansion of dragon fruit cultivation in Jammu and Kashmir (J&K) is a strategic and forward-thinking agricultural decision driven by several compelling rationales:

Climate Adaptability: Dragon fruit, known for its ability to thrive in various climate conditions, offers an opportunity for diversification in J&K's agricultural portfolio. The region's diverse altitudes and microclimates make it suitable for dragon fruit cultivation, especially in lower-lying areas.

Economic Diversification: Expanding dragon fruit cultivation can reduce the region's dependence on traditional crops and introduce a high-value, exotic fruit to the market. This diversification can lead to increased income for farmers and contribute to J&K's economic growth.

Export Potential: Dragon fruit's growing popularity in domestic and international markets presents opportunities for export. This can boost foreign exchange earnings and enhance trade balances.

Environmental Benefits: Dragon fruit plants require relatively low water and pesticide inputs compared to some traditional crops. Their introduction can contribute to more sustainable and eco-friendly agricultural practices.

Employment Generation: The expansion of dragon fruit cultivation can generate employment opportunities across the value chain, from farming to post-harvest handling and marketing, addressing unemployment and fostering rural development.

Market Demand: The rising consumer interest in healthy, exotic fruits makes dragon fruit a viable and sought-after product.

Innovation: Dragon fruit cultivation represents an innovative and forward-looking approach to agriculture in the region, aligning with global trends in sustainable and diversified farming practices.

Cultivation practice in J&K for Dragon fruit

Cultivating dragon fruit in Jammu and Kashmir (J&K) demands strategic practices attuned to the region's unique climate. Optimal locations with well-drained soil and abundant sunlight, particularly in lower altitudes and warmer areas, set the stage for successful dragon fruit cultivation.

The selection of disease-resistant and high-yielding varieties, like *Hylocereus undatus* or *Hylocereus megalanthus*, tailored to local conditions is pivotal. Supporting the climbing dragon fruit vines with trellises or structures safeguards against damage and promotes proper growth.

Ensuring well-drained soil fortified with organic matter enhances water retention and nutrient availability. Careful planting of dragon fruit cuttings in adequately spaced trenches

facilitates optimal growth and airflow.

A regulated irrigation system is crucial, given dragon fruit's sensitivity to drought, and the application of balanced organic fertilizers sustains plant growth and fruit production.

Implementing integrated pest management practices protects dragon fruit plants from potential threats, contributing to healthy yields. Harvesting when ripe, indicated by colour change and slight yield to pressure, completes the cultivation cycle.

These practices not only foster healthy and high-quality dragon fruit but also contribute to the agricultural diversity and economic growth of the J&K region.

Packaging practice to export and transport Dragon Fruit domestically

Efficient packaging is crucial when exporting and transporting dragon fruit domestically to maintain its quality and freshness. Key packaging practices include:

Selection: Choose ripe and firm dragon fruits, ensuring they are free from bruises or damage.

Cleaning: Thoroughly wash and sanitize the fruits to remove potential contaminants.

Cushioning: Line packaging boxes with cushioning materials, such as foam or padding, to prevent physical damage during transit.

Ventilation: Use packaging with proper ventilation to maintain airflow and reduce moisture buildup, which can lead to spoilage.

Labelling: Clearly label packages with essential information, including origin, weight, and handling instructions.

Temperature Control: For long-distance shipments, consider using temperature-controlled containers to maintain the fruit at an optimal temperature.

Secure Packaging: Ensure that the dragon fruits are securely packed to prevent shifting and damage during transportation.

Inspection and Sealing: Inspect each package before sealing and shipping to guarantee the fruit's quality.

Innovation in Dragon Fruit crops

Innovations in dragon fruit cultivation are essential for improving productivity, sustainability, and quality. Here are some promising innovations:

Varietal Development: Breeding dragon fruit varieties that are disease-resistant and adapted to specific climates, thereby increasing yield and reducing pest-related losses.

Climate Adaptation: Innovations in climate control and protective cultivation, like greenhouses, to extend the growing season and mitigate adverse weather conditions.

Water Management: Implementation of precise irrigation systems, such as drip irrigation, to optimize water use and conserve this precious resource.

Organic Farming Practices: Adoption of organic and sustainable farming methods to reduce chemical inputs and enhance environmental sustainability.

Integrated Pest Management: Utilizing biological control and monitoring systems to manage pests and diseases effectively, reducing the need for chemical treatments.

Post-Harvest Technology: Innovations in post-harvest handling, packaging, and processing techniques to prolong fruit shelf life and maintain quality.

Market Diversification: Exploring new product innovations like dragon fruit-based processed goods, such as juices, jams, and skincare products, to create value-added opportunities and market diversity.

Value addition for Dragon Fruit crops

Dragon fruit offers abundant opportunities for value addition, creating a spectrum of products that cater to diverse consumer preferences. Some value-addition possibilities include:

Dragon Fruit Juices: Processing dragon fruit into fresh juices, blends, and concentrates to meet the demand for healthy and exotic beverages.

Fruit Pulp: Extracting fruit pulp to be used in smoothies, desserts, and exotic culinary creations.

Essential Oils: Extracting essential oils from the fruit's skin for cosmetics, aromatherapy, and fragrance industries.

Dried Dragon Fruit Snacks: Producing dried dragon fruit slices and cubes for convenient and healthy snacking options.

Preserves and Jams: Creating dragon fruit preserves and jams to add a unique and tropical flavour to breakfast spreads.

Desserts and Pastries: Using dragon fruit in the production of cakes, pastries, ice creams, and sorbets to cater to gourmet tastes.

Skincare Products: Utilizing dragon fruit extracts in skincare and cosmetic products for their rejuvenating and antioxidant properties.

These value-addition avenues not only reduce food waste but also diversify the market, providing consumers with a wide array of dragon fruit-based products while contributing to the economic growth of the agricultural sector.

Intervention to develop climate resilience in Dragon Fruits Crops

Enhancing climate resilience in dragon fruit cultivation is vital to mitigate the impact of climate change. Key interventions include:

Varietal Selection: Identifying and cultivating dragon fruit varieties with tolerance to temperature fluctuations and drought conditions.

Weather Monitoring: Implementing real-time weather monitoring systems to anticipate extreme weather events and adjust cultivation practices accordingly.

Irrigation Efficiency: Adopting precision irrigation techniques, such as drip irrigation, to conserve water and ensure consistent moisture levels, especially during dry spells.

Shade Structures: Installing shade nets or protective structures to shield dragon fruit plants from excessive sun exposure and temperature extremes.

Soil Management: Incorporating organic matter into the soil to enhance water retention and nutrient availability, promoting healthy plant growth.

Pest and Disease Management: Employing integrated pest management strategies to prevent and manage threats that can increase with changing climate conditions.

Research and Education: Promoting climate-resilient farming practices through research, farmer training, and knowledge sharing.

These interventions collectively bolster the resilience of dragon fruit crops, ensuring sustainable and reliable production despite climate challenges.

Mango

Mango (*Mangifera indica*) is a tropical fruit celebrated for its sweet, succulent flavour. Originating in South Asia, it has earned the moniker "king of culmination"; and is globally adored. Mangoes are outstanding because of their oval or oblong shape, colourful orange-yellow or green pores and skin, and a big, flat pit in the middle. With a number of cultivars like Alphonso, Tommy Atkins, and Kent, mangoes provide versatility in flavour, length, and colour. This fruit isn't always the most effective scrumptious, but also nutritious, and packed with nutrients, minerals, and antioxidants. Mangoes are quintessential to various

cuisines and represent summertime's essence, abundance, and happiness.

Rationale for expansion of Mango in J&K:

Expanding mango cultivation in the region of Jammu and Kashmir offers numerous compelling rationales:

Climatic Suitability: Jammu and Kashmir enjoy a variety of climates, from subtropical to temperate, which could guide numerous mango cultivars. The various climatic zones make it possible to increase the mango developing season, for this reason, making an allowance for a staggered harvest, probably increasing common production.

Market Potential: Mangoes are widely eaten up and cherished throughout India. By cultivating mangoes in Jammu and Kashmir, farmers can tap into the national and worldwide mango marketplace, doubtlessly growing their income and enhancing the area's monetary prospects.

Diversification of Agriculture: Mango cultivation can diversify the location's agricultural practices, lowering dependency on traditional plants like apples. This diversification facilitates mitigating risks associated with mono-cropping and might beautify the resilience of the nearby agriculture sector.

Employment Generation: Mango cultivation and its associated value chain activities, together with processing and advertising, can generate employment opportunities, specifically in rural areas where job possibilities are constrained.

Tourism Attraction: Mango orchards in full bloom and, at some stage in harvest season can serve as a vacationer enchantment. This can improve tourism and make a contribution to the overall improvement of the area's financial system.

Export Potential: Mangoes from Jammu and Kashmir can potentially be exported to countries with an excessive demand for Indian mangoes. This can open up new markets and beautify foreign exchange income.

Biodiversity and Conservation: Promoting mango cultivation can help preserve and rejuvenate traditional and native mango varieties, contributing to biodiversity upkeep and cultural heritage.

Cultivation practices in Jammu and Kashmir for Mango:

Variety Selection: Choose mango types appropriate for the nearby climate, together with Amrapali, Dashehari, Langra, or Chaunsa. Opt for properly-drained websites with the right air stream to save you waterlogging and decrease frost threat. Sloping terrain is prime.

Soil Preparation: Mangoes thrive in nicely-tired, loamy soils with a pH range of 6.5 to 7.5. Prepare the soil thru ploughing, discing, and adding natural matter like compost.

Planting: Plant mango saplings for the duration of the dormant season, ideally in spring or early summer, with appropriate spacing (around 10 meters among bushes) to permit a healthy increase.

Irrigation: Regular and regular irrigation is important, especially throughout the dry season. Drip irrigation or a basin gadget can be powerful.

Pruning and Training: Prune to shape the tree and cast off lifeless or diseased branches. Training younger bushes with valuable chief helps hold a balanced form. Apply mulch across the base of the tree to conserve moisture, control weeds, and regulate soil temperature.

Frost Protection: In colder regions, appoint frost protection measures like protecting young bushes with blankets or the use of warmers to save you frost harm. Implement integrated pest and disorder control practices to make certain healthful yields. Regular tracking and well-timed interventions are essential.

Harvesting: Mangoes are normally harvested within the summer months. Handle the fruit lightly to keep away from bruising and harm at some stage in the harvesting technique.

Packaging practice to export and transport mango domestically

Proper Containers: Use easy, durable packaging substances like cardboard containers, timber crates, or plastic bins that offer appropriate airflow and cushioning.

Cushioning: Line the packaging with soft padding or cushioning substances like straw, paper, or foam to prevent bruising and damage throughout transit.

Ventilation: Promote airflow by developing airflow holes or gaps inside the packaging to reduce moisture buildup and hold fruit best.

Temperature Control: Maintain premier temperatures by way of using refrigerated vehicles or coolers to prevent over-ripening throughout shipping.

Stacking and Securing: Stack the applications cautiously to keep away from crushing the fruit, and secure them with straps or dividers to prevent transferring.

Labelling: Clearly label each package deal with product facts, such as the kind of mango, grade, and date of packing.

Quality Control: Regularly check out the fruit for ripeness and harm earlier than and in the course of transportation.

By adhering to these practices, mango manufacturers can make sure that their domestic shipments arrive in exact circumstances and maintain their freshness and taste.

Best Practices of mango Cultivation

Best practices for a hit mango cultivation encompass selecting suitable sorts, planting in properly-drained soils, imparting ok irrigation, and retaining the right spacing. Regular pruning and schooling assist in shaping the tree and managing its increase.

Employ natural mulching for moisture retention and weed manipulation. Implement incorporated pest and ailment control, tracking for issues regularly. Fertilize in keeping with soil testing, and follow encouraged utility schedules.

Protect in opposition to frost in cooler climates and control fruit thinning to enhance fruit finely and save you from overloading.

Harvest at the right degree of ripeness and cope with fruit gently. Adhering to these practices promotes wholesome, productive mango orchards.

Innovations in Mango crop

Innovations in mango crop control intention to decorate yield, satisfaction, and sustainability. Precision agriculture employs drones and IoT for unique tracking and resource control. Grafting techniques, like "smooth-cleft grafting"; improve propagation success.

Disease manipulation consists of biopesticides and resistant types to lessen chemical use and preserve tree health. Smart irrigation systems optimize water utilization, even as high-density planting and dwarfing rootstocks maximize orchard productiveness.

Post-harvest innovations involve controlled environment garages, extending mango shelf lifestyles. Genetic engineering is exploring pathogen-resistant and longer shelf-lifestyles mango sorts.

These innovations empower mango growers to increase yields, reduce environmental impact, and ensure regular delivery of terrific fruit.

Value addition possibilities in Mango

Value addition possibilities in mango are plentiful. Mangoes may be processed into various products like mango pulp, juice, chutney, and dried slices.

These merchandises have longer shelf lives. Additionally, mango by way of merchandise like peels and kernels may be used to make biodegradable packaging, natural cosmetics, and animal feed.

Mango-flavoured liquids, ice creams, and baked items are famous alternatives. Furthermore, mangoes may be fermented to produce alcoholic beverages like mango wine. Mango-primarily based fitness merchandise, which includes mango-based supplements or skincare items, is also a rising trait.

Value addition in mango no longer most effectively extends its application but additionally boosts profits for farmers and processors.

Interventions to build climate resilience in Mangoes

Crop Diversification: Promote diversification of mango varieties, such as those that can be more protective against pests, sicknesses, and weather strains.

Irrigation Management: Implement efficient irrigation techniques, which include drip irrigation, to ensure constant water supply at some point during dry spells.

Weather Forecasting: Use modern-day weather forecasting equipment to assume extreme weather events and plan for this reason.

Shade Management: Plant colour timber or use shading nets to guard mango timber from excessive warmness, reducing heat pressure.

Soil Health Improvement: Enhance soil health through organic count enrichment and decreased chemical inputs, ensuring better moisture retention and resilience to extreme climate.

Pest and Disease Control: Implemented pest management strategies to mitigate the effect of changing pest and disorder patterns due to weather change.

Education and Training: Provide education and assets to mango growers about weather-smart practices, supporting them to adapt to converting situations.

These interventions can assist mango producers in better withstanding the challenges posed by climate change and ensure an extra-sustainable mango industry.

Walnut

Walnuts are edible nuts, scientifically known as Juglans. There are several species of walnut trees, but the most commonly cultivated and consumed variety is the English or Persian walnut (*Juglans regia*). Walnuts are popular for their rich, earthy flavour and their versatility in various culinary applications.

The rationale for Walnut Expansion in J&K

Climatic Suitability: Jammu and Kashmir's climate is well-suited for walnut cultivation. The region experiences cold winters and moderate summers, which are ideal for the growth of walnut trees. The higher elevations in the Kashmir Valley provide the necessary chilling hours for walnut trees to produce high-quality nuts.

Economic Diversification: Walnut cultivation diversifies the agricultural economy of J&K. This diversification is essential to reduce dependency on traditional crops like rice and wheat and provides an additional source of income for farmers.

Employment Opportunities: Walnut cultivation and processing provide employment opportunities in rural areas. Expanding walnut production can help reduce rural unemployment and alleviate poverty in J&K.

Sustainable Agriculture: Walnuts are perennial crops that require less frequent planting and provide a more stable income source than annual crops. This can promote sustainable agricultural practices in the region.

Government Support: The government of Jammu and Kashmir, as well as the central government of India, may provide incentives, subsidies, and technical support to encourage and support walnut expansion, making it an attractive proposition for local farmers.

Heritage and Tradition: Walnut cultivation has a long history in the region and is deeply

embedded in the culture and tradition of Jammu and Kashmir. Expanding this industry can help preserve cultural heritage and traditional farming practices.

Cultivation practice in J&K for walnuts.

Selection of Suitable Varieties: Choose walnut varieties that are well-adapted to the local climate and soil conditions. Some popular walnut varieties in J&K include the Kashmiri or Persian walnut (*Juglans regia*) and the local varieties like 'Dwarf' and 'Wadbale'.

Site Selection: Walnuts grow best in well-drained soils. Choose elevated sites to prevent waterlogging and ensure good air circulation in the orchard. The higher elevations in the Kashmir Valley are particularly well-suited for walnut cultivation.

Soil Preparation: Prepare the soil by ploughing and incorporating organic matter like compost or well-rotted manure. Adequate soil preparation ensures good root development.

Planting: Plant walnut trees during the dormant season, typically in late winter early spring. Ensure proper spacing between trees to allow for their mature growth, which can vary depending on the variety and rootstock.

Pruning: Prune walnut trees to shape them, remove diseased or dead branches, and encourage sunlight penetration. Pruning should be done during the dormant season to avoid stressing the tree.

Packaging Practices:

Walnuts undergo various packaging methods based on their intended use and market. In-shell walnuts are commonly packaged in bags or boxes, often lined with protective paper or plastic.

Shelled walnuts typically come in vacuum-sealed bags or plastic containers, preserving freshness. Retail packaging is designed to be attractive and informative, featuring nutritional details, recipes, and serving suggestions.

Bags, boxes (cardboard or wood), and plastic containers are specific packaging materials used. For retail, more visually appealing and informative packaging is employed compared to bulk sales.

Proper storage conditions, such as cool and dark places, ensure walnuts remain dry and protected from sunlight. Shelf life varies, with in-shell walnuts lasting up to two years and shelled walnuts up to six months when stored correctly.

Package labelling includes product details, net weight, ingredients, nutritional information, storage instructions, and expiration date, ensuring safe and effective walnut packaging.

Innovation in Walnut:

The walnut industry is experiencing significant innovation across various aspects. New walnut varieties, like the Chandler, are being developed with enhanced taste, texture, storability, and resistance to pests.

Sustainable growing practices, including precision agriculture technologies, are being adopted to improve efficiency. Innovations in harvesting involve automated machines for efficient and damage-free collection.

Product diversification is evident with the development of walnut-based products such as walnut milk, oil, and flour, expanding market reach.

Sustainability is a key focus, incorporating practices like renewable energy use, waste reduction, and improved water management.

Walnut breeding and biotechnology techniques, including molecular breeding and gene editing, aim to create varieties with improved traits.

Value-added products like walnut-based nutraceuticals and cosmetics contribute to market expansion. These innovations collectively enhance the walnut industry's sustainability, efficiency, and quality, opening new avenues for growers and processors.

Interventions to build climate resilience in Walnut:

Climate change poses a significant threat to walnut production due to rising temperatures and extreme weather events.

To enhance climate resilience, interventions include developing climate-resilient walnut varieties like the Chandler, utilizing precision agriculture technologies, improving soil health through organic practices, diversifying crops, and implementing efficient water management techniques.

Protective measures against extreme weather events, such as hail nets and windbreaks, are crucial.

Additionally, a sustainable focus in the walnut industry involves practices like renewable energy adoption, waste reduction, and improved water management. To bolster climate resilience further, interventions include developing early warning systems, providing access to climate information, offering financial support for adaptation measures, and fostering collaboration and knowledge sharing among growers and researchers.

These efforts collectively aim to ensure the sustainability and productivity of the walnut industry amid changing climatic conditions.

Off season Vegetables

Rationale for expansion of Vegetable cultivation

Expanding vegetable cultivation in Jammu and Kashmir (J&K) holds multifaceted benefits. Economically, it serves as a lucrative income source, meeting high domestic and international demand, thereby fostering job creation and economic growth.

From a nutritional standpoint, vegetables contribute vital vitamins, minerals, and antioxidants to diets, enhancing the overall health of the population.

Environmentally, vegetable cultivation enhances soil health, reduces erosion, and promotes biodiversity, contributing to a healthier ecological balance.

The region's diverse climate and soil conditions, coupled with abundant water resources and strategic market proximity, further support the feasibility of expanding vegetable cultivation.

Government initiatives, including subsidies, training programs, and infrastructure development, underscore the commitment to fostering this expansion.

In totality, expanding vegetable cultivation positions J&K as a significant vegetable produce, delivering economic, nutritional, environmental, and cultural advantages.

Cultivation practices in JK for Vegetables:

In Jammu and Kashmir (J&K), vegetable cultivation follows general principles encompassing soil preparation, irrigation, fertilization, pest and disease control, and harvesting.

The fertile, well-drained soil in the region is prepared through ploughing and the addition of manure or compost. Due to variable rainfall, irrigation methods like canals, wells, and pumps are crucial for maintaining crop health.

Fertilization, tailored to each crop's needs, plays a vital role in ensuring good yields. Pest and disease control, essential in a region prone to such issues, involves vigilant monitoring and a variety of control methods.

Specific crops showcase the diversity of cultivation practices, such as tomatoes, potatoes, onions, garlic, cauliflower, and cabbage. Planting and harvesting times are tailored to the climate, ensuring optimal growth. Traditional hand harvesting is prevalent, with exceptions for crops like potatoes and carrots, which may involve machinery.

J&K's farmers are adopting evolving technologies for enhanced yields and reduced environmental impact. The government's support in promoting sustainable practices, such

as organic fertilizers, pesticides, and water conservation training, signifies a commitment to environmentally conscious agriculture.

In summary, J&K's vegetable cultivation practices are advancing through technological adoption, and governmental initiatives are steering the sector towards sustainable and environmentally friendly methods.

Package of practices of Vegetables:

The package of practices for vegetable cultivation provides essential guidelines for optimal crop yield and quality. It begins with thorough land preparation involving ploughing, harrowing, and levelling to ensure well-drained and fertile soil.

Quality, disease-free seeds suitable for the region's climate and soil conditions are crucial. Sowing depth and spacing vary by vegetable type. Regular irrigation, especially during hot months, is emphasized, with frequency tailored to the specific crop and climate.

Fertilization is key, with type and amount determined by crop and soil conditions. Pest and disease management involves vigilant monitoring and immediate action through methods like pesticides, biological control, and cultural practices.

Harvesting at the right time ensures quality. Additional tips include crop rotation for pest and disease prevention, the use of organic matter for soil fertility, mulching for moisture retention and weed suppression, regular watering, and following specific fertilizer recommendations for each vegetable.

Adhering to these practices is essential for successful vegetable cultivation.

Best practices of Vegetable cultivation:

Successful vegetable cultivation relies on several key practices. Site selection is crucial, considering factors like sunlight, drainage, soil type, and pH.

Soil preparation involves loosening the soil, adding organic matter, and adjusting pH. When planting, follow seed packet instructions for depth and spacing.

Regular, deep watering is essential, especially in hot weather. Fertilization, tailored to each crop and soil conditions, is vital for optimal yields.

Pests and diseases require regular monitoring and immediate control measures, including pesticides, biological control, and cultural practices. Harvesting at the right time ensures quality, varying by crop.

Additional tips include crop rotation for pest and disease prevention, the use of organic matter for soil fertility, mulching for moisture retention and weed suppression, and regular monitoring for pests and diseases. Adhering to these practices enhances the likelihood of a successful vegetable crop.

Innovation in Vegetables:

The vegetable industry is experiencing a wave of innovations aimed at enhancing various aspects of production. New vegetable varieties are being developed with improved taste, texture, storability, and resistance to pests and diseases, exemplified by tomatoes with higher yields and fungal disease resistance.

Growing practices are evolving with precision agriculture technologies, allowing growers to monitor and manage crops more efficiently, thereby reducing water and fertilizer use.

Harvesting and processing technologies, including automated machines, enhance efficiency and reduce damage risks. Moreover, novel vegetable-based products like milks, flours, and meat substitutes are expanding the market. Sustainability is a key focus, with initiatives such as renewable energy use, waste reduction, and improved water management gaining prominence. Innovations like molecular breeding, gene editing, vertical farming, and precision agriculture contribute to a more sustainable, efficient, and profitable vegetable industry, opening avenues to new consumers and markets.

Value addition possibilities in Vegetables:

The vegetable industry offers diverse possibilities for value addition, enhancing both convenience and market reach.

Processing vegetables into products like canned, frozen, and dehydrated varieties, as well as vegetable juices, ensures longer shelf life and convenience in usage. Packaging innovations, including vacuum-sealed bags and containers with added seasonings, contribute to improved shelf life and consumer convenience.

Additionally, the development of novel vegetable products such as vegetable-based milks, flours, and meat substitutes expands the market and caters to evolving consumer preferences.

Frozen vegetables, canned vegetables, dehydrated vegetables, vegetable juices, vegetable-based milk, vegetable-based flours, and vegetable-based meat substitutes offer diverse and nutritious alternatives.

Through these value-addition strategies, growers and processors can increase profitability and tap into new consumer segments, addressing demands for convenience, nutrition, and sustainability.

Interventions to build climate resilience in Vegetables:

Climate change poses a significant threat to vegetable production due to rising temperatures, extreme weather events, and shifting precipitation patterns.

To enhance climate resilience, interventions such as selecting climate-resilient varieties, employing precision agriculture technologies, and improving soil health are crucial.

Diversifying crops, implementing efficient water management techniques, and safeguarding crops from extreme weather events further contribute to resilience.

Sustainability practices, including renewable energy use, waste reduction, and enhanced water management, play a key role in mitigating the environmental impact of vegetable cultivation. Additional measures involve developing early warning systems, providing access to climate information, offering financial support for adaptation, and fostering collaboration among growers and researchers.

These interventions collectively aim to fortify vegetable production against the challenges posed by climate change, ensuring the industry's sustainability and productivity.

Almond

Almonds are edible tree nuts known for their nutritional value and versatility in culinary applications. They are a good source of healthy fats, protein, and fibre, and are often consumed raw or roasted as snacks. Almonds are also used in various forms, such as almond milk, almond butter, and as ingredients in both sweet and Savory dishes.

Rationale of expansion in J&K:

Almond expansion in Jammu and Kashmir (J&K) holds substantial promise for the region. The favourable climatic conditions, with cold winters and warm, dry summers, provide an ideal environment for almond cultivation.

This endeavour is not only economically lucrative but also offers environmental advantages. Almonds are in high demand, both nationally and globally, making it a lucrative cash crop that can boost the local economy and generate jobs for the populace.

Furthermore, almond trees play a pivotal role in enhancing the environment. They combat soil erosion, enhance soil fertility, and serve as a habitat for various wildlife, contributing to ecological sustainability. The government of J&K has been proactive in supporting almond cultivation, offering subsidies and establishing processing units to empower local farmers.

Beyond these advantages, almonds are a nutritious food source, packed with protein, fibre, and essential vitamins and minerals. Their consumption has been associated with several health benefits, ranging from heart disease prevention to diabetes management.

By promoting almond expansion, J&K not only enriches its economy and environment but also fosters rural development, providing sustainable livelihoods for its inhabitants. Overall, investing in almond cultivation in J&K is a well-rounded strategy that can boost both economic growth and environmental well-being while enriching the lives of the local population.

Cultivation Practice in J&K:

Almond cultivation in Jammu and Kashmir (J&K) closely follows global practices with a few regional considerations due to its unique climatic conditions. Site selection is crucial, demanding well-drained, sunny locations with fertile soil having a pH of 6.5 to 7.5.

Planting is typically done in the spring, with tree spacing of 15 to 20 feet. Regular and deep irrigation is essential, especially in the initial years. Fertilization, which varies by soil type and tree age, should be balanced.

Pruning in winter is necessary for tree health and fruiting. Vigilance against pests and diseases is vital, with immediate treatment if any issues are detected. Harvesting occurs in the fall when hulls turn brown, and nuts fall. Drying and proper storage are essential.

For J&K, it's advisable to select almond varieties suited to the local climate, plant in sheltered locations to shield from strong winds, mulch for moisture retention and weed control, and ensure proper nutrition and irrigation, particularly during initial growth. Regular monitoring for pests and diseases is essential. Following these guidelines can lead to successful almond cultivation in the region.

Packages of Practices of Almond:

Packages of Practices (PoPs) for almond cultivation offer essential guidelines developed by agricultural experts to support sustainable, high-quality almond production. Key components include site selection in well-drained, sunny areas with fertile soil, optimal pH levels, and appropriate variety selection based on local conditions.

Planting in the spring, tree spacing, regular irrigation, and balanced fertilization are crucial. Annual pruning in winter enhances tree health and fruiting, while pest and disease management necessitates vigilant monitoring and immediate treatment if issues arise. Harvesting in the fall when hulls turn brown is followed by proper drying and storage.

Additional PoPs encompass soil and weed management, ensuring deep, well-drained soil and implementing weed control measures to prevent competition for water and nutrients. Integrated pest management (IPM) practices may be advised, emphasizing the reduction of pesticide use through biological controls and beneficial insect release.

These comprehensive PoPs are invaluable for almond growers seeking to enhance yields and quality, promoting sustainable and efficient almond cultivation. Local agricultural extension offices can provide region-specific PoPs for almond cultivation.

Best Practices of Almond Cultivation:

Successful almond cultivation relies on a set of general best practices that ensure high-quality and sustainable production. These practices begin with site selection in well-drained, sun-soaked areas with fertile soil and appropriate pH levels, followed by careful variety selection tailored to local climates and growing conditions.

Planting in spring with proper tree spacing, consistent irrigation during initial growth, and regular, balanced fertilization are essential.

Pruning in winter shapes healthy trees for optimal fruiting, while vigilant monitoring for pests and diseases is crucial. Harvesting in the fall after hulls turn brown and drying and proper storage complete the process.

Additional best practices encompass using cover crops to enhance soil health and reduce erosion, implementing integrated pest management (IPM) to minimize pesticide usage, employing water conservation techniques like drip irrigation, and consistently monitoring tree health. Adhering to these practices allows almond growers to sustainably produce high-quality almonds.

Innovations in Almond Crop:

New Varieties: Researchers are developing almond varieties that are more resilient, yield higher output, and adapt to diverse growing conditions, enhancing crop performance.
Precision Agriculture: Technology is enabling precision agriculture practices, optimizing irrigation, fertilization, and disease monitoring to enhance efficiency and sustainability.

Robotics and Automation: Automation is streamlining tasks like harvesting, pruning, and weeding, reducing labour costs and improving overall efficiency.

Product Diversification: The development of new almond-based products, like almond milk, flour, and butter, is expanding the market and increasing profitability.

Almond Hull Utilization: Innovations are finding valuable uses for almond hulls, such as biofuels, animal feed, and construction materials.

Water Conservation: Water-efficient methods like drip irrigation and cover crops are being employed to reduce the water footprint of almond farming.

Pollinator Management: Techniques to support pollinator populations, crucial for almond pollination, are being developed, including planting pollinator-friendly plants and providing nesting sites for bees.

Genomics: Genomics aids in creating almond varieties with favourable traits, like resistance to pests, drought tolerance, and increased yields.

Machine Learning: Machine learning is applied for orchard monitoring, pest and disease detection, and yield prediction.

Blockchain Technology: Blockchain enhances traceability throughout the almond supply chain, from orchard to consumer.

Value Addition Possibilities in Almond:

Processing: Almonds can be transformed into products like almond milk, flour, butter, and oil, offering convenience and versatility to consumers.

Packaging: Attractive packaging, including resealable bags, snack packs, and gift boxes, not only enhances visual appeal but also protects the nuts from damage.

Branding: Creating a unique brand identity distinguishes almonds in the market, increasing their value and fostering customer loyalty.

Marketing: Effective marketing techniques, such as advertising and social media campaigns, raise awareness and demand for almonds, thereby increasing their value and sales.

Specific value-added almond products include almond milk as a dairy alternative, gluten-free almond flour, protein-rich almond butter, and versatile almond oil.

Beyond these, almond snacks, supplements, cosmetics, and even almond tourism experiences are emerging as innovative avenues to add value to almonds. As almond demand continues to surge, businesses continue to find novel ways to capitalize on the growing popularity of these nutritious nuts.

Interventions to build climate resilience in Almond:

Climate change poses significant challenges to almond production due to increased heat stress, drought, and heightened pest and disease risks. To build climate resilience in almond cultivation, various interventions can be adopted.

These include choosing climate-resilient almond varieties, practicing deficit irrigation to conserve water, implementing cover crops for improved soil health and water retention, and adopting integrated pest management (IPM) to reduce pesticide use and bolster pest resistance.

Furthermore, water management measures like drip irrigation and soil moisture sensors help optimize water use. Diversifying crops with drought-tolerant alternatives, developing contingency plans, and utilizing precision agriculture to target inputs more precisely are additional strategies to enhance resilience.

Automation and robotics can reduce labour and resource costs, while drought-tolerant rootstocks can bolster tree resilience.

These innovative interventions collectively reduce the vulnerability of almond production to climate change, ensuring long-term sustainability for the almond industry.

Plum

Plums are sweet and juicy stone fruits, known for their delicious flavour and versatility. They come in various colours, including red, purple, yellow, and green. Plums can be eaten fresh or used in a wide range of culinary applications, such as making jams, jellies, pies, and sauces. They are also dried to create prunes.

Rationale of expansion in J&K:

The expansion of plum cultivation in Jammu and Kashmir (J&K) offers numerous compelling reasons. J&K boasts a favourable climate with cold winters and warm, dry summers, ideal for plum cultivation.

The demand for plums in India and globally is on the rise, making it a high-value crop with economic potential, generating income and employment for farmers.

Plum trees contribute to environmental well-being by reducing soil erosion, enhancing soil fertility, and providing a habitat for wildlife. Government support through subsidies and processing units further encourages plum farming.

In addition to these advantages, plums are a nutritious fruit, rich in vitamins, minerals, and antioxidants, linked to various health benefits. Plum expansion fosters rural development, offering a sustainable income source and job opportunities.

Overall, plum expansion in J&K is a mutually beneficial endeavour, providing economic, environmental, and nutritional advantages while creating employment opportunities.

Cultivation Practice in J&K:

Site Selection: Choose well-drained, sunny locations with fertile soil and an optimal pH range of 6.5 to 7.5.

Planting: Spring planting, after the last frost, with recommended tree spacing of 15 to 20 feet.

Irrigation: Plum trees need consistent watering, particularly during the initial years, with deep watering once or twice a week.

Fertilization: Regularly apply balanced fertilizer based on tree age and soil type.

Pruning: Annual winter pruning helps maintain tree health and promote fruiting.

Pest and Disease Management: Regular tree inspections are vital to identify and address pest and disease issues promptly.

Harvesting: Ripe plums with a deep purple colour are typically harvested in summer, with care to avoid tree damage.

Additional tips include selecting climate-suited plum varieties like Santa Rosa, providing wind protection, mulching for moisture retention and weed control, and ensuring adequate irrigation and nutrition during the initial years.

Regular monitoring for pests and diseases is essential. Following these guidelines facilitates successful plum cultivation in J&K.

Packages of Practices of Plum:

Packages of Practices (PoPs) for plum cultivation provide a comprehensive guide for farmers to produce top-quality plums sustainably. Key components include suitable site selection with well-drained soil and sun exposure, variety selection tailored to local conditions, and spring planting with adequate spacing.

Effective irrigation, especially during the initial years, along with regular application of balanced fertilizer, is crucial. Pruning in winter ensures healthy tree growth and fruit production. Vigilant monitoring is essential to address potential pest and disease issues.

PoPs may also cover soil management for well-drained and fertile soil, weed control measures to reduce competition for resources, and integrated pest management (IPM) strategies to minimize pesticide use, favouring biological controls and beneficial insects.

Additional best practices involve implementing cover crops for soil health and erosion control, employing water-saving techniques like drip irrigation, and consistently monitoring tree health for prompt corrective measures. These practices collectively support sustainable high-quality plum production.

Best Practices of Plum Cultivation:

Site Selection: Choose well-drained, sunny locations with fertile soil and an optimal pH range. Pick plum varieties suited to local climate and growing conditions.

Planting: Plant in spring, with recommended tree spacing.

Irrigation: Maintain regular and deep irrigation, especially in the initial years.

Fertilization: Apply balanced fertilizer regularly, adjusting according to tree age and soil type.

Pruning: Conduct annual winter pruning for tree health and fruit promotion.

Pest and Disease Management: Consistently monitor trees for signs of pests and diseases and address them promptly.

Harvesting: Pick ripe, deep purple plums carefully to avoid tree damage.

Additional best practices involve using cover crops for soil health and erosion control, implementing water-saving techniques like drip irrigation, and monitoring trees for signs of stress, with corrective action as needed.

Specific tips include selecting a pollinator to enhance cross-pollination, thinning fruit to ensure proper development, protecting fruit from birds, and harvesting plums with care to avoid bruising. These practices lead to a bountiful and high-quality plum harvest.

Innovations in Plum Crop:

New Plum Varieties: Researchers are developing plum varieties with higher resistance to pests and diseases, improved yields, and adaptability to different conditions. For instance, some varieties exhibit greater resistance to common issues like brown rot.

Precision Agriculture: Precision agriculture leverages technology to enhance farming practices. In plum cultivation, it is used to precisely target irrigation and fertilization, as well as to monitor trees for signs of stress and disease. Drones are employed for aerial orchard assessments.

Robotics and Automation: Automation, including robot-assisted tasks like harvesting and pruning, reduces labour costs and increases overall efficiency in plum farming. Robots can harvest plums with precision and accuracy.

New Plum Products: Ongoing development of plum-based products such as plum juice, plum nectar, and plum jam expands the market and boosts profitability. These products

offer health-conscious alternatives and valuable nutritional content.

Additional areas of innovation include genomics for breeding desirable plum traits, machine learning for orchard monitoring and pest/disease detection, and blockchain technology for supply chain traceability, ensuring product quality and fair pricing.

Embracing these innovations allows plum growers to enhance the quality, sustainability, and profitability of their crops.

Value Addition Possibilities in Plum:

Adding value to plums through processing, packaging, branding, and marketing offers various opportunities for both businesses and consumers:

Processing: Plums can be transformed into a range of products, such as juice, nectar, jam, jelly, sauce, and wine, providing convenient and nutritious options for consumers.

Packaging: Attractive packaging enhances plum appeal and guards against damage. Options like resealable bags, snack packs, and gift boxes make plums more consumer friendly.

Branding: Creating a distinctive brand identity sets plums apart in the market, increasing their perceived value and fostering customer loyalty.

Marketing: Effective marketing strategies, including advertising and social media campaigns, can raise awareness and drive demand, ultimately boosting plum value and sales.

Additional value-added plum products and services include plum snacks, supplements, cosmetics, and plum tourism experiences. These innovations cater to evolving consumer preferences and contribute to the profitability and sustainability of the plum industry.

Interventions to build climate resilience in Plum:

There are a number of interventions that can be used to build climate resilience in plum production. These interventions include:

Choosing climate-resilient plum varieties: Researchers are developing new plum varieties that are more resistant to heat stress, drought, and pests and diseases. Farmers can choose to plant these climate-resilient varieties to reduce their risk of crop losses.

Using deficit irrigation: Deficit irrigation is a practice of irrigating plum trees less than what is required for optimal growth. This can help to conserve water and make plum trees more tolerant of drought conditions.

Using cover crops: Cover crops are plants that are grown in between plum trees. They can help to improve soil health, reduce erosion, and suppress weeds. Cover crops can also help to improve water infiltration into the soil, which can benefit plum trees during drought conditions.

Using integrated pest management (IPM): IPM is a holistic approach to pest management that aims to reduce the use of pesticides. IPM practices can help to reduce the risk of pest outbreaks and make plum trees more resilient to pests and diseases under climate change conditions.

Improving water management: Plum production is a water-intensive industry. Farmers can implement water conservation measures, such as drip irrigation and micro-sprinklers, to reduce their water use. Farmers can also use water management tools, such as soil moisture sensors, to help them make more informed irrigation decisions.

Diversifying their crops: Farmers can plant other crops in addition to plums to reduce their risk of crop losses due to climate change. For example, farmers can plant drought-tolerant crops, such as pistachios and olives, or crops that can be grown with less irrigation, such as grapes and berries.

Developing contingency plans: Farmers can develop contingency plans to deal with the impacts of climate change, such as drought, heat waves, and extreme weather events. Contingency plans may include having a backup water supply, planting drought-tolerant crops, and developing markets for their products in multiple regions.

By implementing these interventions, plum growers can build climate resilience and reduce their risk of crop losses due to climate change.

Apricot

Apricots are small, orange, and velvety fruits with a sweet and slightly tart flavour. They are a good source of vitamins, particularly vitamin A and vitamin C, as well as dietary fibre. Apricots can be enjoyed fresh, dried, or used in various culinary dishes, such as jams, desserts, and sauces.

Rationale of expansion in J&K:

Favourable Climate: J&K's cold winters and warm, dry summers create an ideal environment for apricot cultivation, making it a natural fit for the area.

Rising Demand: Apricots are in high demand both in India and globally. India, in particular, is a substantial importer of apricots, and this demand is expected to persist, promising market opportunities.

Economic Prosperity: Apricot cultivation is economically rewarding, with high-value crops. It leads to job creation and generates income for local farmers, contributing to economic growth.

Environmental Benefits: Apricot trees provide ecological advantages, such as reducing soil erosion, enhancing soil fertility, and creating habitats for wildlife.

The government's initiatives, including subsidies and processing units, underscore its commitment to promoting apricot farming in the region.

Further benefits of apricot expansion in J&K encompass its nutritional value, job creation potential, and the contribution to rural development. Apricots are nutritious, linked to health benefits, and offer versatility as they can be consumed fresh or processed into various products. Their high value and sustainability make them a valuable crop for farmers.

Overall, apricot expansion in J&K represents a win-win scenario, with economic, environmental, nutritional, and job creation benefits.

Cultivation Practice in J&K:

Cultivating apricots in Jammu and Kashmir (J&K) involves practices similar to those in other apricot-growing regions worldwide, with some region-specific considerations:

Site Selection: Well-drained, sun-exposed, fertile soil with a pH of 6.5 to 7.5 is crucial.

Planting: Spring planting after the last frost is recommended, with trees spaced 15 to 20 feet apart.

Irrigation: Regular irrigation, particularly during initial years, is essential, deep watering once or twice weekly.

Fertilization: Regular balanced fertilization, with varying amounts based on soil type and tree age.

Pruning: Annual winter pruning to maintain tree health and encourage fruiting.

Pest and Disease Management: Regular inspections for pests and diseases, with immediate treatment if detected.

Harvesting: Typically, in summer when apricots turn golden yellow, with careful harvesting to prevent damage to trees.

Additional tips include choosing suitable apricot varieties, planting in sheltered locations,

mulching for moisture retention and weed suppression, and close monitoring for stress signs and timely corrective measures.

Packages of Practices of Apricot:

To successfully cultivate apricot trees, follow a comprehensive set of practices. Begin by selecting a well-drained, sunny site with soil in the pH range of 6.5 to 7.5 and enrich the soil with compost or manure prior to planting.

When planting in spring or fall, space the trees 15-20 feet apart and water deeply after planting, particularly during the first year. Regular watering, typically once a week, is essential, but avoid overwatering to prevent root rot.

Fertilize with a balanced fertilizer in spring and fall, adhering to package instructions. Prune trees in late winter or early spring, eliminating dead or diseased branches and ensuring adequate air and sunlight access.

Pest and disease management is crucial, with vigilance for issues like aphids, scales, brown rot, and canker. Immediate treatment with appropriate pesticides or fungicides is vital if pests or diseases are detected.

Harvest apricots in summer when ripe, storing them in the refrigerator for up to a week or processing them. Additional tips include planting multiple trees for increased fruit production and safeguarding against extreme temperatures.

Integrated Pest Management (IPM) techniques, like planting resistant varieties, regular monitoring, cultural practices, beneficial insects, and pesticide use as a last resort, offer holistic pest management solutions. Following these practices will result in healthy, productive apricot trees.

Best Practices of Apricot Cultivation:

Successful apricot cultivation demands adherence to best practices that align with specific climate and growth conditions. General guidelines for high-quality, sustainable apricot production encompass:

Site Selection: Optimal conditions involve well-drained, sunny areas with fertile soil (pH 6.5-7.5).

Variety Selection: Choose suitable varieties that match the local climate and requirements, considering factors like cold or drought tolerance.

Planting: Spring planting post-last frost with recommended spacing (15-20 feet apart).

Irrigation: Regular, deep watering, especially during initial growth stages.

Fertilization: Apply balanced fertilizers, with quantities varying based on tree age and soil type. **Pruning:** Annual winter pruning ensures healthy trees and encourages fruiting.

Pest and Disease Management: Regular inspections and prompt treatment are vital to combat potential issues. **Harvesting:** Gather ripe apricots in the summer, handling them carefully to avoid damage.

Additional best practices include employing cover crops for soil enhancement and erosion control, adopting water-conservation methods like drip irrigation, thinning fruit for proper development, protecting against pests, and ensuring gentle harvesting to prevent bruising.

Innovative practices encompass precision agriculture, utilizing technology for precise irrigation and monitoring; automation, including robotic harvesting, pruning, and weeding; and the use of drought-tolerant rootstocks to enhance climate resilience. These measures collectively ensure high-quality, sustainable apricot cultivation.

Innovations in Apricot Crop:

Researchers are actively working on developing new apricot varieties that boast improved resistance to pests and diseases, enhanced flavour and texture, and

adaptability to a broader range of climates. Notably, the University of California, Davis has introduced "Goldstrike," a brown rot-resistant apricot variety.

Precision agriculture is another advancing trend, utilizing technology such as sensors and drones to monitor and manage apricot crops with precision. This approach optimizes resource use, reduces costs, and boosts yields for apricot farmers.

Additionally, vertical farming is emerging as a groundbreaking technique, enabling the efficient growth of apricots in vertically stacked layers, conserving land and water resources, and enabling urban cultivation.

Innovations in post-harvest technologies, including advanced packaging materials and coatings, are extending the shelf life of apricots and minimizing food waste. Furthermore, there is a growing focus on sustainable and organic apricot production, emphasizing reduced environmental impact and the avoidance of synthetic pesticides and fertilizers. Collectively, these innovations are promoting sustainability, productivity, and profitability in the apricot industry.

Interventions to build climate resilience in Apricot

Climate-Resilient Varieties: Researchers are developing apricot varieties resistant to heat stress, drought, and pests. Farmers can select these varieties to mitigate crop losses.

Deficit Irrigation: Implementing deficit irrigation involves providing apricot trees with less water than required for optimal growth. This not only conserves water but also enhances the trees' tolerance to drought conditions.

Cover Crops: Planting cover crops between apricot trees improves soil health, reduces erosion, and suppresses weeds. They also aid in water infiltration, particularly beneficial during droughts.

Integrated Pest Management (IPM): IPM practices focus on reducing pesticide use, minimizing the risk of pest outbreaks, and enhancing apricot tree resilience against climate-induced pests and diseases.

Water Management: Apricot production is a water-intensive industry, and implementing water conservation measures like drip irrigation and micro sprinklers is vital. Using soil moisture sensors aids in making informed irrigation decisions.

Moreover, precision agriculture employs technology for precise irrigation, fertilization, and early issue detection. Robotics and automation reduce labour costs and enhance the efficiency of farming operations while applying resources more accurately. Using drought-tolerant rootstocks fortifies apricot tree resilience.

Implementing these innovative interventions strengthens climate resilience, reducing the risk of crop losses and ensuring the long-term sustainability of the apricot industry.

Value Addition Possibilities in Apricot:

Adding value to apricots can enhance their appeal, profitability, and accessibility to consumers. Value-added approaches include processing, packaging, branding, and marketing:

Processing: Apricots can be transformed into various products like juice, nectar, jam, jelly, sauce, and wine. These processed items offer convenience and versatility while often commanding higher prices than fresh fruit.

Packaging: Creative packaging, such as resealable bags, snack packs, or gift boxes, can attract consumers and safeguard the fruit from damage.

Branding: Establishing a distinct brand identity differentiates apricots in the market, increasing their perceived value and fostering customer loyalty.

Marketing: Promotional efforts encompass advertising, social media, and public relations to create awareness and stimulate demand. Effective marketing elevates apricot value and drives increased sales.

Value-added apricot products include apricot juice and nectar, popular for their nutritional benefits; apricot jams and jellies as versatile spreads; apricot sauce for culinary applications; and apricot wine for dessert or aperitif.

Furthermore, innovative value-added avenues consist of apricot snacks, supplements, cosmetics, and apricot-based tourism experiences. These strategies empower farmers to boost profits and consumer engagement while promoting the apricot industry.

Cherry

Cherries are small, round, and vibrant red or dark purple fruits known for their sweet and tart taste. They are a rich source of antioxidants and vitamin C, offering potential health benefits. Cherries are enjoyed fresh, in desserts, preserves, and even as a popular flavour in various food and beverages.

Rationale of expansion in J&K:

The expansion of cherry cultivation in Jammu and Kashmir (J&K) is driven by multiple compelling reasons. J&K's temperate climate and well-drained soils create an ideal environment for cherry cultivation.

The rising demand for cherries both domestically and internationally contributes to the economic appeal of this crop. Cherries, being a high-value fruit, can be marketed fresh, processed, or frozen, making it a profitable venture for farmers. Moreover, cherry cultivation offers employment prospects in rural areas and export potential to regions like the Middle East and Europe.

The Government of India supports this expansion by offering financial assistance and training to farmers, enhancing the economic prospects for the region. Beyond economic gains, cherry trees enhance tourism due to their scenic beauty, aid in soil erosion prevention, improve water quality, and provide habitat for wildlife.

In addition, cherries are a nutritious fruit. The growth of cherry cultivation in J&K holds the promise of multifaceted benefits for farmers, the local economy, the nation, and the environment, making it a positive and sustainable development.

Cultivation Practice in J&K:

Cherry cultivation in Jammu and Kashmir (J&K) follows global practices with region-specific adaptations due to unique climatic conditions.

Key considerations include site selection, spacing, irrigation, fertilization, pruning, pest/disease management, and careful harvesting. Varieties suited to J&K's climate include Mishri, Dabal, Siya, Awal-number, Italy, Jadi, and Makhmali. Sheltered planting sites, mulching, and regular monitoring are vital.

Additional best practices encompass cover crops to enhance soil health, water-efficient methods like drip irrigation, fruit thinning for proper development, bird and pest protection, and gentle harvesting to avoid damage.

The growing interest in high-density cherry orchards offers higher yields but requires more intensive management.

Cherry cultivation holds significant promise in J&K, with the potential for high-quality, sustainable production and profitable outcomes by adhering to these practices.

Packages of Practices of Cherry:

Cherry cultivation demands a well-thought-out package of practices for successful growth. The land should feature well-drained, loamy soil with a pH range of 6.5-7.5, ample sunlight, and protection from strong winds.

Soil preparation entails deep ploughing, weed removal, and the addition of compost or manure. Plant cherry trees in spring or fall, spaced 15-20 feet apart, with planting holes twice the width of the root ball, ensuring deep watering post-planting.

Maintaining consistent watering is crucial, especially in the first year, without overwatering to prevent root rot. Fertilization with a balanced fertilizer in spring and fall follows package instructions. Pruning, typically in late winter or early spring, involves removing dead, diseased, or damaged branches and canopy thinning for proper air circulation and sunlight.

Cherry trees are prone to various pests and diseases, necessitating regular inspection and immediate treatment with the appropriate pesticides or fungicides. Harvest ripe cherries in the summer, preferably in the morning, and handle them by twisting the fruit off the tree. Post-harvest, cherries can be stored, dried, canned, or frozen.

These self-pollinating trees thrive with additional tree planting and require protection from extreme temperatures. Integrated Pest Management (IPM) principles underscore prevention and non-chemical methods, with a focus on resistant varieties, regular monitoring, cultural practices, biological controls, and using pesticides as a last resort to ensure healthy and productive cherry trees.

Best Practices of Cherry Cultivation:

To cultivate high-quality cherries sustainably, specific best practices tailored to local conditions are essential. Key recommendations include careful site selection with well-drained, fertile soil and full sun exposure.

Variety selection should consider climate suitability, and spacing trees adequately (15 to 20 feet apart) is crucial.

Consistent irrigation, especially during initial years, and balanced fertilization are vital. Regular winter pruning supports tree health and fruiting.

Monitoring for pests and diseases is critical, with prompt treatment when necessary. Harvesting ripe cherries with care is important to avoid tree damage.

Further practices encompass employing cover crops to improve soil health and reduce erosion, embracing water-efficient techniques like drip irrigation, proper fruit thinning for optimal development, effective pest protection, and gentle harvesting practices. Innovative approaches include precision agriculture, automation, and using drought-tolerant rootstocks to enhance resilience to climate change.

In summary, best practices in cherry cultivation aim for high-quality, sustainable production, addressing climate and local conditions.

Innovations in Cherry Crop:

The cherry industry is experiencing a wave of innovations aimed at enhancing sustainability, productivity, and profitability for growers. Researchers are actively developing new cherry varieties that are more resilient to pests and diseases, offer superior flavour and texture, and can thrive in diverse climates. Examples like the "Sweetheart" cherry variety, resistant to brown rot, highlight this progress.

Precision agriculture leverages technology, including sensors and drones, to efficiently manage crops, optimizing resource use and reducing costs for cherry growers. Vertical farming, though in early stages, holds potential to revolutionize cherry cultivation by conserving land and water resources and enabling urban farming.

Innovations in post-harvest technologies, such as advanced packaging materials and coatings, extend cherry shelf life and reduce food waste. Robotics and artificial intelligence are streamlining tasks like harvesting and sorting, reducing labour costs and enhancing efficiency.

Moreover, the development of new cherry products like juice and powder, along with promotional efforts highlighting cherries' health benefits, is expanding the market and driving demand. These multifaceted innovations are transforming cherry cultivation, making it more sustainable and profitable while creating new opportunities for growers.

Value Addition Possibilities in Cherry:

Adding value to cherries can significantly enhance their market appeal and profitability. This can be achieved through various methods, including processing cherries into products like juice, nectar, jam, jelly, sauce, wine, and dried cherries.

These processed products offer convenience and versatility, often commanding higher prices than fresh cherries. Attractive packaging is another strategy, making cherries more appealing to consumers while ensuring the fruit's protection.

Effective branding and marketing further elevate the value of cherries, establishing a unique identity and building customer loyalty. Specific cherry products, such as cherry juice and jam, cater to diverse consumer preferences and applications, while dried cherries serve as a healthy snack or cooking ingredient.

Additional value-adding avenues include cherry supplements, cosmetics featuring cherry extracts, and cherry farm tourism, all contributing to increased income for farmers and greater awareness of the cherry industry.

These strategies collectively enhance the market presence and profitability of cherries.

Interventions to build climate resilience in Cherry:

Climate change poses a significant threat to cherry production, with its sensitivity to temperature and moisture fluctuations making it susceptible to extreme weather events like heatwaves, droughts, and floods. To enhance cherry production's resilience to these challenges, various interventions can be adopted.

Firstly, planting climate-resilient cherry varieties, developed by researchers, can mitigate the risk of crop failure.

Precision agriculture practices improve water and fertilizer management and enhance irrigation efficiency, promoting sustainability and climate resilience. Integrated pest management (IPM) practices decrease pesticide use, benefiting the environment and sustainability.

Additional strategies include employing cover crops and mulching to bolster soil health, moisture retention, and weed control. Improved drainage can reduce the risk of root rot during heavy rainfall, and windbreaks can shield cherry trees from strong winds, particularly in windy regions.

Adapting production practices to local climate conditions, such as more frequent irrigation in drought-prone areas or providing shade during heatwaves, is crucial.

These interventions collectively empower cherry growers to bolster climate resilience, minimize the risk of crop failure, and cultivate sustainable cherry production practices.

Through these value-adding strategies, farmers increase their profitability while making cherries more accessible and appealing to consumers, meeting their evolving preferences and needs.

Chapter 2. Project Description and Implementation Modalities

I. Climate-smart and market-led production

A. Upscaling collectivization

Brief Description of Project Interventions

Collectivization is the core on which cost-effective service delivery and aggregation of inputs and outputs for achieving economies of scale can be built to ensure market-oriented production. The current FPO promotion efforts are target-oriented and do not focus on building resilient and sustainable businesses for the FPOs. Three modalities will be followed to support FPOs: (i) support existing FPOs; (ii) FIG promotion and allow them to organically grow into FPOs; and (iii) support existing CLFs/Cooperatives and associations to grow into FPOs. The project will invest in a three-pronged strategy to promote FPOs which include: (i) building the capacity of the Promoting Organizations (POs) to build the core competence of promoting FPOs around a viable business; (ii) provision of support on a tapering basis to inculcate the principles of climate and economic resilience and sustainability from the very beginning; and (iii) participatory business planning for the establishment of businesses and facilitation for bank finance designed for FPO business activities. These elements will be implemented through a systematic delivery of services tailored to the needs of the FPOs, using a graduation model approach ultimately leading to sustainable and “fit for purpose” FPOs. The project would support 101 FPOs (including mobilization of 45 new FPOs) covering 30,300 members at 300 member per FPO covering capacity building, management cost, matching equity and business establishment.

Implementation Steps

Build Capacity of Promoting Agency

- APD to engage the SKUAST-Jammu and SKUAST-Kashmir as the Promoting Agency for supporting FPOs through their network of KVKs.
- Engage a team of consultants to review the performance of existing FPOs and identify business verticals for the FPOs.
- Identify resource persons and develop a curriculum for the training of FPO Development Officer. The curriculum also includes the climate risk analysis and assessing and identifying practical adaptation measures.
- Develop a curriculum for training FPO Managers and Accountants.
- Develop a curriculum for training of FPO leaders. Similar to the FPD development officer’s curriculum, this should also include assessing and identifying climate risk and adaptation measures.
- Advertise the select FPO Development Officers – one per district to be housed within the KVKs.
- Prepare a plan for training of FPO Development Officer and conduct training as planned.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Engage SKUAST-J and SKUAST-K to prepare activities and budgets related to the upscaling collectivization activities.	APD	SKUAST-J and SKUAST-K	
Review of existing FPO and identifying business verticals	SKUAST-J and SKUAST-K	DioA-J, DioA-K, DioH-J and DioH-K	FPOs

Develop curriculums	SKUAST-J and SKUAST-K	DioA-J, DioA-K, DioH-J and DioH-K	
Recruit FPO Development Officers	SKUAST-J and SKUAST-K	DioA-J, DioA-K, DioH-J and DioH-K	
Train FPO Development Officer	SKUAST-J and SKUAST-K	DioA-J, DioA-K, DioH-J and DioH-K	

FPO Mobilization and support

FPO Mobilization: The project would use the generic mobilization guidelines of FPO mobilization of GoI. These steps remain valid, but normally the FPO Promoting Agencies, due to their target-oriented approach and payment release linked to the registration of FPO, largely focus on mobilization and registration, give no cognizance to the farmers' interest in a particular business. The project will establish a new process as a pre-requisite for FPO mobilization and support.

- FPO Business Development Officers to conduct field visits and identify a core team of farmers interested in coming together for self-help.
- If the farmers are interested in investing money and time into the FPO and the business opportunities proposed are feasible, the project should facilitate the community to identify a Manager and an Accountant initially on an honorary basis for a three-month period.
- Prepare a plan for training of FPO staff and conduct training as planned.
- Undertake consultations with the community on the business verticals that can be built to increase the income levels of farmers, identify a business vertical that holds promise and prepare a basic project concept note for seeking project support.
- Conduct a community meeting to present the project report to the community and evaluate the interest of the members to be a part of FPO.
- If the community is interested start the process of registering FPO and opening a bank account.
- Start share capital mobilization. The project will provide a matching grant to FPO members for share capital mobilization. The project will provide 60% as a matching grant for women and youth and 40% for other members against share capital mobilization. A member will get a share certificate of Rs. 4,000 upon his/her contribution of Rs 2,000 towards equity capital of FPO. Rs 2,000 will be paid by the project. Women and youth will have to contribute Rs 1,000 and the project will provide Rs 3,000.
- Conduct a challenge at the district level where the project concept note will be reviewed by a team comprising officers from the Directorates and KVK.
- Assist in developing the project concept note into a project proposal by providing multi-disciplinary team support comprising officers from the Directorates and thereafter appraise the proposal and provide funding.

FPO staff salary

- The FPO staff engaged will be on an honorary basis for the first three months.
- FPO salary will be fixed by the FPO leaders.
- Salary payments will be linked to the achievement of deliverables such as the number of members of FP, business turnover of the FPO, and profitability of the FPO.

FPO Business Plan preparation

- Facilitate the preparation of FPO business plan.
- Prepare proposals based on the business and seek funding from the project.
- The matching grant support from the project will not exceed 50% of the project cost for the first two businesses and thereafter a system of reducing the matching grant will be implemented.

FPO rating

- Conduct FPO rating/scoring exercise on a yearly basis using a scoring tool to be developed by the project in consultation with IFAD.



- Based on this assessment, conduct reviews and design measures for changes in support leading to improvement in performance.

Mentoring an FPO - Steps for the Promoting Agency (PA): Often an FPO is created with extrinsic support from a PA. This necessitates an even more carefully thought-out approach by such an agency to ensure the success of the FPO. An FPO (registered under the Cooperative Act) is a business enterprise and needs to be not only financially viable but also a growing and profitable venture, in the long run, to benefit its members.

Since FPO is owned and governed by its members, mostly smallholders, needs to be mentored effectively to become a strong enterprise. Generally, an FPO goes through these four stages in its creating and running: 1. Pre-registration, 2. Registration and building membership, 3. Operationalisation, and 4. Post operationalisation.

At each stage, an FPO needs very specific support and mentoring from the facilitating agency. Based on the experience from the successful FPOs/Cooperatives, some steps are listed and described below in brief. An operational guide will be developed by the PA which will incorporate support below, based on an initial scoring and needs assessment.

Stage I - Pre-registration: An FPO created without due diligence soon suffers stunting and failure. It is desirable to give due consideration before its incorporation.

- Identification of the proposed FPO's business activity (or activities), area of operation, potential members, and a realistic estimate of business leading to the preparation of a tentative business plan having a five-year perspective. If the business plan appears robust with a sensitivity analysis of a 10% fall in business

volume/prices and also a 10% increase in the operational cost, it is worth pursuing, or else the business model needs to be tweaked to achieve the same.

- Pre-launch consultation needs to be held with a cross-section of potential members if it is not possible to hold with all of them. If a majority of the potential members i.e., all the women associated with the activities of the FPO in the selected area of operation are convinced about the benefits and are willing to invest in this venture we should move to the next step.
- Identify the first set of promoters including the chief promoter. Also, identify the nominated directors to be appointed at the first AGM through due process to ensure these women are having a high level of commitment to this initiative and are willing to invest their time in the same. The first nominated directors should be having reading, writing, and basic arithmetic capabilities in addition to a strong value system of honesty and sincerity, and trust of the people around them.
- Seek professional help in drafting the byelaws of the FPO and list down the crucial aspects of ownership, operations, and governance. Discuss these simplified but key points with the first promoters. If required incorporate changes to address the concerns of the promoters. These interactions should also build a consensus among the promoters toward the nominated directors.
- Proceed with documentation and incorporation of the FPO.

Stage II- Registration: Immediately after registration a few key activities need to be initiated in the FPO.

- After obtaining the registration certificate of the FPO hold the first AGM at the earliest (say within a month to expedite activities although legally allowed up to three months) to nominate the directors, approve the budget for the year and other statutory matters. Conduct a board meeting to approve the business plan, organisation structure, and membership application form, among other legal requirements e.g., applying for various licenses. If possible, the chief executive of the FPO (by whatever positional name it is referred to) should also be appointed in this board meeting or else the mentoring agency should help provide a professional on deputation till a full-time chief executive is appointed (earlier the better).
- Undertake membership drive (SHG/village level meetings among potential members to explain the purpose and benefit of the FPO) to enrol most of the women, involved in the business activity(ies) of the FPO in the area as the shareholders of the FPO to ensure a respectable volume at the earliest.
- Arrange training for the Chief executive to ensure keeping the licenses, statutory compliances, bank reconciliation, auditing, etc, up to date. She/He should be equipped in recording and maintain the Board meetings and AGM records appropriately.
- Hold a board meeting to approve membership.
- Hold a business orientation training programme for the nominated directors to help them understand the key aspects of running and managing FPO's business. Also, clarify the role of the board vis-a-vis the Chief Executive.

Stage III - Operationalisation: While membership is being built the FPO should initiate preparatory activities to facilitate initiating the business of the FPO. But it should be started only after a minimum threshold of the business appears to be achievable in light of the members enrolled till then.

- Preparing for operations:
 - Setting up of infrastructure for measuring, testing (if any), recording, and storing. This step needs to be planned with micro details to ensure glitch-free operations of the FPO.
 - Obtaining working capital loan/grant required for the projected business.

- Obtaining necessary licenses and fulfilling other statutory requirements
 - Defining standard operating procedures (SOPs) for all the processes
 - Hiring and training the employees and related functionaries on SOPs
- Finalise the agreement with various parties as required like transporter, forward linkage (institutional buyer), input provider, other service providers, etc.,
 - Acquire, train the employee, and implement IT solutions including accounting software to ensure transparency, fair data recording at all levels, and correct and timely information to the members.
 - Ensure appropriate solution and process is in place to make timely payment to the members for their supplies to the FPO.
 - Begin the operation on a pre-announced date with information to all the members of the FPO.

Stage IV - Post-operationalisation: Once the FPO is operationalised it needs to be mentored on various aspects continuously and consistently. The important ones are listed below:

- Facilitate the board (along with the chief executive) of the FPO to evolve a shared "Values and Vision" of the FPO. This helps to build the culture of the FPO right from the beginning.
- Train the staff to undertake regular extension/awareness-building activities among the members to strengthen and grow members' participation in FPO's business.
- Arrange for regular Board training (every quarter in the first year and six-monthly later) to reinforce role clarity among the board members as well as build skills to understand and analyse the business parameters of the FPO. The board members should be able to understand and ask key questions when presented with the performance of the FPO in board meetings by the chief executive.
- Support in regular monitoring and review of the activities by the board (quarterly) as well as by the Chief Executive and his team (fortnightly/monthly) to ensure achievement of the set targets. Review the SOPs and if needed modify them to optimise cost and effectiveness.
- Introduce performance-linked incentives for the employees of the FPO by splitting the compensation into two parts fixed and variable.
- Develop appropriate MIS formats for managing the timely availability of data/information to facilitate informed decisions and also effective performance review.
- Monitor the Value Chain regularly in the first two years and suggest improvements to cut costs and build efficiency.
- In addition to strengthening institutional forward linkages undertake marketing efforts to build retail sales to improve profitability. This will also require registering the trademark or else using existing group trademarks made available by MAVIM like 'Tejaswini'.
- Scan innovative business activities that are suitable for the FPOs to get into and handhold the FPOs with the necessary preparation for the same.
- Help to hold the board meetings and the AGM as per the provisions of the Act and byelaws. AGM needs to approve annual audited accounts, annual budget, dividends if any, appointment of auditor, etc.
- Keep reviewing the governance process i.e., the board meeting (agenda and participation) and the board records for continuous improvement so that they serve as a reliable base for future reference.

- Plan an exit strategy for the facilitating agency so that the FPO is enabled to carry on all the activities on its own after the withdrawal of the facilitating agency.

These steps are essential to be undertaken by the facilitating agency to ensure the strengthening of an FPO. The facilitating agency may even be required to hire subject matter experts to provide effectively hand-holding support to the FPOs.

Financial and Administration Support

To ensure access to finance for FPOs, the approach involves guiding newly established FPOs from mere compliance to actively conducting business activities, with the aim of becoming bank ready. This readiness is marked by improved financials, increased sales, and established sales contracts and buyers. Support will be provided in the form of grading tools to assess the FPOs, helping them meet the banks' credit underwriting criteria. For existing FPOs, due diligence will be conducted to assess their current status, followed by strategizing to advance them to a state of bank readiness. The key indicators in the aforementioned matrix serve as benchmarks for FPOs to achieve this readiness.

Category	Key Indicator	Acceptable Benchmark
Financial Health	Revenue Growth	5-10% annually
	Profit Margin	10-20%
	Positive Cash Flow	Consistent year-over-year growth
	Healthy Balance Sheet	Debt-to-Equity ratio < 1-2
	Earnings Growth	5-10% annually
Market Position	Established sales contract	at least 3 sales contract
	Diversified Customer Base	Not more than 20% revenue from one client
Operational Efficiency	Productivity	Year-over-year improvement
	Operational Costs	Reduction by 2-5% annually
	Supply Chain Efficiency	Delivery on-time rate > 95%
Customer	Retention Rates	Above 75-85% (repeated orders from the clients)
	Customer Feedback	Over 80% positive feedback
	Customer Base Growth	5-10% increase annually
Regulatory Compliance	Adherence to Regulations	Zero compliance issues
	Ethical Practices	High ethical standards adherence
	Environmental Compliance	Meeting or exceeding regulatory standards
Governance and Management	Leadership and Decision-making	High stakeholder confidence
	Board Effectiveness	Regular, positive evaluations
	Organizational Structure	Clear hierarchy and roles
	Risk Management	Effective mitigation of key risks
	Transparency in Reporting	Accurate and timely reports
	Stakeholder Communication	High satisfaction in stakeholder surveys

Private Sector involvement with FPOs

An FPO typically suffers from a lack of capital, be it for creating infrastructure, expanding operations, working capital, new product development, or pursuing aggressive sales and

marketing activities. It becomes a severe impediment to the growth and sustainability of the FPO. It is high time to move away from the commonly accepted view that an FPO is a farmer-owned enterprise, and hence should keep away from the private sector. The private sector has its strength of strong market orientation and the ability to manage investment. There is a great possibility to leverage the social capital of the FPO with that of the Private sector's market orientation to create a win-win situation for both. However, the terms of engagement need to be carefully considered to ensure fairness to the FPO as a small FPO may not possess the business acumen to read between the lines and protect its interest. A facilitating agency may be required to support the FPO in this. The partnership of the two, if well-conceived, could benefit both enterprises and in the long run the member-owners of the FPOs.

An FPO registered in the Cooperative Act suffers from a set of negative provisions disallowing certain forms of engagements, like the formation of joint ventures, subsidiaries, and strategic alliances with the private sector, and operate without any imposed area restrictions and having flexibility in business decisions, mobilizing funds and allocation of surplus. Cooperative is a user-owned enterprise and hence the law is not at all supportive of pure investors. Typically, cooperatives share most of their surplus as a patronage bonus to their members i.e., sharing based on participation in the business, and only a limited return is distributed as a dividend on the share capital contribution. Given this, a private firm, even if allowed, obviously will not like to invest in a cooperative's equity.

With the above in view, there is a strong possibility of engagement between an FPO and the private sector either on a service-fee/usage-rental basis or on a profit-sharing basis. Some of the following possibilities can be considered at the outset that are mutually beneficial to the two and can help build their business:

Private sector as the provider of supply-side various inputs and services to the FPO – Providing inputs and services to the members of the FPO is imperative not only for higher productivity but also for better quality. Most FPOs suffer from a lack of resources (mostly working capital and access to quality services) to undertake these activities effectively and efficiently. The private sector can fill this void very easily for the FPO. The FPO can provide access to its members and charge a commission to the service provider on the total business through its members. The payment for the service should be routed through the FPO for better accountability and transparency. This will also ensure that the member is not exploited. The private service provider should be bound through terms and conditions to provide timely and quality services at pre-agreed prices.

Private sector as a provider of infrastructure facilities for grading, processing, packaging, cold storage, etc. – Private will be willing to invest in setting up infrastructure and also run it efficiently if there is a possibility of operating it profitably. On the other hand, the FPO can hire this facility on a usage basis. However, this may require a minimum usage guarantee by the FPO to the private investor. Many Cooperatives in the dairy sector use the chilling centre facility set up by the private on such arrangements. Generally, the private sector is very cost-effective and efficient in managing such operations. This is useful, especially in the case of the FPO's business being very small and it needs such a facility on a part-usage basis.

Private sector becomes the forward linkage for marketing the produce – An FPO often faces difficulty in selling the produce/products of its members either because of a smaller volume or lack of resources to promote or reach the retail buyers. In the early phases of the FPO, this issue could be effectively addressed by tying up with a reliable bulk/institutional buyer. The bulk/institutional buyer can be engaged by the FPO not only for bulk sales but also for providing a sales and distribution channel for the FPO's branded products. This can be worked on a profit-sharing model, or a commission based on per-unit sales. Many retail chains pick up and sell FPO's branded produce at their sales outlets.

Private sector providing professional support to manage selected activities/functions - Attracting quality manpower could be a challenge for FPOs in their

infancy because of being obscure and small in business. A few FPOs together can source professional services from quality service-providing agencies. FPOs need to perform activities related to accounting, legal/statutory compliance, managing finances, training, documentation, etc. This does not need a full-time employee in the FPO. FPO often use poorly skilled staff for such tasks to save on costs leading to creating a mess. A private specialised agency can easily provide manpower for such activities on a time-sharing or task contract basis. This will ensure quality work at affordable prices.

Private sector managing facilities owned by the FPO – Often FPOs get support in the form of full or part subsidies or loans with interest subvention from funding agencies including Government bodies under various schemes to create processing infrastructure. However, managing the operations of such infrastructure profitably may be beyond the skill set available with the FPO. The private sector adept at managing these facilities may accept to run the same either on a lease basis or on a usage basis. This will ensure efficient upkeep and usage of the asset along with better economic return to the FPO. In the dairy sector, there are several examples of Cooperative dairy plants, leased out to the private sector.

Strengthening climate adaptation knowledge and capacity

The planned activities also aim capacitate producer organizations and staff to understand climate change, its impact, and assess and identify the mitigation and adaptation measures.

The FPO officers serve as the primary source for first contact for the technical assistance to the farmers. It is essential to enhance their capacity to comprehend the project's objectives and effectively provide support to farmers. One of the key areas requiring FPOs capacity building is their grasp of climate change issues and the integration of practical adaptation measures. The JKCIP supports Good Agricultural Practices and Climate-Smart Agricultural Practices, which necessitate a deeper understanding by FPO Development Officers for successful implementation.

The *capacity-building* initiative aims to empower FPO and FPO DOs with a comprehensive understanding of climate-related risks, environmental considerations, and adaptation and mitigation strategies. This knowledge will be directly applicable within the framework of JKCIP's activities, enabling FPO DOs to better navigate and address climate challenges in the context of their work.

Moreover, the project activities also aimed at diversity income sources and enhance climate and economic resilience. *Farm mechanization* support is to maintain farm health helping them to resist water scarcity and disease and pest. Similarly, the provision of suitable tools, such as those for digging holes for plantation, will decrease soil exposure, thereby minimizing soil erosion and the loss of topsoil.

Drudgery reduction support significantly saves time and energy. This assistance contributes to improved health, particularly for women, by lightening their workload. Importantly, the time saved through this support can be utilized in other income-generating activities. For example, an apple farmer can diversify activities by engaging in nursery management, livestock rearing, intercropping high-value crops, and promoting products in markets. Moreover, FPOs can utilize saved time for knowledge exchange and capacity building, making them aware of climate threats and ongoing adaptation practices.

Harvesting and processing waste in the agriculture sector is significant. This not only causes loss to the farmers in terms of quantity, but also decreases the quality of the product. *Aggregation support* will ease farmers to harvest, collect, and store their products; ultimately ensuring less wastage, maintain quality, and ensure reasonable price. Which will increase their overall income.

Likewise, the volatile market is a threat in the project targeted area. Most importantly, apple is facing huge competition from other countries' production. The good aggregation support will allow them to collectively store their product for a certain amount of time and seek a better market. This will help them store their product when transportation is blocked due to flood, landslide, or there is heavy rain.

The *FPO orchard management business*, on one hand, this initiative generates new job opportunities in regions with limited employment options and draws individuals into this industry. On the other hand, it contributes significantly to enhancing orchard quality by facilitating access to skilled human resources, thereby addressing prevailing issues. Moreover, this business is instrumental in tackling climate-related challenges. For instance, it supports the cultivation of climate-resilient varieties in nurseries and orchards, implements integrated pest management practices, conducts regular pruning and thinning, and emphasizes seed selection and storage. Ultimately, these efforts result in bolstering farmers' income derived from healthier and more resilient farms.

Likewise, support for emerging business helps to increase awareness, understanding, and capacity to address climate change challenges in new areas for business. This also aims to diversify the farmers' income.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Undertake initial mobilization activity around a business concept with a core team of members.	SKUAST-J and SKUAST-K		Community core group
Identify FPO staff in consultation with members and train them.	SKUAST-J and SKUAST-K	DioA-J, DioA-K, DioH-J and DioH-K	Community core group
Discuss the business opportunities and prepare a concept of business.	SKUAST-J and SKUAST-K		Community core group
Discuss the business concept with the community and gauge their interest in forming FPO and taking the business forward.	SKUAST-J and SKUAST-K		Community core group
Start the FPO mobilization and registration process including opening a bank account.	SKUAST-J and SKUAST-K	Community core group	
Provide matching grants for share capital contribution by the members.	SKUAST-J and SKUAST-K	FPO	
Conduct a challenge at the district level to review the business concept.	SKUAST-J and SKUAST-K	DioA-J, DioA-K, DioH-J and DioH-K	
Develop detailed proposals for the business proposed by the FPO, appraise, approve and provide funding.	SKUAST-J and SKUAST-K	DioA-J, DioA-K, DioH-J and DioH-K	FPO
Conduct rating of FPOs	SKUAST-J and SKUAST-K	FPO	

B. Niche agricultural crop support

Brief Description of Project Interventions

J&K's agroclimatic conditions offer the potential for expansion of specialty area specific crops that are high value and with high market demand and generally called niche crops. The main value chain constraints related to niche-crops include low productivity and production, high cost of production and non-availability of good quality planting materials. This project will improve the production and productivity as well as the quality of the produce of the niche agri-crops including research on climate adaptation challenges. The project will support the introduction of climate resilient and improved management practices with the introduction of good agricultural practices (GAP) and promote area expansion of niche crop cultivation. The focus will be on select value chains of climate

resilient niche crops (saffron, off-season vegetables, aromatic rice (mushk budji), spices and medicinal and aromatic plants).

The major activities will include: (i) capacity building to introduce Good Agricultural Practices (GAP) including farm and pest (insect, disease and weeds) management best practices; (ii) seed system development and support for the development of vegetable seed production with private sector involvement; (iii) introduction of GAP practices coupled with area expansion; and (iv) support for the introduction of business practices into CoEs and development a Tulip focused CoE.

In total, the project will: (i) support training 1,085 trainers and field staff and 16,200 farmers; (ii) develop seed systems in 50 villages; (iii) 16 seed businesses; (iv) 800 water management systems; (v) 1,650 protected cultivation units; and (vi) expansion of niche crops in 2,805 ha covering 14,025 farmers.

Value chains identified: The project has identified Saffron, Black cumin, Aromatic rice, off-season vegetables and other high-value crops for support. A note containing details of these crop value chains is provided in Chapter 1, Appendix C1A6, Appendix C1A7, C1A8 and C1A9.

Capacity building – Climate-smart and Good Agricultural Practices (GAP)

Rationale: There is an apparent need for the capacity development and skills enhancement of the staff of the Directorates of Agriculture in order to familiarize and update their knowledge with the emerging global scenario in the rural development sector, climate change and other aspects.

Training modality - Training of trainers: To begin with the training modality will involve the training of trainers, who will be involved in passing down the line the knowledge that they have gained during their training. They will also be involved in the curriculum development process, subjects to be covered in the training as well as in other aspects of the training program.

Curriculum development process: It is essential to involve the Directorates in the curriculum development process to ensure that the curricula are relevant to the current needs of the small and marginal farmers.

Subjects to be covered: The general subjects to be covered are provided below and the crop-specific inputs will also have to be included.

Introduction to Good Agricultural Practices: Definition and importance of GAP- Benefits of practicing GAP - Food safety and quality standards.

Site Selection and Preparation: Land suitability assessment -Soil testing and analysis - Site sanitation and hygiene.

Seed and Planting Material Selection: Importance of quality seeds-Seed selection and sourcing-Seed treatment and storage.

Crop Planning and Planting: Crop rotation and diversity-Planting techniques and spacing-Transplanting and direct seeding.

Water Management and Irrigation: Types of irrigation systems-Irrigation scheduling-Water quality and conservation.

Soil and Nutrient Management: Soil health and improvement-Fertilizer types and application-Nutrient management planning.

Pest and Disease Management: Pest identification and monitoring-Disease prevention and control-Integrated pest management (IPM).

Weed Management: Weed identification and control strategies - Herbicide safety and use.

Harvesting and Post-Harvest Handling: Crop maturity assessment-Harvesting techniques-Post-harvest handling, storage, and transportation.

Quality and Safety Standards: Quality grading and standards-Food safety and hygiene practices-Certification and compliance.

Environmental and Sustainability Practices: Sustainable agriculture principles - Environmental protection and conservation- Biodiversity and ecosystem management.

Record Keeping and Documentation: Importance of record keeping-Farm management and decision-making- Budgeting and financial management.

Marketing and Value Addition: Market channels and distribution-Value addition opportunities - Marketing strategies.

Certification and Compliance: GAP certification processes -Regulatory compliance and documentation - Third-party audits and inspections.

Implementation steps:

- APD to engage the SKUAST-Jammu and SKUAST-Kashmir for capacity building of the Directorates and farmers.
- Identify resource persons and develop a curriculum for the training of the trainers and also a curriculum for the training of farmers by the trainers.
- Develop a curriculum for the training of the trainers.
- Develop a curriculum for the training of farmers.
- Identify the trainers from the Directorate of Agriculture and KVKs and train them.
- Make plans to conduct field-level training and start training farmers.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Engage SKUAST-J and SKUAST-K to prepare activities and budgets related to capacity building for niche crop expansion.	APD	SKUAST-J and SKUAST-K	
Develop curriculums	SKUAST-J and SKUAST-K	DioA-J and DioA-K	
Train trainers	SKUAST-J and SKUAST-K	DioA-J and DioA-K	
Train farmers	SKUAST-J and SKUAST-K	DioA-J and DioA-K	

Saffron Centre of Excellence - Business Plan Development

GoJ&K has a Saffron Centre of Excellence with high-end facilities. However, the capacity utilization remains low. It is necessary to transform the Saffron-CoE into a business entity.

Implementation steps:

- Undertake exposure visits of CoEs outside J&K to understand their modus operandi and sustainability.
- Engage an agency/Consultant to conduct a study of the Saffron CoE and to develop a modality to improve its performance to enhance the production of saffron at the farmer level and to move Kashmir Saffron to the premium category.
- Based on the findings of this study prepare plans for implementation

Terms of reference for the agency to study Saffron CoE

- Conduct a thorough assessment of the existing CoE, including its operations, financial status, human resources, and infrastructure- Analyse the current stakeholder engagement and partnerships in place - Identify strengths, weaknesses, opportunities, and threats (SWOT analysis) for each CoE. This also

includes CoE's capacity to undertake climate trend and scenario assessment to assess Saffron viability in coming years and to identify suitable adaptation measures to strengthen climate resilient Saffron production the farm level.

- Develop a sustainability strategy for the CoE, outlining clear goals, objectives, and activities to be undertaken - Define key performance indicators (KPIs) and targets for measuring success - Propose a financial sustainability model that considers various revenue streams, cost management, and budgeting - Provide recommendations for organizational development, capacity building, and resource mobilization.
- Prepare a business plan for the CoE for the next five years with a focus on emergence as a sustainable institution.
- Assess the need and possibility of private sector participation in managing the CoE and develop modalities for private sector participation.
- Assess the current engagement with key stakeholders, including government entities, donors, partners, and the local community - Propose strategies for strengthening relationships with stakeholders and enhancing their involvement in CoE activities.
- Develop a framework for monitoring and evaluating the implementation of the sustainability strategies - Establish a system for regular reporting and feedback to relevant stakeholders.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare ToR and engage an agency to prepare a business plan for Saffron CoE.	APD	DioA-K	
Conduct a workshop to present the findings	APD	DioA-K	
Make a policy note and submit to the Government for approval	APD	DioA-K	
Make an action plan for implementing agreed recommendations	DioA-K		
Implement the action plan	DioA-K		

Tulip CoE Support

Rationale: Tulips are cultivated in Jammu and Kashmir, particularly in the region around Srinagar, where the Indira Gandhi Memorial Tulip Garden, also known as the Siraj Bagh Tulip Garden, is located. This garden is one of the largest tulip gardens in Asia and is a popular tourist attraction in the region. However, Tulip bulbs are regularly imported from the Netherlands despite having suitable climatic conditions and a huge domestic market.

Implementation steps:

- Assess the research/piloting requirements for the production and replication of quality Tulip bulbs.
- Review the research requirements and prepare an action plan for implementation with budgets.
- Implement the action plan.
- Engage an agency to undertake a feasibility study to develop a Tulip CoE.
- Review the feasibility study and prepare an action plan with budgets for implementation.

Terms of reference for the agency to prepare a feasibility report for Tulip CoE

- Conduct a thorough market analysis to assess the demand for tulip-related activities, including tourism, research, and educational programs. Identify potential stakeholders, including local communities, government agencies, and private sector partners.
- Analyse climate trend and scenarios to assess Tulip viability in coming years in project targeted areas. Identify climate research gaps and propose research items.
- Identify and evaluate potential locations for the CoE, considering factors, such as climate, soil quality, accessibility, and proximity to tourist destinations.
- Assess the existing infrastructure and facilities at the selected site and recommend any necessary developments.
- Assess the technical feasibility of establishing a Tulip CoE taking into account technical capacity for multiplication of Tulip bulbs.
- Prepare a detailed financial model that includes estimated capital costs, operating expenses, revenue projections, and potential funding sources. Evaluate the return on investment and assess the financial sustainability of the CoE.
- Assess the need and possibility of private sector participation in managing the CoE and develop modalities for private sector participation.
- Develop a comprehensive operational plan outlining the key functions, programs, and activities that the CoE will offer. Identify potential partnerships, collaborations, and knowledge-sharing opportunities with relevant institutions.
- Assess and outline the legal and regulatory requirements for establishing and operating a Tulip CoE. Identify any permits, licenses, or compliance standards that need to be met.
- Identify potential risks and challenges associated with the project and propose risk mitigation strategies.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Assess the research/piloting requirements for the production and replication of quality Tulip bulbs.	APD	SKUAST-K	
Review the research requirements and prepare an action plan for implementation with budgets.	APD	SKUAST-K	
Implement the action plan.	SKUAST-K	Directorate of Floriculture (DioF)	
Engage an agency to undertake a feasibility study to develop a CoE.	APD	DioF	
Review the feasibility study and prepare an action plan with budgets for implementation.	APD	DioF	
Implement the action plan	DioF		

Support activities presented below are carefully chosen based on the agro-climatic zones of the J&K. Implementation involves analyzing climate risks and ensuring adequate adaptation and mitigation measures. When promoting these commodities, the project will assess their future viability by analyzing climate change trends and scenarios. The selection of locations to expand commodities will consider these trends and scenarios. The producers will be provided with climate smart and good agricultural practices. The project will focus on crop diversification, efficient water use technologies, multi/mix/inter cropping, application or integrated pest management practices, promotion of bio inputs, selection of climate resilient varieties, conservation, and promotion of local and indigenous seeds. Climate impact and adaptation/mitigation measures observation and learning exchange will be one of the priorities for outreach and exposure visits and activities. These

approaches ensure better understanding and addressing climate risks, thereby fostering resilience and sustainability within these agro-climatic zones. The JKCIP aims to enhance value chains of given commodities, fostering diversified income streams and additional opportunities for income generation, ultimately enhancing both climate and economic resilience.

Seed system development – Seed villages for cereals and Pulses

Rationale: The availability of genetically pure seeds is noted to be one of the constraints contributing to lower crop productivity of cereals, pulses and other crops, let alone the improved germplasm of such crops. Throughout the field visits in Jammu and Kashmir, off-types in rice fields were noted. This problem can be resolved to a large extent through the organization of seed villages. This project will focus on Rice, and Pulses & Legumes.

Implementation steps:

- Identify the seed villages using criteria such as: majority of farmers experienced in growing rice and pulses, the willingness of farmers to participate in the seed production endeavour and with FPOs interested in promoting and managing this activity.
- Identify FPOs in these locations and train them in developing a seed business. FPOs to procure breeder/foundation seeds and provide them to farmers. FPO to procure seeds from the farmers and sell them to other farmers.
- Select the ideal patches of land in the village for seed production. The idealness could include relatively levelled flat lands, with the availability of irrigation water, or if terraces are used, they should be wide and relatively levelled, with the availability of irrigation water.
- Prepare the land thoroughly by cross-ploughing to bring the soil to a good level of tilth. The tilth is defined as the mean aggregate size of the soil particles, in order to provide enough seed and soil-particle contact level (ratio). Generally, at any given tilth (not the Clods), smaller the seed, higher is the soil-particle contact level, and larger the seed, smaller is the soil-particle contact level.
- Acquire genetically pure seeds of cereals and pulses from the Universities, (Breeder seed and Foundation seed), and check for the germination percentage vs the indicated germination percentage on the tag of the seed lot (packets) before handing over to the seed growers.
- Inspect the seed grower’s fields regularly for any pests (insect, disease, and weeds) and suggest measures, if needed.
- Depending on the sowing date, indicate (suggest) the anticipated/ possible crop maturity/ harvesting time, and ask the seed growers to be observant about hailstorms and shattering of the seeds.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Develop a seed village scheme	APD	DioA-J, DioA-K	SKUAST-J and SKUAST-K
Identify FPOs interested in the seed village concept	DioA-J, DioA-K	SKUAST-J and SKUAST-K	
Identify seed villages	DioA-J, DioA-K	FPO	SKUAST-J and SKUAST-K
Capacity building	DioA-J, DioA-K	FPO	SKUAST-J and SKUAST-K
Implementation of seed village concept	FPO	DioA-J, DioA-K	SKUAST-J and SKUAST-K

Vegetable seed business promotion:

Implementing agency: Directorate of Agriculture

Rationale: The availability of genetically pure seeds is noted to be one of the constraints contributing to the lower crop productivity of vegetables. Off-types were noted in the seasonal vegetable plots. This problem can be resolved to a large extent through the organization of vegetable seed production in partnership with the private sector.

Implementation steps:

- Identify the villages using criteria such as: majority of farmers experienced in growing vegetables, the willingness of farmers to participate in the vegetable seed production endeavour with the private sector (seed companies), and with FPOs interested in promoting and managing this activity.
- Identify FPOs in these locations and train them in developing a vegetable seed business.
- Identify private sector companies interested in partnering with the FPOs in seed production.
- Make a MoU between the private sector and FPO for buying back the whole lot of vegetable seeds produced by the farmers at an agreed price, and the companies involved make their own arrangements for the sale and distribution of the seeds.
- Select the ideal patches of land in the village for vegetable seed production. The ideal plots could be relatively levelled flat lands with the availability of irrigation water, or if terraces are used, they should be wide and relatively levelled, with the availability of irrigation water.
- Prepare the land thoroughly by cross-ploughing to bring the soil to a good level of tilth.
- Consider promoting climate resilient, and local and indigenous varieties of seeds.
- Private sector company player to provide required technical assistance for seed production.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify FPOs interested in starting a vegetable seed business.	DioA-J, DioA-K	SKUAST-J and SKUAST-K	
Identify private-sector seed companies interested in partnering with FPOs for vegetable seed production	DioA-J, DioA-K	FPO	SKUAST-J and SKUAST-K
Capacity building	DioA-J, DioA-K	FPO	SKUAST-J and SKUAST-K
Implementation of vegetable seed business activity	FPO	DioA-J, DioA-K	SKUAST-J and SKUAST-K

Production expansion

Saffron

Rationale: Saffron is a flagship commodity of J&K, primarily of Kashmir, have high market potentials, and needs to be extended in area for its cultivation. The JKCIP Project plans for gradually adding an area of 25 ha in year (24/25), and 100 ha in each of the successive years up to the year (27/28), making a total of 6,500 Kanals, or 325 ha.

Production Practice:

- In order to achieve this objective, the project would require the supply of robust (insect and disease free, and suitable to local agroclimatic condition) corms to be planted in the additional area.
- Begin to prepare land by ploughing the field in March/ April and keep ploughing cross wise to obtain a fine tilth. The tilth has been defined earlier in above sections of this document.
- Follow the soil solarization process. For soil solarization, prepare an elevated soil bed, about 15 cm high and about 1 meter wide, and cover it with a thick plastic sheet for 2-3 weeks. The heat generated inside the plastic sheet can kill many of the soil borne pathogens as well as germinating weeds.
- Add 40-50 ton farm yard manure (FYM), if available, and inoculate the soil with Trichoderma sp. and Mycorrhiza (phosphorus solubilizing agent).
- Treat the acquired corms against soil borne pathogens, especially with 5% Copper sulphate (CuSO₄) solution.
- Open a trench 15 cm deep using a line across the width of the soil bed prepared for solarization.
- Begin planting corms (bulbs), usually in second half of July to mid-August, at specified row to row and plant to plant spacing. Planting of corms is usually done at 50 corms per M², or at spacing of 8-10 cm between corms and 15 cm between rows.
- After planting the 1st row, move the line 15 cm to the side and dig the next trench (as is done for the 1st trench), covering the 1st trench with the soil dug out of the second trench.
- After completing the 4th row, keep 25-30 cm space between the 4th row and 5th row for the ease of walking, weed management and plucking/harvesting of the flowers.
- Soon after the bulbs start forming the roots and sprout, begin watering the plants, (30 mm total per week in two splits of 15 mm each), if there is no rain.
- Each corm is expected to produce 4 flowers and each flower to give 3 stigmas/threads.
- Can also irrigate after harvesting (plucking) of the flowers because the baby corms formed over the mother corm need to grow large enough to produce flowers in next season. This is optional, however.
- Though saffron can tolerate -15 degree Celsius temperature, it is better to cover the crop with straw, if the temperature drops for a long time. However, such a situation is not expected to arise in Kashmir where Saffron is cultivated, e.g. Pampore District. Usually, it is harvested beginning in the last week of Oct to the end of November. A very small area may be left for harvesting in December.
- Weeds could be a real menace and should be managed properly by all means.

Implementation steps

- Conduct a study on the quality of corms and measures to improve corm quality.
- Prepare a scheme for the expansion of the area under Saffron cultivation. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grant provided back to the FPO to recycle the same into saffron cultivation by other farmers.
- Specify measures relating to improving the quality of corm and also management practices to be followed for getting better yields.

- Identify farmers/FIGs/FPOs interested in area expansion under Saffron. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Conduct a study on the quality of corms, and measures to improve quality of comms and productivity	SKUAST-J and SKUAST-K	DioA-J, DioA-K	
Prepare a scheme for supporting saffron area expansion	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	SKUAST-J and SKUAST-K

Offseason Vegetables

Rationale: Vegetables are commonly grown in Jammu and Kashmir. Some of the common vegetables include, tomato, eggplant, peppers, chilly, peas, knol khol, gourds, cauliflower, cabbage, kadam ka saag, (a kind of spinach), radish, carrots, onions, turmeric, ginger and hill garlic.

The supply of genetically pure seeds is a constraint in vegetable production. The vegetable supply problem is further aggravated by the 60% net loss in volume from the farm to the consumer's plate (postharvest) in packaging, transport and storage. The JKIP will try to address some of these issues through additional support to a total of 26,000 Kanal area, beginning 2024/25 (2,000 Kanals) and 6,000 Kanals in each of years up to 28/29.

Production Practice:

- Identify the area for growing offseason vegetable using criteria such as: majority of farmers experienced in growing that particular vegetable and the growers have additional area for expansion.
- Check the expansion area for its suitability. The expansion area should be relatively levelled flat lands with the availability of irrigation water, or if terraces are used, they should be wide and relatively levelled, with the availability of irrigation water.
- Prepare the land thoroughly by cross-ploughing to bring the soil to a good level of tilth. The tilth has been defined earlier in this document.
- Acquire genetically pure vegetable seed from the Universities, or if the private sector is involved have its own pure seed source (Breeder seed and Foundation seed).
- Check for the germination percentage vs the indicated germination percentage on the tag of the seed lot (packets) before handing over to the vegetable growers.
- Inspect the vegetable grower's fields regularly for any pests (insect, disease, and weeds) and suggest measures, if needed.
- Depending on the vegetable species cultivated and the sowing date, indicate the anticipated/ possible crop maturity/ harvesting time, and ask the vegetable growers to be observant about hailstorms etc. for the damage of the crop.
- After harvesting of the particular vegetable, advice the grower to minimize the postharvest losses incurred during packaging, transport and storage.

Implementation steps

- Identify the market players for off-season vegetables and conduct buyer-seller meets at the district level for the off-season vegetable farmers to interact with the buyers and ascertain the quality and quantity requirements.
- Select farmers/FPO leaders interested in vegetable cultivation and send them on a market visit to study the markets within J&K and in the neighbouring states.
- Prepare a scheme for the expansion of the area under off-season vegetable cultivation. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grant provided back to the FPO to recycle the same into off-season vegetable cultivation by other farmers.
- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs interested in area expansion under off-season vegetables. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and conduct buyer-seller meets at the district level	DioA-J, DioA-K	APD	FPOs/FIG
Select farmers/FPO leaders and organize a market study trip for them.	DioA-J, DioA-K	APD	
Prepare a scheme for supporting off-season vegetable area expansion	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Aromatic rice

Rationale: Aromatic rice (Basmati in Jammu and Musk Budji in Kashmir) are special commodities in Jammu and Kashmir. Since they are seasonal and geographic location specific, are grown to a limited extent, and are preferred by the local consumers, they fetch higher prices in the market. The current rice yields are 2.5 Quintals/Kanal.

During the field visits, we observed a lot of off type rice plants in the fields, both in Jammu and Kashmir, indicating the impurity of seeds. Farmers also voiced the need for pure seeds and improvement in rice milling machinery.

This project will try to address some of these issues through additional support to a total of 10,000 Kanal area, beginning 2024/25 (2,500 Kanals) and same area there after each year up to 27/28.

Production practices

- Identify the area for growing a particular rice variety (basmati in Jammu and Musk Budji in Kashmir), using a certain specific criterion. The criteria may include, majority of farmers experienced in growing that particular kind of rice (variety, per se) and the growers have additional area for the expansion of the area.
- Check the expansion area for its suitability. The expansion area should be relatively levelled flat lands with the availability of irrigation water, or if terraces are used, they should be wide and relatively levelled, with the availability of irrigation water.
- Test the soil for nematodes, and if positive, pre rice crop growing of marry gold and sesbania (rostrata, or aculeata) can eliminate the nematodes.

- Prepare the land thoroughly by cross ploughing to bring the soil to a good level of tilth. The tilth has been defined earlier in this document.
- At 45 days after sowing marry gold, or sesbania crop, puddle the field in likewise manner (cross puddle) to incorporate the marry gold / sesbania crop, weeds and other residues, and let marry gold / sesbania rot for three weeks.
- Acquire genetically pure rice seed from the Universities, or if the private sector is involved, having its own pure seed source (Breeder seed and Foundation seed).
- Check for the germination percentage vs the indicated germination percentage on the tag of the seed lot (packets) before handing over to the rice growers. The rice seed should have at least 90% germination. One can also test the rice seed by taking a known quantity in a bucket filled with 1% salt solution. The good seed will remain settled on the bucket bottom and unfilled grains will float.
- There are two methods of preparing the rice nursery, the 'Wet Bed' method and the 'Dapog Method'.
- In wet bed method of rice nursery, the rice seed (normal seed rate, of about 40-50 kg /ha) is spread in the puddled soil and regularly sprinkled with water, till the seedlings become of age for transplanting (usually 3 weeks). In this method, since the seedlings are tall, their leaves may be de-topped (cut) 1/3rd length. This method is common throughout South Asia, in typical lowlands.
- In Dapog method, the rice seeds used are usually 2 times the normal seed rate. The seeds are spread on a cemented floor and regularly sprinkled with water. After 10 days, the seedlings will make an intertwined root, like a carpet, which can be rolled and brought to the main field for transplanting. In this method, usually young seedlings (10 days old) are used for transplanting. In here the main requirement is the levelled field without any stagnation of water. This method is common throughout in Southeast Asia.
- Dry land preparation (as indicated in bullet no. 4, above) and seeding of rice in furrows maybe adopted in rainfed areas having no possibility of irrigation water. The crop yields may be lower in such situations.
- Inspect the rice grower's fields regularly for any pests (insect, disease, and weeds) and suggest measures, if needed.
- Depending on the transplanting date, indicate the anticipated/ possible crop maturity/ harvesting time, and ask the rice growers to be observant about hailstorms etc. for the damage of the crop.
- Improved Rice Mills is expected to result in reducing broken rice and improve recovery.
- Growing of Japonica and non- basmati aromatic rice seem to have high demand and excellent export opportunities and should be tried out.

Implementation steps

- Select farmers/FPO leaders interested in aromatic rice cultivation.
- Identify market players and conduct a buyer seller meet.
- Prepare a scheme for the expansion of the area under aromatic rice cultivation. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grant provided back to the FPO to recycle the same into aromatic rice cultivation by other farmers.
- Specify measures relating to the package of practices to be followed for getting better yields.

- Identify farmers/FIGs/FPOs interested in area expansion under aromatic rice. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and conduct buyer-seller meets at the district level	DioA-J, DioA-K	APD	FPOs/FIG
Prepare a scheme for supporting aromatic area expansion	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Pulses

Rationale: The main pulses in Jammu and Kashmir are Rajmah and green peas. Both are used as vegetables and command high price in the market, Rajmah is sold @ Rs 250-260/kg. Rajmah yields are 10-12 Quintals/ha. Rajmah in Doda district alone is inter-cropped with maize in 2,960 ha producing about 5.9 quintals / ha.

The availability of genetically pure seeds is noted to be one of the constraints contributing to lower crop productivity of pulses. Throughout the field visits, wherever Rajmah was seen as a standing crop, its growth was poor, and some of the mature pods were noted to be half, or 1/3 empty and infested by insects. This problem can be resolved to a large extent through providing the growers with pure seed. This project plans to support Rajmah cultivation, though it is listed among others. The JKCIP plans to support Rajmah production through value addition and different marketing aspects, such as market support platforms, trade fairs, etc.

Production practices

- Identify the villages / communities with experience in growing Rajmah and are willing and have area for expansion.
- Select the ideal patches of land in the villages for area expansion and check its suitability. The potential area should be relatively levelled flat land, with the availability of irrigation water, or if rolling, or terraced, it should be wide with the availability of irrigation water.
- Prepare the land thoroughly by cross ploughing to bring the soil to a good level of tilth. The tilth has been defined in other sections of this document. If the land is rolling, one could dibble the Rajmah seeds using a conical metal or bamboo stick.
- Acquire genetically pure seed of Rajmah from the Universities, (Breeder seed and Foundation seed), and check for the germination percentage vs the indicated germination percentage on the tag of the seed lot (packets) before handing over to Rajmah growers.
- Inspect the Rajmah grower's fields regularly for any pests (insect, disease, and weeds) and suggest measures, if needed.
- Depending on the sowing date, indicate / suggest the anticipated/ possible Rajmah maturity/ harvesting time, and ask the growers to be observant about hailstorms and shattering of the seeds / crop damage.

Implementation steps

- Select farmers/FPO leaders interested in pulses/Kidney bean cultivation.
- Identify market players and conduct a buyer seller meet.

- Prepare a scheme for the expansion of the area under pulses/kidney bean cultivation. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grant provided back to the FPO to recycle the same into pulses/Kidney bean cultivation by other farmers.
- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs interested in area expansion under pulses/Kidney bean cultivation. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and conduct buyer-seller meets at the district level	DioA-J, DioA-K	APD	FPOs/FIG
Prepare a scheme for supporting pulses area expansion	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Medicinal and Aromatic Plants (MAP)

Rationale: Medicinal and Aromatic Plants (MAP) are an important part of JK. Though smaller in extent, they provide numerous benefits. Jammu and Kashmir holds the potential to cultivate various high-value crops, offering a promising chance for expanding cultivation areas and increasing production output. The JKCIP seeks to improve these value chains, promoting diverse income streams and additional opportunities for income generation, thereby enhancing both climate and economic resilience. One of the MAP species is Lavender, having both medicine and aroma qualities. Such plants may have noble gene and need to be studied further. The Share-e- Kashmir University of Agricultural Sciences and Technology (SKUAST), Faculty of Forestry has devoted one ha area for growing Lavender and has its own distillation plant. This university has completely analyzed six species and further work is in progress. The JKCIP project plans to provide support for expansion of a total of 600 Kanals, 200 Kanals each year beginning in 24/25, as well as through value addition in processing and various marketing aspects. This project also plans to have a center of excellence (CoE) for the MAPs.

Production practices

- Identify the village communities with experience in cultivating MAPs and are willing and have area for expansion.
- Select the ideal patches of land in the villages for area expansion and check its suitability. The potential area should be relatively levelled flat land, with the availability of irrigation water, or if rolling, or terraced, it should be wide enough to make small plots with the availability of irrigation water.
- Prepare the land thoroughly by cross ploughing to bring the soil to a good level of tilth. The tilth has been defined in other sections of this document.
- Acquire genetically pure planting material from the Universities, or private companies, and check for the quality before handing over to growers.
- Inspect the grower's fields regularly for any pests (insect, disease, and weeds) and suggest measures, if needed.

- Depending on the sowing date, indicate / suggest the anticipated/ possible maturity/ harvesting time, and ask the growers to be observant about crop damage due to hailstorms, etc.
- In terms of CoE-MAP, organize trainings at various levels, such as ToT, farm visits and others. This has been described in earlier sections of this document.
- Farmers can sell fresh flowers, or if available in nearby places, can bring to the processing centres, such as the distillation plant of SKUAST.

Implementation steps

- Select farmers/FPO leaders interested in medicinal and aromatic plant cultivation.
- Identify market players and conduct a buyer seller meet.
- Prepare a scheme for the expansion of the area under medicinal and aromatic plant cultivation. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grant provided back to the FPO to recycle the same into medicinal and aromatic plant cultivation by other farmers.
- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs interested in area expansion under medicinal and aromatic plant cultivation. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and conduct buyer-seller meets at the district level	DioA-J, DioA-K	APD	FPOs/FIG
Prepare a scheme for supporting medicinal and aromatic plant area expansion	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Spices (mainly Black Cummin)

Rationale: Black Cummin - (*Bunium persicum* Bioss), is one of the most preferred spice of J&K and fetches a premium price in the market. Other spices include bay leaves, chilly, turmeric, and ginger. Black Cummin (Black Zeera) is used in many JK dishes and has a big demand in both domestic and export markets. Therefore, the JKCIP plans to support the Black Zeera.

Implementation steps

- Select farmers/FPO leaders interested in spice cultivation.
- Identify market players and conduct a buyer seller meet.
- Prepare a scheme for the expansion of the area under spice cultivation. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grant provided back to the FPO to recycle the same into spice cultivation by other farmers.

- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs interested in area expansion under spice cultivation. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and conduct buyer-seller meets at the district level	DioA-J, DioA-K	APD	FPOs/FIG
Prepare schemes for supporting spice area expansion	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Flowers:

Rationale: Floriculture, especially the Tulips are in high demand all over J&K, as well as throughout other parts of the country. However, grading in different grades is a tedious process, and their packaging for sending them fresh out of J&K is cumbersome. The bulbs are imported at exorbitantly high cost from the Netherlands. The technical capacity in the universities for providing good planting material is limited, although it is improving day by day. The JKCIP plans to support a center of Excellence-Tulips (CoE) through this project.

Production practices

- Identify the village communities with experience in cultivating Tulips and are willing and have area for expansion.
- Select the ideal patches of land in the villages for area expansion and check its suitability. The potential area should be relatively levelled flat land, with the availability of irrigation water.
- Prepare the land thoroughly by cross ploughing to bring the soil to a good level of tilth. The tilth has been defined in other sections of this document.
- Acquire genetically pure planting material from the Universities, or private companies, and check for the quality before handing over to growers.
- Inspect Tulip grower's fields regularly for any pests (insect, disease, and weeds) and suggest measures, if needed.
- Depending on the planting date, indicate / suggest the anticipated/ possible Tulip flowering / harvesting time, and ask the growers to be observant about crop damage due to storms, etc.
- In terms of CoE-Tulips, organize training programs at various levels, such as ToT, farm visits and others. This has been described in earlier sections of this document.
- Farmers can sell fresh Tulip flowers in the local market, and if they can manage packaging to ship them out of J&K to other parts of the country.

Implementation steps

- Select farmers/FPO leaders interested in floriculture.
- Identify market players and conduct a buyer seller meet.
- Prepare a scheme for the expansion of the area under floriculture. The matching grant support should not exceed 50% of the total investment cost. The remaining

50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grants provided back to the FPO to recycle the same into floriculture by other farmers.

- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs interested in area expansion under floriculture. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and conduct buyer-seller meets at the district level	DioA-J, DioA-K	APD	FPOs/FIG
Prepare schemes for supporting floriculture	APD	DioF-J, DioF-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioF-J, DioF-K	

Willows

Rationale: Willow trees are a special item, specific to Kashmir, and premium willow wood (white willows) is used to make cricket bats and also some hockey sticks. Willow trees grow on marshy lands, having poor drainage. So far, the farmers used to fell the mature willow trees and bring them to the bat making factories. However, the supply has been constantly dwindling, and some of the bat making factories are at the verge of being closed. This is an alarming situation and requires taking adequate measures to reverse it. The design mission Team visited Alfa Sports showroom and their nearby factory in Sangmas town, having a business turnover of Rs 300 crore. The owners informed us that all over India, the cricket bat business is over 2,500 crores.

The SKUAST staff, who accompanied our trip, informed us that they can provide 100,000 saplings @ Rs 4 / sapling. The industry, (cricket bats manufacturing association), can plant and take care of the plantation in 150 ha of now wasted lands, previously used to grow willows. This would, however, require obtaining permission from the Revenue Department of J&K, which can be obtained easily.

Production practices

- Prepare the land and dig planting pits for willows. The pits can be filled with Soil, FYM, and Neem cake / Karange (pongamia) cake mixture for controlling termites. The ratio of this mixture is 60:35:5; i.e. 60 Soil, 35 FYM and 5, Neem cake or Karange (pongamia) Cake. Keep ready the filled pits.
- Access the planting material from the SKUAST and start planting as the delivery arrives.
- Monitor the growth of the plants regularly and replace the dead ones immediately.
- Even if it is marshy land, there might be drought if rains are scanty, in that case make provision for some irrigation.
- When the trees reach breast height, remove side branches to avoid forming callus.

Implementation steps

- Select farmers/FPO leaders interested in willow cultivation.
- Identify market players and conduct a buyer-seller meet.
- Prepare a scheme for the expansion of the area under willow cultivation. The matching grant support should not exceed 50% of the total investment cost. The

remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grants provided back to the FPO to recycle the same into willow cultivation by other farmers.

- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs/Industry representatives interested in area expansion under willow cultivation. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers/industry and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and conduct buyer-seller meets at the district level	DioA-J, DioA-K	APD	FPOs/FIG
Prepare schemes for supporting willow cultivation	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Protected cultivation

Rationale:

The protective cultivation is primarily for growing off-season vegetables and to produce the planting material (bulbs) of saffron and Tulips. This project plans to establish a total of 1,650 units: 150 units in 24/25, and 300 units in each year up to 29/30. This is a large no. of units to be established over years. Therefore, it is essential to decide where these structures will be located at.

Implementation steps

- Select farmers/FPO leaders interested in protected cultivation.
- Identify market players and conduct a buyer-seller meet.
- Prepare a scheme for protected cultivation. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grants provided back to the FPO to recycle the same into protected cultivation by other farmers.
- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs representatives interested in protected cultivation. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare schemes for supporting protected cultivation	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Water Management

Rationale: Water scarcity is one of the pertinent issues in project target areas which is further impacted by the climate change. To reduce the water stress, JKCIP will support water management practices. The water management systems are for general irrigation, especially during long drought spells. This project plans for a total of 800 total units to be located in both the regions of J&K: 50 units in 24/25, and 150 units for each year till 29/30. This is a large no. of units to be established over the years. Therefore, it is essential to decide where these structures will be located at.

Implementation steps:

- Select farmers/FPO leaders interested in water management support.
- Prepare a scheme for water management support. The matching grant support should not exceed 50% of the total investment cost. The remaining 50% should be beneficiary contributions covering own funds and bank loans. Where possible introduce the system of recovery of grants provided back to the FPO to recycle the same into water management support by other farmers.
- Specify measures relating to the package of practices to be followed for getting better yields.
- Identify farmers/FIGs/FPOs representatives interested in water management support. Seek online applications and facilitate them to access bank loans.
- Approve the applications of eligible farmers and provide funding for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare schemes for supporting water management support	APD	DioA-J, DioA-K	
Identify farmers and build their capacity	DioA-J, DioA-K		
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Weather advisory services

Rationale: Weather advisory services are important in the sense that they are helpful in weather forecasting and advising the farmers accordingly to be prepared. Normally, there should be one weather station in every block of the district, however, in the Kashmir region they follow the altitude heights. The weather data can also be accessed from the India Meteorological Department.

Implementation steps:

- Set up a working group comprising members from the Universities and Directorates of Agriculture and Horticulture.
- Prepare a plan for providing weather advisory services preferably in collaboration with a start-up.
- Present the plan to APD and seek approval.
- Procure equipment and materials required for starting the weather advisory services.
- Start providing weather advisories coupled with crop specific advisories.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Establish a working group	APD	SKUAST-J and SKUAST-K, DioA-J, DioA-K	
Prepare a plan for providing weather advisory services	SKUAST-J and SKUAST-K, DioA-J, DioA-K		
Plan review and approval	APD	SKUAST-J and SKUAST-K, DioA-J, DioA-K	
Plan implementation	SKUAST-J and SKUAST-K, DioA-J, DioA-K		

C. Horticulture Crop Support

Brief Description of Project Interventions

J&K is uniquely positioned geographically and has a perfect blend of temperate, sub-temperate and sub-tropical climates both in Jammu & Kashmir regions. The presence of such agroclimatic zones provide the farmers of J&K an interesting opportunity to grow different kinds of high value fruit crops which are not possible to grow elsewhere in the country on a commercial scale, there are other states like HP and Uttarakhand who have similar climate profiles but due to treacherous hilly terrains of these states the size of the growing farms and accessibility becomes a limiting factor for developing modern commercial supply chains of fruit at industrial scale on competitive basis; the valley of Kashmir has large tracts of flat farming lands with rich soil and perennial water streams and the water table is quite high to access ground water for irrigation and that's why all the important temperate & subtropical fruit and nut crops are grown here at commercial scale.

J&K's agroclimatic conditions offer the potential for expansion of horticulture crops that are high value and with high market demand. The main value chain constraints related to fruit crops include low productivity and production, high cost of production, non-availability of good quality planting materials, dependence on imports for germplasm, Inadequate storage, transportation. This project will improve the production and productivity as well as the quality of the produce of the horticulture-crops including research on climate adaptation challenges. The project will support the introduction of climate resilient and improved management practices with the introduction of good agricultural practices (GAP) and promote area expansion of horticulture crop cultivation. The focus will be on select value chains of climate resilient crops (Apple, Stone Fruits, Cherries, Pear, Walnut, Almond, Mango, Citrus, Guava, Kiwifruit).

The major activities will include: (i) capacity building to introduce Good Agricultural Practices (GAP) including farm and pest (insect, disease and weeds) management best practices; (ii) Quality planting material through high tech nurseries with private sector involvement; (iii) Rejuvenation of old orchards through GAP practices coupled with area expansion with HD & MD technology; (iv) Value addition and fruit processing (iv) Access to quality agri-inputs and technology and; (v) support for the introduction of business practices into Horticulture CoE.

In total, the project will: (i) support training 640 trainers and 12,000 farmers; (ii) introduce business orientation to business to 2 horticultural CoEs; (iii) 320 nurseries; (iv) 800 water management systems; (v) 200 ha of solar fencing; (vi) expansion of fruit and nut crops in 1,835 ha covering 9,175 farmers; and (v) 375 ha of rejuvenation covering 1875 farmers. The project will follow a participatory and demand-driven approach through analysis of market demand and feasibility to determine the investment levels in the select value chains.

Value chains identified: The project has identified Apple, Cherry, Stone Fruit, Walnut, Almond, Mango, Citrus, Guava & Kiwifruit for support. A note containing details of these crop value chains is provided in Chapter 1, Appendix C1A6, Appendix C1A7, C1A8 and C1A9.

Capacity building – Climate-smart and GAP

Rationale: There is an apparent need for the capacity development and skills enhancement of the staff of Directorate of Horticulture to familiarize and update their knowledge with the emerging global scenario in the rural development sector, climate change and other aspects.

Training modality - Training of trainers: To begin with the training modality will involve the training of trainers, who will be involved in passing down the line the knowledge that they have gained during their training. They will also be involved in the curriculum development process, subjects to be covered as well as in other aspects of the training program.

Curriculum development process: It is essential to involve the Directorates in the curriculum development process to ensure that the curricula are relevant to the current needs of the small and marginal farmers.

Subjects to be covered: The general subjects to be covered are provided below and the crop-specific inputs will have to be included.

Introduction to Good Agricultural Practices: Definition and importance of GAP- Benefits of practicing GAP - Food safety and quality standards.

Site Selection and Preparation: Land suitability assessment -Soil testing and analysis - Site sanitation and hygiene.

Planting Material Selection (Varietal Selection): Importance of quality planting material, selection and sourcing of right variety as per site and market suitability.

Orchard Layout Techniques – Selection of production methodologies, Selection of right rootstock, High density, Medium Density or Traditional methods, (depending on the needs and capacity of farmers)

Water Management and Irrigation: Types of irrigation systems-Irrigation scheduling-Water quality and conservation.

Soil and Nutrient Management: Soil health and improvement-Fertilizer types and application-Nutrient management planning.

Pest and Disease Management: Pest identification and monitoring-Disease prevention and control-Integrated pest management (IPM).

Basin & Weed Management: Management of tree basins, Weed identification and control strategies - Herbicide safety and use.

Training & Pruning – Benefits of training & pruning, Training styles & methods, Pruning techniques, tools & kits.

Harvesting and Post-Harvest Handling: Crop maturity assessment-Harvesting techniques, sorting & grading, post-harvest handling, storage methods & SOP for CA Storage, Packing and transportation.

Quality and Safety Standards: Quality grading and standards-Food safety and hygiene practices-Certification and compliance.

Environmental and Sustainability Practices: Sustainable agriculture principles - Environmental protection and conservation- Biodiversity and ecosystem management.

Record Keeping and Documentation: Importance of record keeping-Farm management and decision-making- Budgeting and financial management.

Marketing and Value Addition: Market channels and distribution-Value addition opportunities - Marketing strategies.

Fruit Processing – Types of processed fruit products, recipe making, product development & production methods, basic machinery operations & maintenance, preservation techniques and inventory storage, packaging, HACCP & Food Safety, FASSAI compliances, Inventory management.

Certification and Compliance: GAP certification processes -Regulatory compliance and documentation - Third-party audits and inspections.

Implementation steps:

- APD to engage the SKUAST-Jammu and SKUAST-Kashmir for capacity building of the Directorates and farmers.
- Identify resource persons and develop a curriculum for the training of the trainers and also a curriculum for the training of farmers by the trainers.
- Develop a curriculum for the training of the trainers.
- Develop a curriculum for the training of farmers.
- Identify the trainers from the Directorate of Horticulture and KVKs and train them.
- Make plans to conduct field-level training and start training farmers.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Engage SKUAST-J and SKUAST-K to prepare activities and budgets related to capacity building for horticulture crop expansion.	APD	SKUAST-J and SKUAST-K	
Develop curriculums	SKUAST-J and SKUAST-K	DioH-J and DioH-K	
Train trainers	SKUAST-J and SKUAST-K	DioH-J and DioH-K	
Train farmers	SKUAST-J and SKUAST-K	DioH-J and DioH-K	

Horticulture CoE Business Plan Development

Rationale

CoE is the seat of showcasing of best practices, technology development, experimentation, demonstration and extension of these technologies and services to the farming community. These also includes practices and technologies related to climate adaptation. The objective of a CoE can be only achieved if it’s able to address the value chain constraint of a particular sector on a sustainable and long term basis and that can only happen if it’s created with a business model in mind and has a business plan to meet its capex and operating expenses and should remain relevant for users or this huge and valuable infrastructure will become redundant white elephant over time.

Terms of reference for engagement of an agency for conducting a study on transforming Horticulture-CoE into a business entity

Scope of work

The consultant is expected to deliver on the following work components:

- Business model optimization and process documentation.
- Business development and establishing strategic partnerships.
- Marketing and communications.

Business Model Optimization and Process Documentation

- Review and optimize CoE business model with an emphasis on developing a revenue model.
- Identify Unique Selling Position and proposition offering to clients.
- Lead business process strategy, process definition and documentation working with the management.

Business Development and Establishing Strategic partnerships.

- Identify partnership collaborations effective to CoE business development process.
- Identify potential business opportunities that CoE could explore (both public /private sector financed)
- Develop proposals, presentations and pitches on offering and USP for all stakeholders (farmers, market actors).
- Develop partnership with all the important stakeholders.

Marketing and Communication

- Prepare sales plan and manage relations with prospective clients, sector experts, business partners and potential funders and investors.
- Prospect for various business growth opportunities within the horticulture sector
- Contribute to the collection and dissemination of relevant data and information about farm Innovations and other activities of CoE.

The detailed TOR are provided below:

- Conduct a thorough assessment of the existing CoE, including its operations, financial status, human resources, and infrastructure- Analyse the current stakeholder engagement and partnerships in place - Identify strengths, weaknesses, opportunities, and threats (SWOT analysis) for each CoE.
- Develop a sustainability strategy for the CoE, outlining clear goals, objectives, and activities to be undertaken - Define key performance indicators (KPIs) and targets for measuring success - Propose a financial sustainability model that considers various revenue streams, cost management, and budgeting - Provide recommendations for organizational development, capacity building, and resource mobilization.
- Prepare a business plan for the CoE for the next five years with a focus on emergence as a sustainable institution.
- Assess the need and possibility of private sector participation in managing the CoE and develop modalities for private sector participation.
- Assess the current engagement with key stakeholders, including government entities, donors, partners, and the local community - Propose strategies for strengthening relationships with stakeholders and enhancing their involvement in CoE activities.
- Develop a framework for monitoring and evaluating the implementation of the sustainability strategies - Establish a system for regular reporting and feedback to relevant stakeholders.

Implementation steps

- Undertake exposure visits to CoEs outside J&K to understand their modus operandi and sustainability.

- Engage an agency/Consultant to conduct a study of the Horticulture CoE and to develop a modality to improve its performance to enhance the production of quality planting material of designer varieties of Temperate & Subtropical fruit crops.
- prepare plans for implementation.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare ToR and engage an agency to prepare a business plan for Horticulture CoE.	APD	DioH-K and DioH-J	
Conduct a workshop to present the findings	APD	DioH-K and DioH-J	
Make a policy note and submit to the Government for approval	APD	DioH-K and DioH-J	
Make an action plan for implementing agreed recommendations	DioH-K and DioH-J		

Study for apple crop expansion system

Rationale

Apple is the focus crop for the valley of Kashmir since it generates maximum revenue for the J&K and impacts the livelihood of the largest number of Kashmiri farmers; the government is providing lots of support both technical and financial to expand the area under cultivation with new technologies like high-density plantation, Integrated pack house, CA storage systems, High tech fruit nurseries, all with lots of private sector participation. During the field visits, we found out that growers and industry both are facing some problems with regard to these schemes and moreover rampant imports of rootstock and germplasm being imported without proper quarantine measures can be a threat to the entire industry. This study will recommend the best way forward for the Apple industry in the J&K of J&K.

Terms of reference for the study

- To review the current schemes of the government with regards to apple industry expansion.
- Stakeholder mapping and interviews for feedback on the current system and areas of improvement.
- Comparative analysis of apple industry schemes and plans in other states like Himachal Pradesh.
- Make an assessment of the strengths and weaknesses of the current set of service providers, the need to increase the number of service providers and the measures required to increase the number of service providers.
- Document best practices and recommend a holistic development plan for the J&K in a stakeholder conference.
- Draft new schemes in consultation with the government and make an action plan.

Implementation steps

- Engagement of an agency/consultant for the study.
- Joint meeting of the consultant with the responsible department to share all the data, plans, review TOR, Questionnaire, and make a work plan.
- Stakeholder mapping and finalize field visit schedule.
- Joint field visits to conduct interviews with the stakeholders.
- Compiling field data and report preparation.
- Conduct a stakeholder workshop to submit the findings.
- Draft recommendations and prepare an action plan.
- Implementation plans with timelines and budgets.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare ToR and engage a consultant/an agency to review the current government schemes and implementation processes for apple area expansion.	APD	DioH-K	
Conduct a workshop to present the findings	APD	DioH-K	
Make a policy note and submit to the Government for approval	APD	DioH-K	
Make an action plan for implementing agreed recommendations	DioH-K		
Implement the action plan	DioH-K		

Nursery development

Rationale

A good nursery is the backbone of fruit industry, since the fruit trees are perennial in nature so the selection of right kind of variety which is true to type and suitable for that site and based on market preferences of the customers becomes the most important function in setting up a fruit orchard. J&K is primarily a horticulture state with a range of temperate and subtropical fruits grown here at commercial scale by the farmers; most of the orchards have become old and senile and the production, productivity and quality of the produce has gone down; the government is putting lots of resources and efforts to transform this industry with introduction of new high yielding varieties and technologies like high density plantation. This requires mass production of climate resilient and high yielding modern varieties under high tech nursery systems. Lots of temperate fruit rootstocks and varieties are being imported into the country and the plan is to multiply this foreign germplasm in the local nurseries. Therefore, it's a priority area for J&K right now and lots of resources have been allocated for this activity under HADP and JKCIP.

Guidelines for nursery development

The importance of quality saplings in fruit nurseries cannot be overstated, as they lay the foundation for successful and productive fruit cultivation. Here are key points highlighting their significance.

Healthy Growth- Quality saplings ensure the healthy development of fruit trees from the start, leading to quality growth and vitality throughout their lifespan.

Disease Resistance- Well-maintained nurseries prioritize disease prevention, producing saplings that are less susceptible to infections and pathogens, reducing the risk of future crop losses.

Improved Yield- Healthy and disease-resistant plants from nurseries tend to have higher yield potential, contributing to better returns for farmers.

Uniformity- Quality saplings ensure uniform growth, leading to more consistent orchard yields and easier management practices.

Early Fruiting- Well-cultivated saplings often mature faster and start bearing fruits sooner, accelerating the return on investment for farmers.

Sustainability- Healthy plants from nurseries establish orchards with stronger resistance to stressors, requiring fewer inputs and resources for maintenance.

Climate resilient: Selection of the species should be appropriate as per the agroclimatic zones with the consideration of climate hazards, climate change trends and scenarios

Best Practices for establishing a fruit nursery:

- Plant propagation nurseries are basic units for horticulture production and development.

- To achieve the maximum uniformity in quality and production of nursery plants vegetative method should be adopted.
- The local and vicinity markets should be surveyed before establishment of a plant propagation nursery.
- Site selection for establishing a nursery is very important and all the factors related to site selection should be considered while establishment of plant production nursery.
- Procurement and establishment of mother plots should be undertaken well in advance and purity and quality should be ensured prior to establishment.
- Mother plot should be maintained properly, and periodical inspection of mother plots should be carried out regularly.

Implementation steps

- Identification and selection of prospective entrepreneurs for taking up nursery business.
- Assessment of their site, business potential, technical knowhow and business worthiness.
- Facilitation in preparation of their DPR and credit linkage.
- Technical and management training of the nursery entrepreneur.
- Nursery establishment with regular monitoring and technical support.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify entrepreneurs interested in high tech nursery business	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Rollout of the nursery business	DioH-J, DioH-K		
Monitoring and regular technical support	Nursery operator	DioH-J, DioH-K	

Solar fencing

Rationale

Farmers are always exposed to various external risks like weather dependence, market prices, inputs availability etc. Another potent risk for farming is damage to crops by stray/wild animals. Climate change leads to habitat alteration, changes in animal behavior, increases stress on ecosystems, increases resource scarcity, and shifts in cropping zones, which ultimately creates conditions where wildlife may seek food in community areas. Among other factors, this is a key contributor to human-wildlife conflicts. For the farmers of Jammu region especially, the farmers are exposed to risk of crop damage from monkeys; lots of farmers have left their productive lands as fallow due to this menace. To protect crops from monkeys, state government has devised various strategies like sterilizing the simians to resolve the problem, however, the problem still persists and needs alternative methods to protect the crops damages.

While number of alternatives are practiced by farmers and government to protect the crops from damage by monkeys and wild animals, none of these assure 100% success in crop protection. A new technique of power fencing is seen as ultimate solution. The solar powered fence electrifies the fence with pulsating current and these pulses are the "shock" felt by an animal that touches an electrified fence. Unlike a conventional fence, an electric fence is a psychological barrier such that animals learn to respect the fence. Any periphery can be solar fenced, though the cost differs with respect to the area to be fenced.

Guidelines for implementation

- Study the existing central sponsored and state sponsored schemes on Solar fencing in the country and guidelines of ministry of renewable energy on solar fencing of agriculture farms.
- Exposure visits of the official to the orchards in Himachal Pradesh to get a first hand information on the advantages.
- Define eligibility criteria and pattern of assistance to the farmers.
- With a view to make investment in farm fencing by farmers on individual or joint liability mode State Government may examine providing of subsidy to the small and marginal farmers to install the solar power fencing.

Implementation steps

- Identification of affected area by animal menace.
- Draft a suitable scheme for assistance.
- Make a list of service providers.
- Draft TOR for empaneling agencies.
- Issue EOI & RFP.
- Select the eligible agencies.
- Selection of interested farmers.
- Help in documentation.
- Capacity building through service providers.
- Erection of solar fencing system.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify the area affected by animal menace	DioH-J, DioH-K		
Select the interested farmers	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Engage a service provider	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Establishment of Solar fencing	farmer	Service Provider	DioH-J, DioH-K

Water management measures

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare schemes for supporting water management support	APD	DioA-J, DioA-K	
Implement the scheme	FPO/FIG	DioA-J, DioA-K	

Rationale

Many areas especially in Jammu region of J&K face long spell of drought and only one crop is taken during rainy season though there is lots of potential for going for multiple crops since Jammu is very well connected to important markets. Access to irrigation will be a boon for these growers. This project plans for a total of 800 total units to be located in both the regions of J&K: 50 units in 24/25, and 150 units for each year till 29/30. This is a large no. of units to be established over the years. Therefore, it is essential to decide where these structures will be located at.

Guidelines for implementation

- It's important to sensitize farmers of such areas to grow water smart crops like oilseeds and pulses.
- Water harvesting and conservation measures should be encouraged in such areas.
- Flood irrigation is to be completely discouraged and only micro irrigation structures are to be supported under this program.

Implementation steps

- Identify the areas and sources of perennial water availability which can be used for lift irrigation schemes.
- Organizing farmers into groups to utilize the common resource.
- Draft a scheme for assistance.
- Draft TOR for empaneling agencies for implementation.
- Selection of interested farmers/FPO for this activity.
- Capacity building for micro irrigation and water management practices.
- Setting up systems at farms and SOP for sharing common resources.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare schemes for supporting water management support	APD	DioH-J, DioH-K	
Implement the scheme	FPO/FIG	DioH-J, DioH-K	

Production expansion through new technology

The promotion of new technology will be assessed to ensure soil and water health, biodiversity improvement, and community health. Adequate consideration will be made to not add further pressure to natural resources. The project will not support genetically modified species and use of hormones. Climate smart tools and technologies will be promoted.

Apple

Rationale

Apple is the largest and most important horticulture crop of the region as it impacts the livelihoods of the maximum number of farmers and is the biggest contributor towards state's agriculture GDP. The majority of the plantations are old and traditional whereas the productivity, production and quality of the fruit have gone down. Apple as a fruit is in great demand all over the country and it's imported in large quantities to meet the consumer demand. There's a lot of potential in J&K to increase its production and productivity by introduction of new technology in the farms of the growers. Government is putting lot of efforts and resources to address the gaps. There's lot of scope for replacement and rejuvenation of old orchards High Density, Medium Density and Spur varieties, high yielding cultivars and modern production systems to develop Apple industry.

Implementation steps

- Identify and select the potential area for production expansion. Consider the climate change trend and scenarios.
- Assessment and selection of suitable technology to be disseminated.
- Selection of interested and potential farmers.
- Technical and economic feasibility assessment.
- Empanelment of service provider.

- Assistance with documentation, credit linkage & project implementation on time under suitable scheme.
- Capacity development of the growers.
- Scheme implementation
- Regular monitoring and technical backstopping.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify and select interested farmers	DioH-J, DioH-K		
Technical assessment & feasibility for suitable technology requirement	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Empanel the service provider	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Scheme implementation	Farmers	DioH-J, DioH-K	

Walnut Production Expansion

Rationale

J&K is number one in quality and production of walnuts in the country. It's a unique crop for the hilly terrains of J&K which doesn't require any expensive input, is climate smart, free of any serious pests and diseases and gives regular returns with very good shelf life and has a consistent demand from consumers. Country imports huge quantities of walnuts every year to meet domestic demand. Walnut at the moment in J&K is almost a wild plant growing for decades together and still under Royal Tree Act of wildlife. The plants are so huge that it's difficult to manage and harvest but in recent years CITH has standardized the technology where around 90 plants of walnut can be grown in a hectare of land and the canopy can be managed up to 18 feet. The major issue to be addressed is the low success rate of producing grafted plant material, it requires controlled protected structure for multiplication of planting material and success rate is just 40-50%; another issue is identification and collection of true to type germplasm in a systematic manner as right now every tree of walnut in the state is considered a variety in itself due to so much genetic variability. CITH has put lots of research into improving the varieties and production systems. They also produce a large quantity of quality planting material each year but still there is lots of scope for developing private sector nurseries with technical support from CITH for mass multiplication and dissemination of this technology to the farmers.

Implementation steps

- Selection of suitable area for expansion considering micro climate and climate change trend and scenarios
- A robust technical program and plan for quality planting material multiplication in collaboration with CITH
- Promotion and linkage of private sector nurseries with this program
- Selection of potential farmers for walnut expansion program
- Facilitation on documentation and credit linkage
- Capacity building of farmers
- Implementation in the orchards

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify and select interested farmers	DioH-J, DioH-K		

Technical assessment & feasibility for suitable technology requirement	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Empanel the service provider	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Scheme implementation	Farmers	DioH-J, DioH-K	

Litchi Production Expansion

Rationale

Litchi is commercially becoming a very lucrative crop for the farmers in general due to the short window of its availability in the market and secondly, its commercial production is primarily restricted to some specific zones in the country. In Jammu the litchi is grown in the plain areas and besides mango it's the second most important horticulture crop of Jammu but most of the orchards are all decades old with mostly old varieties and the productivity has become low. Lots of new cultivars have been developed by ICAR promoted National Research Centre of Litchi in Muzaffarpur; technology for rejuvenation of old orchards and high-density plantation (6*4 Metres) has also been standardized and this needs to be implemented for expansion of production in Jammu region under JKIP. Another crucial area of intervention for the project is improving the post-harvest management and storage standards of Litchi since it's a highly perishable crop and can stay in ambient conditions just for 2-3 days. The horticulture center of excellence in Jammu is already working on the production of quality planting material of all the subtropical fruits but needs linkages with nodal agencies of Litchi and simultaneously there's a lot of untapped potential for developing hi tech nurseries for subtropical fruits in Jammu region in alliance with CoE.

Implementation steps

- Production of quality planting material of latest varieties
- Selection of potential area for expansion of litchi production considering micro climate and climate change trend and scenarios
- Identification of potential interested farmers
- Facilitation and support for documentation and credit linkage
- Capacity development of farmers
- Rejuvenation and HD cultivation of litchi crop at farmers' field
- Post harvest management and storage infrastructure litchi crop

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify and select the suitable area	DioH-J, DioH-K		
Plan for quality planting material on scale in collaboration with National Research Centre on Litchi	DioH-J, DioH-K		
Technical assessment & feasibility for suitable technology requirement	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Empanel the service provider	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Scheme implementation	Farmers	DioH-J, DioH-K	

Mango Production Expansion

Rationale

Mango is the most important subtropical fruit crop of J&K as it's grown over the largest acreage in Jammu region and has widest adaptability of production over all the districts of Jammu. Mango is one of the very hardy and climate resilient subtropical fruit crops as it can be grown in the harshest of climates and even in degraded soils. Most of the mango orchards in the Jammu region have become old and senile and need rejuvenation with good agriculture practices and new varieties. Jammu is well connected with the most important markets with rail & road which is a boon for all the high value crops grown here. Lots of research has been done in Mango in the country and we are world's biggest producers of Mango with lots of exports all over the globe. The rejuvenation and high-density protocols have been standardized by CISH, Lucknow. Jammu mango has big potential for improved varieties through CoE and private nurseries.

Implementation steps

- Production of quality planting material of latest varieties.
- Selection of potential area for expansion of mango production considering microclimate and climate change trend and scenarios
- Identification of potential interested farmers.
- Facilitation and support for documentation and credit linkage.
- Capacity development of farmers.
- Rejuvenation and HD cultivation of mango crop at farmers' field.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify and select the suitable area	DioH-J, DioH-K		
Plan for quality planting material on scale in collaboration with National Research Centre on Litchi	DioH-J, DioH-K		
Technical assessment & feasibility for suitable technology requirement	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Empanel the service provider	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Scheme implementation	Farmers	DioH-J, DioH-K	

Almond Production Expansion

Rationale

J&K is number one in quality and production of Almonds in the country. It's a unique crop for the hilly terrains of J&K which doesn't require any expensive input, is climate smart, free of any serious pests and diseases and gives regular returns with very good shelf life and has a consistent demand from consumers. Country imports huge quantities of Almonds every year to meet domestic demand. Almonds at the moment in J&K have been growing for decades and require revitalization with new technology and varieties. The HD technology and other production protocols have already been standardized and there are lots of good varieties available in the system and imports can be of great help here. CITH has put lots of research into improving the varieties and production systems. They also produce a large quantity of quality planting material each year but still there is lots of scope for developing private sector nurseries with technical support from CITH for mass multiplication and dissemination of this technology to the farmers. There's a lot of demand for planting material by the farmers but the system is unable to fulfill the demand. Nut crops are some of the best climate smart and resilient crops of the region and JKCIP would put lots of resources and efforts to revitalize the nut crop sector of the J&K.

Implementation steps

- Selection of suitable area for expansion considering microclimate and climate change trend and scenarios
- A robust technical program and plan for quality planting material multiplication in collaboration with CIT.
- Promotion and linkage of private sector nurseries with this program.
- Selection of potential farmers for Almond expansion program.
- Facilitation of documentation and credit linkage.
- Capacity building of farmer.
- Implementation in the orchards.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify and select the suitable area	DioH-J, DioH-K		
Plan for quality planting material on scale in collaboration with CITH	DioH-J, DioH-K		
Technical assessment & feasibility for suitable technology requirement	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Empanel the service provider	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	SKUAST-J and SKUAST-K
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	SKUAST-J and SKUAST-K
Scheme implementation	Farmers	DioH-J, DioH-K	

Citrus Production Expansion

Rationale

Citrus crop after mango is the second most important subtropical crop of the J&K. The traditional orchards are all of Sweet Orange varieties and Jammu region has the best climate and soil for this crop and has high demand from the market but the major constraints for these plantations are access to irrigation and monkey menace. The farmers have a great potential crop at hand but due to these challenges the expansion in the area is not happening. There are very good cultivars available in the region for sweet oranges like Jaffa, Mousami & Blood Red and similarly for the Mandarin orange like Kinnow. The CoE and DOH, Jammu are already working on multiplication of these varieties. There's a great demand for lime planting material from the farmers of the region since it's regularly in demand, escapes monkey damage and production are consistent throughout the year. The production technology for high density plantation has been already standardized by research institutions and needs to be taken to the farmers. JKCIP has already put budget for solar powered fencing system of the orchards to protect them from monkey menace and access to water under lift irrigation and micro-irrigation schemes. The project will also promote high tech nurseries in the private sector for quality planting material production.

Implementation steps

- Production of quality planting material of latest varieties.
- Scheme for solar fencing and irrigation systems.
- Selection of potential area for expansion of citrus production considering microclimate and climate change trend and scenarios
- Identification of potential interested farmers.
- Facilitation and support for documentation and credit linkage.
- Capacity development of farmers.
- Rejuvenation with GAP and HD cultivation of citrus crop at farmers' field.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify and select the suitable area	DioH-J, DioH-K		
Plan for solar fencing and irrigation systems			
Plan for quality planting material on scale	DioH-J, DioH-K		
Technical assessment & feasibility for suitable technology requirement	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Empanel the service provider	DioH-J, DioH-K		
Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Scheme implementation	Farmers	DioH-J, DioH-K	

Kiwi fruit expansion

Rationale

In the last couple of years, the demand for Kiwi fruit in the Indian markets has substantially increased and is on the upswing. Indian imports a large quantity of Kiwi fruit every year to meet the domestic demand. Himachal is the leading state to produce Kiwifruit and varietal selection and production system standardization has been done specifically by YS Parmar UHF, Solan and SKUAST too. Some districts of Jammu & Kashmir have the perfect agroclimatic conditions for its production, so far, most of the work has been done at the public sector level and at farmer's level there are very few investments.

Kiwifruit is a unique and high value crop for the farmers since except for critical irrigation access and training/pruning this crop doesn't require any input; it's almost disease & pest free, monkeys do not eat it and it's a high yielder and has a good shelf life. There's huge potential for such kind of crop to be expanded for the farmer's benefit. The J&K government has already put in HD scheme and there are budgetary provisions for this in HADP and state capex budgets. To take this forward, the govt needs to work on the production of quality planting material through public & private sector and it needs to be promoted amongst the farmers by taking them on exposure visits to nearby states like Himachal & Uttarakhand where it's been taken up commercially at scale by farmers. JKCIP will work with the government on creating irrigation systems, production of quality planting material through high-tech nurseries both in public and private sector.

Implementation steps

- Production of quality planting material of latest varieties.
- Scheme for solar fencing and irrigation systems.
- Selection of potential area for expansion of Kiwifruit production considering micro climate and climate change trend and scenarios
- Identification of potential interested farmers.
- Facilitation and support for documentation and credit linkage.
- Capacity development of farmers especially on trellis systems & training/pruning.
- Implementation with GAP and HD cultivation of Kiwifruit at farmers' field.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify and select the suitable area	DioH-J, DioH-K		
Plan for irrigation systems			
Plan for quality planting material on scale	DioH-J, DioH-K		
Technical assessment & feasibility for suitable technology requirement	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Empanel the service provider	DioH-J, DioH-K		

Facilitation of DPR and credit linkage	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Scheme implementation	Farmers	DioH-J, DioH-K	

Rejuvenation Scheme

FPO – Tree Management

Rationale

As discussed earlier a large percentage of fruit industry is dominated by smallholders with average landholding of 0.25 Ha or less, these farmers do not have the skills and updated knowledge to adopt latest technologies and practices at farm resulting in poor productivity and quality of the crop. It was also noticed that their trees and farms were not properly nourished which was making their farms prone and exposed to climatic risks. The inputs consumptions was also noticed high due to lack of proper management practices. Though the state department of horticulture and SKUAST has got adequate knowledge to address these gaps but the extension resources on the ground are insufficient to reach the common smallholder farmers. To address this challenge JKCIP proposes to build the technical skills and capacities of the FPO and farmer groups through linkages with university, horticulture department and private sector companies to develop a cadre of trained manpower inside the FPO who will provide the fee based technical support & services to the farmers on GAP, training & pruning, Integrated pest management, integrated nutrient management, sorting & grading, collective marketing and storage facilitation. This can become a sustainable business model for FPO and can help improve the overall productivity and quality of fruit & nut crops in J&K and will help strengthen the public and private sector extension system in J&K.

Implementation steps

- Need assessment for the rejuvenation model in different crops.
- Business case assessment and business planning.
- Selection of FPO's and lead farmers.
- Finalization of training modules including climate smart and good agricultural practices
- Budgeting, scheme preparation & model for support.
- Dialogue with private sector for participation.
- Capacity development of lead farmers/technical cadres among farmers.
- Implementation at farmer's fields.
- Regular monitoring and technical support.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Need assessment of farmers and creation of a business model for rejuvenation	DioH-J, DioH-K	FPOs	
Consultation with FPOs- Selection of farmers interested in this business.	DioH-J, DioH-K	FPOs	
Finalization of the training module	DioH-J, DioH-K		
Prepare a scheme for assistance through FPO	DioH-J, DioH-K		
Make a rejuvenation business plan for FPO	DioH-J, DioH-K		
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Scheme implementation	FPOs	DioH-J, DioH-K	

FPO – Input services

Rationale

Horticulture industry in general is highly input intensive industry since the crops are subjected to many stresses in terms of nutritional deficiencies, climate change, diseases & pests which affect the production and quality of crops and hence the market value gets lowered, so the farmers have to use lots of fertilizers, fungicides, pesticides both of organic and inorganic origin to manage these stresses. There are management protocols of every crop available through public research institutions and we have a very well-developed private sector led agri-input industry who have solutions for every kind of crop stresses but still there's a lot of information gap for smallholders and they are dependent on misinformed sources and end up making losses financially. SKUAST every year publishes an apple spray schedule for fruit growers which has complete details of management practices and spray schedules to be followed to control diseases and pests of apple but still farmers end up making injudicious use of chemicals. Availability of quality inputs in rural areas is another challenge which smallholders are faced with and if available they are sold well above the laid-out prices, this was shared to us in the field visits.

So, here's a business opportunity for FPOs where these collectives can become authorized distributors of agri-inputs in alliance with reputed manufacturers and will procure in bulk, based on the farmer demand. In return the corporate gives them a better price and their technical team works with the FPO on business development and trains their farmers on GAP and management of their crops in a holistic manner. IFAD has experience of managing this model under Nav-Tejaswini project in Maharashtra and REAP in Uttarakhand where we are working with two of the biggest corporate of agri-input industry, Bayer and UPL who are helping our farmer collectives to run their franchise stores which stock & sell fertilizers, seeds, pesticides and farm machinery. The technical team of these companies help in managing the store and their dedicated agronomists train the farmer on management of their crops on regular basis. This model will be rolled out under JKCIP for the FPO of the project and has the potential to become a strong and sustainable business model for our FPO's given the kind of high value crops in the region.

Implementation steps

- Selection of area and FPO for input business model.
- Feasibility analysis and business case assessment for this model.
- Discussion with private sector to participate in this business model.
- Signing of MOU with private sector partner.
- Business documentation and compliances completed.
- Scheme development for financial support to the FPO.
- Technical and financial capacity development of the FPO by private sector partner.
- Franchise model set up and business roll out.
- Regular monitoring and handholding for sustainable business output.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Selection of potential area & FPO	DioH-J, DioH-K	FPO	
Build a scheme for assistance to FPOs	DioH-J, DioH-K		
Capacity building and linkages with private sector agro-chemical companies	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Rollout the business	FPO	DioH-J, DioH-K	

FPO – Farm machinery

Rationale

The agricultural and horticulture industry is a very labor-intensive industry, right from land preparation to harvest, packing and transportation, at every stage of crop production one needs labour to manage it. In the last few years due to economic growth and industrialization, urban migration of unskilled labor from villages to cities in search of

better has become a reality coupled with employment guarantee schemes like MNREGS and functional PDS system, labor availability in agriculture industry is becoming expensive and scarce. Looking at this challenge, the government has come up with farm mechanization scheme at group and individual farmer level with different %ages of subsidies. While at individual level the model serves the purpose for large farmers only, but at the smallholder level this model at the FPO level has many advantages since machineries can be shared by multiple farmers on rental basis managed by the FPO which aggregates the demand for particular farm machines and leases the member farmers on an agreed market price-based machine rental. This helps small farmers bring production efficiency at their farms and at FPO level it provides them with a sustainable business model.

J&K being a rich agricultural & horticultural state with many high value crops is dependent on migratory labor from Nepal, UP and Bihar for its agricultural needs and many a times faces challenging situation in the wake of insurgency movements, covid breakdowns etc. In such situations it becomes essential for the state government to encourage development of farm mechanization to increase efficiency and cost management of crop production. JKCIP will work through the existing and newly formed FPOs to assess the needs of the specific crops for mechanization needs and then develop a business model around them for the benefit of the farmers. Capacity utilization is a big challenge in farm mechanization model since most of the machines are used seasonally due to the nature of agricultural activity so the maximum focus should be given to the choice of machinery and its utility over the maximum no of commercial usage days in a year backed by a robust business planning.

The primary source of income in the project area is predominantly horticulture, which heavily relies on traditional approaches. Orchards visited during design mission field interactions were old and undernourished, rendering them more susceptible to the adverse impacts of climate change. For instance, fruit trees that lacked pruning or thinning were weak, prone to pests and diseases, and required more water. To alleviate this drudgery and provide support, proper equipment for thinning and pruning will be supplied, aiming to enhance farms' resilience to climate change. Similarly, the provision of suitable tools, such as those for digging holes for plantation, will decrease soil exposure, thereby minimizing soil erosion and the loss of topsoil.

Implementation steps

- Need assessment of farm machinery specific to the crops of the region.
- Selection of FPO for this model.
- Selection of machinery.
- Business planning with the FPO for maximum capacity utilization.
- Scheme development for financial assistance.
- FPO proposal development, facilitation with documentation and credit linkages.
- Capacity development of FPO.
- Roll out of the equipment rental model.
- Regular monitoring and review of the business plan.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Selection of potential area & FPO	DioH-J, DioH-K	FPO	
Farm machinery need assessment	DioH-J, DioH-K		
Build a scheme for assistance	DioH-J, DioH-K		
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Rollout of farm machinery banks	FPO	DioH-J, DioH-K	

FPO – Output aggregation

Rationale

The Indian system of agricultural marketing suffers from a number of defects. It's such a complex chain of operations that it's not possible for an individual farmer to escape these inefficiencies of the system, as a consequence, the Indian farmer is deprived of a fair price for his produce.

Harvesting and processing waste in the agriculture sector is significant. This not only causes loss to the farmers in terms of quantity, but also decreases the quality of the product. Aggregation support will ease farmers to harvest, collect, and store their products; ultimately ensuring less wastage, maintain quality, and ensure reasonable price. Which will increase their overall income. Moreover, the volatile market is a big threat in the project targeted area. Most importantly, apple is facing huge competition from other countries' production.

Following are some key issues:*Improper Warehouses:* There is an absence of proper warehousing facilities in the villages. Therefore, the farmer is compelled to store his products in pits, mud-vessels, Kutcha storehouses, etc. These unscientific methods of storing lead to considerable wastage.

Lack of Grading and Standardization: Different varieties of agricultural produce are not graded properly. The practice usually prevalent is the one known as "dara" sales wherein heap of all qualities of produce are sold in one common lot Thus the farmer producing better qualities is not assured of a better price. Hence there is no incentive to use better seeds and produce better varieties.

Inadequate Transport Facilities: Transport facilities are highly inadequate in India. Only a small number of villages are joined by railways and pucca roads to mandis. Produce has to be carried on slow moving transport vehicles. Obviously, such means of transport cannot be used to carry produce too far-off places and the farmer has to dump his produce in nearby markets even if the price obtained in these markets is considerably low. This is even truer with perishable commodities.

Presence of a Large Number of Middlemen: The chain of middlemen in the agricultural market is so large that the share of farmers is reduced substantially.

Malpractices in Unregulated Markets: Even now the number of unregulated markets in the country is substantially large. Arhatiyas and brokers, taking advantage of the ignorance, and illiteracy of the farmers, use unfair means to cheat them.

Inadequate Market Information: It is often not possible for the farmers to obtain information on exact market prices in different markets. So, they accept whatever price the traders offer to them.

Inadequate Credit Facilities: Indian farmer, being poor, tries to sell off the produce immediately after the crop is harvested though prices at that time are very low.

The concept of organising farmers into Farmer Producer Organizations (FPO) has the genesis in the above laid out inefficiencies of the agriculture marketing in the country. Under an FPO, a group of farmer can work towards the benefit of all members through utilizing the concept of economy of scale thus increasing the negotiating power of farmers with the market forces both for input purchase and output sales. Collective marketing of agriculture produce by FPO has emerged as a very natural and profitable model to realize better prices for the crops of farmers from market players; moreover, FPO has an opportunity to develop backward and forward linkages with large, organized buyers who require quality produce at a scale and pay better than regular mandis for graded quality produce. The good aggregation support will allow them to collectively store their product for a certain amount of time and seek a better market. This will help them store their product when transportation is blocked due to flood, landslide, or there is heavy rain.

JKCIP would study the potential and business case of collective marketing of agricultural produce by FPO and will help develop a business plan and business model for the FPO in collaboration with private sector players for consistent supply of quality produce on consistent basis profitably.

Implementation steps

- Crop wise feasibility and market potential assessment for collective marketing.
- Business planning with FPO.
- Private sector partnerships for buyback arrangements with FPO.
- Development of scheme for assistance to FPO.
- Capacity development of FPO in collaboration with private sector for collective marketing model.
- The collection center is operationalized with sorting and grading facilities.
- Regular monitoring and support from public and private sector.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Selection of potential area & FPO	DioH-J, DioH-K	FPO	
Assess scope for collective marketing of output	DioH-J, DioH-K	FPO	
Develop a scheme for assistance	DioH-J, DioH-K		
Capacity building	DioH-J, DioH-K	SKUAST-J and SKUAST-K	
Rollout of output aggregation	FPO	DioH-J, DioH-K	

II. Agribusiness Ecosystem development

A. Enterprise promotion Support

Brief description of project interventions: As a part of agri-business ecosystem development, the project will support enterprise promotion by the private sector with a focus on generating corresponding bank finance. This activity will largely focus on youth and women, particularly young women. Climate risk poses a significant threat to businesses, especially those associated with farming. However, it has often been overlooked when developing business plans and development. The JKCIP will give due consideration to this aspect, ensuring that climate risk is thoroughly assessed. Moreover, the development process of business plan will include discussion and listing adequate adaptation measures to adapt or mitigate these risks effectively. The project will provide matching grants for establishing agri-business enterprises. Two key modalities to promote enterprise will be followed: (i) a Business-led enterprise development model wherein the Business Leader becomes the mentor and provides market linkages and mentors a group of farmers or small entrepreneurs; and (ii) an individual entrepreneur model wherein the individual entrepreneur establishes an independent business with B2B and B2C facilitation and support for participatory business planning. The project will work with banks leading towards (i) a common understanding of the requirements of the banks for applications and financial proposals and production of same; and (ii) financial product/model development to enhance qualification, introduce collateral alternatives, cash flow-based lending and improve affordability for medium to long term loan products. The project will provide business development services and support the establishment of 87 business-led enterprises that will act as mentors and 1,117 individual enterprises.

Access to finance: Access to finance is a cornerstone for the promotion of agriculture and horticulture enterprises because it provides the necessary resources to make critical investments, manage risks, and drive innovation and sustainability in the sector. Without financial support, it can be challenging for farmers to adapt to changing circumstances

and seize new opportunities. The enterprise promotion support under this project hinges on the access to credit and the project will facilitate the provision of business development services required for establishing enterprise including preparation of project/feasibility reports and appraisal of the project reports. Jammu and Kashmir, like other parts of India, is served by various banks, including both public sector and private sector banks. These banks offer a range of financial products and services to individuals and businesses. Access to Finance is covered in Section IV of this chapter.

The Jammu and Kashmir Bank (J&K Bank) is a prominent financial institution based in the region that plays a significant role in providing banking services and facilitating access to finance for local businesses. During the FY 2022-23, the deposits of the Bank grew by 6.39% YoY to INR 1,220 billion with a CASA ratio¹ of 54.10%. Gross Advances of the Bank grew by 16.89% YoY, at par with the banking industry, from INR 700 billion to INR 820 billion. For the FY2022-23, the Bank has improved its operational efficiency and has recorded a profit of INR 11.97 billion, highest in the history of the bank. On the asset quality front, the Bank has improved significantly and registered its best asset quality figures over last 8 years. The non-performing Assets (NPA) figures of the Bank have also improved significantly from 8.67% last FY to 6.04%. The net NPA of the Bank witnessed sharp decline to 1.62%. Net Interest Income (NII) witnessed a robust growth of 21% from INR 39.11 billion to INR 47.45 billion. The Operating profit of the Bank during the year stood at 18.58 billion, a significant improvement of 75% over the last year. J&K Bank has brought down the cost-to-income ratio to 66.22% in FY2022-23 from 77.18% in FY2021-22.

GoJ&K is the major shareholder of this bank and as a result, the Bank is actively involved in the programmes and projects of the Government. J&K bank also has a substantial network of branches in J&K providing last-mile service delivery to the farmers. There are no major issues to access credit by the entrepreneurs of J&K. In addition, GoJ&K also provides matching grants to compensate the entrepreneur towards the high cost of investment compared to other parts of the country so as to provide a level playing field.

Matching grants: Providing matching grants for enterprise promotion, whether in agriculture, small businesses, or other sectors, is a common practice employed by governments and institutions worldwide. There are several key rationales for offering matching grants.

Economic Development: Matching grants can stimulate economic growth by encouraging the establishment and expansion of enterprises. This leads to increased production, job creation, overall economic activity, and increase resilience to economic and climate shocks.

Job Creation: Matching grants stimulate enterprise promotion which often create new jobs, reducing unemployment rates and contributing to a more stable and prosperous labour market.

Investment in Key Sectors: Matching grants can target strategic sectors that are vital for a country's development and self-sufficiency, such as agriculture, manufacturing, and technology.

Innovation and Research: Matching grants can foster innovation and research in specific industries by providing the financial resources needed to develop new technologies and products.

Rural and Regional Development: Matching grants can help promote economic activity in rural and underdeveloped areas, reducing regional disparities and migration to urban centres.

Market Correction: In certain situations, Matching grants are used to correct market failures. For example, they can support the provision of essential public goods or services

¹ Ratio of deposits in current and savings accounts to total deposits of the Bank

that the private sector might not otherwise provide efficiently, such as infrastructure for fruit handling.

Competitiveness: Matching grants can enhance the competitiveness of domestic enterprises in the domestic and export market by reducing production costs or improving product quality.

Environmental and Social Goals: Matching grants can be employed to promote environmentally friendly or socially responsible practices and products, such as renewable energy or organic farming.

Risk Mitigation: Subsidies can help enterprises mitigate risks during difficult economic conditions, natural disasters, or global crises, ensuring their stability and continuity.

Stimulating Investment: By providing Matching grants, governments can incentivize private sector investments in specific areas, which can have positive ripple effects on the broader economy.

Fostering Entrepreneurship: Matching grants can encourage entrepreneurship and support the growth of startups and small businesses, which are often drivers of innovation and employment.

Social Inclusion: Matching grants can help marginalized and disadvantaged populations access essential services or opportunities they might otherwise be excluded from.

It's important to note that while subsidies can have positive impacts, they also come with challenges and potential drawbacks. These include the risk of inefficiency, market distortions, and fiscal burdens on governments. Therefore, it's crucial for governments to design subsidy programs carefully, targeting them where they can achieve the greatest public benefit and using transparent and accountable mechanisms to administer them.

Reduced reliance on matching grants

Reducing subsidies for enterprise development is a complex process that should be implemented carefully to minimize potential negative impacts on businesses and the economy. The pilot strategies that governments and organizations can consider to gradually reduce subsidies:

Phasing Out Subsidies: Gradually reduce subsidies over a predetermined period, allowing enterprises to adapt to the changing conditions. This phased approach can provide businesses with time to find alternative sources of funding.

Performance-Based Subsidies: Shift from unconditional subsidies to performance-based incentives. Businesses would receive subsidies or grants based on achieving specific targets or milestones, such as job creation, revenue growth, or environmental sustainability.

Sectoral Reviews: Conduct in-depth reviews of subsidized sectors to identify areas where subsidies are less effective or where businesses have become overly reliant on them. Focus on reducing or redirecting subsidies in these areas.

Means Testing: Introduce means-testing to ensure that subsidies go to businesses that genuinely need them. This could involve setting income or asset thresholds to determine eligibility for subsidies.

Selective Subsidies: Target subsidies toward specific activities or industries that align with strategic goals, such as innovation, sustainability, or regional development, while reducing subsidies in less strategic areas.

Tax Credits and Incentives: Shift from direct subsidies to tax credits, deductions, or other tax incentives that can provide financial relief to businesses while allowing the government to reduce direct expenditures.

Public-Private Partnerships (PPPs): Encourage public-private partnerships to share the burden of financing certain enterprise development initiatives, which can help reduce the government's financial commitment.

Technical Assistance and Capacity Building: Invest in programs that provide technical assistance and capacity-building support to help businesses become more self-reliant and less dependent on subsidies.

Financial Education and Access to Finance: Promote financial literacy and access to alternative financing options, such as loans, equity investments, and venture capital, to reduce dependence on subsidies.

Expiry Date for Subsidies: Implement a policy where subsidies have a predetermined expiration date. Businesses would need to plan for the eventual reduction or elimination of these subsidies.

Review and Adjust Subsidy Criteria: Periodically reassess the criteria for granting subsidies, adjusting them to reflect changing economic conditions and development priorities.

Cost-Benefit Analysis: Conduct thorough cost-benefit analyses for each subsidy program to assess their effectiveness and make informed decisions about reducing or eliminating them.

Social Safety Nets: Ensure that social safety nets are in place to protect vulnerable individuals and communities that may be adversely affected by subsidy reductions.

Stakeholder Engagement: Involve businesses, industry associations, and other stakeholders in the decision-making process and the design of subsidy reduction strategies to minimize disruptions.

Communication and Transparency: Communicate the reasons for subsidy reductions clearly and transparently to the public and affected businesses to build understanding and trust.

Monitoring and Evaluation: Continuously monitor and evaluate the impact of subsidy reductions to adjust policies as needed and ensure that businesses remain competitive and sustainable.

Piloting these strategies on a small scale can help identify potential challenges and refine the approach before implementing larger-scale reductions. It's essential to carefully assess the economic and social implications of subsidy reductions and take measures to mitigate any adverse effects on businesses and the broader economy.

Business mentorship

Mentorship plays a crucial role in enterprise promotion for several reasons:

Knowledge Transfer: Experienced mentors can transfer their knowledge, skills, and expertise to aspiring entrepreneurs. This practical wisdom is often not available in textbooks or traditional educational settings.

Guidance and Support: Mentors provide guidance and emotional support to entrepreneurs, helping them navigate the challenges and uncertainties that come with starting and growing a business. They can offer advice on decision-making, problem-solving, and goal setting.

Networking Opportunities: Mentors often have extensive networks within the business community. They can connect entrepreneurs with potential customers, investors, suppliers, and other key stakeholders, which can be invaluable for business growth.

Validation and Confidence Building: A mentor's belief in an entrepreneur's abilities and ideas can boost their confidence and motivation. This validation is crucial for overcoming self-doubt and taking risks.

Skill Development: Mentors can identify areas where entrepreneurs need to develop their skills and provide specific guidance and training to address those gaps.

Problem-Solving: When entrepreneurs encounter challenges or roadblocks, mentors can offer alternative perspectives and strategies for overcoming them. They can draw from their own experiences to provide practical solutions.

Personal Growth: Mentorship extends beyond business skills; it also focuses on personal growth. Mentors can help entrepreneurs develop leadership qualities, emotional intelligence, and resilience.

Long-term Success: Mentors are often invested in the long-term success of their mentees. They provide ongoing support and encouragement, which can be particularly important during challenging times.

Avoiding Pitfalls: Experienced mentors can help entrepreneurs avoid common pitfalls and mistakes that can be costly in terms of time, money, and resources.

Innovation and Creativity: Mentorship can inspire and nurture innovation. Mentors can encourage entrepreneurs to think creatively and develop unique solutions to problems.

Succession Planning: For family businesses or enterprises with long-term goals, mentorship can be essential in grooming the next generation of leaders and ensuring the continuity of the business.

Accountability: Mentors can help entrepreneurs set goals and hold them accountable for achieving those objectives, fostering discipline and commitment.

Crisis Management: When unexpected challenges or crises arise, mentors can provide guidance and support to help entrepreneurs navigate these situations effectively.

Feedback and Evaluation: Mentors can offer constructive feedback and help entrepreneurs assess their progress and make necessary adjustments.

Diversity and Inclusion: Mentors can play a critical role in promoting diversity and inclusion by guiding underrepresented groups, such as women and minorities, in their entrepreneurial endeavours.

Community Building: Through mentorship, a sense of community and collaboration can be fostered among entrepreneurs, encouraging the sharing of resources and ideas.

Mentorship is a powerful tool for enterprise promotion because it accelerates the development of new businesses, enhances the skills and capabilities of entrepreneurs, and contributes to the overall growth and vitality of the entrepreneurial ecosystem. Mentorship programs, whether formal or informal, are valuable for fostering innovation, job creation, and economic development.

Business-led enterprise development

A "lead entrepreneur" in the context of enterprise promotion typically refers to an individual who takes a central role in driving the creation, growth, or development of entrepreneurial ventures and initiatives within a particular ecosystem or community. Lead entrepreneurs play a pivotal role in fostering entrepreneurship and can have a significant impact on promoting enterprise activities. The ways in which lead entrepreneurs contribute to enterprise promotion include:

Inspiration and Role Modelling: Lead entrepreneurs serve as role models for aspiring business owners and startups. By demonstrating their own success, they inspire others to pursue entrepreneurship.

Mentorship and Guidance: They often provide mentorship and guidance to new entrepreneurs, sharing their experiences, offering advice, and helping others navigate the challenges of starting and growing a business.

Resource Mobilization: Lead entrepreneurs can leverage their networks and credibility to access resources such as funding, partnerships, and support services, which can be beneficial for other entrepreneurs.

Community Building: They play a key role in building and fostering an entrepreneurial community or ecosystem, bringing together like-minded individuals, connecting businesses, and encouraging collaboration.

Advocacy and Policy Influence: Lead entrepreneurs can advocate for favourable policies and regulations that support entrepreneurship at the local, regional, or national level, creating a more conducive environment for business growth.

Innovation Promotion: They often drive innovation within their industries or sectors, pushing the boundaries and encouraging others to adopt creative solutions.

Job Creation: Lead entrepreneurs who successfully scale their businesses can contribute significantly to job creation and economic development in their communities.

Investment and Funding: Some lead entrepreneurs become investors themselves, providing capital and mentorship to startups and early-stage businesses, thus contributing to the growth of the broader entrepreneurial ecosystem.

Education and Training: They may establish training programs, workshops, or educational initiatives aimed at equipping aspiring entrepreneurs with the knowledge and skills needed to succeed in business.

Market Access: Lead entrepreneurs with established businesses can help smaller startups access markets, distribution channels, and customers that would otherwise be challenging to reach.

Networking Opportunities: They create networking opportunities for other entrepreneurs to connect with potential clients, partners, or investors.

Risk-Taking: Lead entrepreneurs are often willing to take calculated risks, and their success stories can encourage others to take entrepreneurial risks as well.

Long-Term Vision: They typically have a long-term vision for their communities and ecosystems, looking beyond short-term gains and focusing on sustainable enterprise development.

Social Responsibility: Some lead entrepreneurs engage in philanthropy and corporate social responsibility, contributing to social and environmental causes within their communities.

Resilience and Adaptability: Lead entrepreneurs often exhibit resilience and adaptability in the face of challenges, serving as examples of how to persevere in the ever-changing world of business.

The contributions of lead entrepreneurs can be significant in terms of promoting entrepreneurship and enterprise development. Their actions and leadership help create a more vibrant and supportive environment for startups and small businesses, ultimately contributing to economic growth and prosperity.

Implementation Steps

MSPs

- Identify FIGs/FPOs interested in market linkage and based on this need identify commodity-specific market players.
- Conduct commodity specific MSPs and prepare proceedings at each MSP indicating the expectations of the farmers and also that of the market players for the project take decisions on how to make progress.

- Identify market players who are interested in developing market linkage agreements with the producers (FIGs/FPOs).
- Conduct meetings with the interested market players and producers to work out the details and sign an agreement for market linkage.

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify market players and producers interested in market linkage	DioA-J, DioA-K, DioH-J and DioH-K	APD	FIGs/FPOs
Conduct MSPs	DioA-J, DioA-K, DioH-J and DioH-K	APD	FIGs/FPOs
Work out market linkage agreements	FIGs/FPOs	DioA-J, DioA-K, DioH-J and DioH-K	APD

Business-led enterprise development

- Identify existing entrepreneurs who have already established businesses but are interested in expanding the businesses by engaging with smaller entrepreneurs to by supporting them in providing market linkages.
- Prepare schemes for supporting business-led enterprises. The matching grant should not exceed 50% of the investment cost and the balance will have to be from bank loans and private sector contributions. The project will have to work out ways to provide higher levels of incentives to women and youth compared to others.
- Conduct consultations with these mentor entrepreneurs and request them to submit a proposal with the: (i) project proposals for the mentee entrepreneurs; (ii) type of support to be provided to the mentees by the mentor; and (iii) project support required by the mentors.
- Appraise the proposals and provide support to both mentors and mentees.

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identify existing entrepreneurs interested in supporting other entrepreneurs through market linkage.	DioA-J, DioA-K, DioH-J and DioH-K	APD	Lead Entrepreneurs
Seek and appraise the proposals	DioA-J, DioA-K, DioH-J and DioH-K	APD	Lead Entrepreneurs
Approve the proposals and start implementation	FIGs/FPOs	DioA-J, DioA-K, DioH-J and DioH-K	APD

Enterprise promotion

- Prepare schemes for supporting enterprise promotion. The matching grant should not exceed 50% of the investment cost and the balance will have to be from bank loans and private sector contributions. In cases of a high level of investment proposed particularly in case of controlled atmosphere storages and other activities, it is essential to build in a cap for matching grants. The project will have to work out ways to provide higher levels of incentives to women and youth compared to others.
- Publicise the scheme and seek applications from interested parties.

- Provide business development support to prepare project reports and business plans.
- Conduct meetings between bankers and entrepreneurs for initial due diligence and to identify entrepreneurs for bank loans.
- Facilitate the banks to provide loans and the project to provide matching grant.

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare schemes for supporting various types of enterprise	APD	DioA-J, DioA-K, DioH-J and DioH-K	
Seek applications and provide business development service	DioA-J, DioA-K, DioH-J and DioH-K	Entrepreneurs	
Conduct meetings with banks and initial due diligence	DioA-J, DioA-K, DioH-J and DioH-K	Entrepreneurs and Banks	
Bank loan approval and enterprise establishment	Entrepreneurs and Banks	DioA-J, DioA-K, DioH-J and DioH-K	

Matching grant reduction strategies

- Engage an agency to develop a strategy paper to explore ways and means of reducing subsidies and providing other products to improve access to finance, reduce the risk perception of the bankers and reduce the cost of borrowing,

Conduct consultation with the entrepreneurs and industry bodies on the need to reduce subsidies for enterprise promotion with the impending improvements in infrastructure and reduction in logistic costs reducing costs. Deliberate on the alternatives available such as starting a venture capital company with the participation of financial institutions, entrepreneurs, and industry bodies to recover the subsidy once the enterprise becomes profitable to redeploy the same for enterprise promotion purposes. Place the strategy before the project management and make an action plan for implementation of a pilot. **Implementation responsibility**

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Engage an agency /Consultant to develop a strategy for reducing matching grant.	APD	DioA-J, DioA-K, DioH-J and DioH-K	
Conduct a consultation to discuss the strategies and work out modalities for developing a pilot	DioA-J, DioA-K, DioH-J and DioH-K	Entrepreneurs and Banks	
Take approval and implement a pilot	DioA-J, DioA-K, DioH-J and DioH-K	Entrepreneurs and Banks	

B. Market promotion Support

Brief description of project interventions: The project will introduce the concept of Multi-Stakeholder Platforms (MSPs) to enable the establishment of relationships with the private sector for promoting production based on the market requirement. MSPs will facilitate the identification of market players interested in working with the farmers to shift to the premium product category by producing vegetable seeds instead of vegetables. Most niche crops have well-established market systems, but it is necessary to keep exploring newer markets to absorb additional quantities. The project will also establish

market outlets and marketing infrastructure and conduct buyer-seller meets, and support brand development and promotion.

The project will support: (i) 12 state-level MSPs; (ii) participation in trade fairs by 150 entrepreneurs; (iii) 28 Buyer-Seller meets; and (iv) product development, J&K brand development and brand promotion coupled with ICT4D solutions to enhance traceability and transparency of pricing and product. Since premiumization is the key to increasing the income of farmers, GoJ&K has requested support for the establishment of an Export/Logistic Hub to focus on the export/domestic market for agriculture, horticulture and allied products. This plan needs further deliberations and feasibility assessments. The project will support the engagement of highly experienced Consultant(s) from the sector to further develop the concept of Export/Logistic Hub with a feasibility study considering the export/domestic market potential, and current constraints of the exporters/traders including lack of suitable logistic infrastructure and phytosanitary and quality certification requirements, private sector participation requirements and ownership and management structure of the Export/Logistic Hub. Once this study is finalized, the project will develop and implement a plan for operationalizing Export Hub/Logistic Park in consultation with IFAD.

Multi-stakeholder platform

Rationale: Value Chain Development strategies mainly includes: technical capacities development for processes; managerial capacities development for functions and networking capacities development for cooperation. These have been found very effective to exchange best practices on climate adaptation and environmentally sustainable practices among the producers. They exchange learnings of climate smart and good agricultural practices. In addition, presence of buyers and technical service provides in the platform helps them to get updates on the new and improved tools and technologies. Creating mutual benefits for the producers, traders, input suppliers and service providers involved in the supply chain and surrounding market is key to the success of supply chain development.

In the process of supply chain upgrading, linkages will be established within and between these three layers of network actors as many emerging issues, either bottlenecks or opportunities for market development as well as in the broader development setting, cannot and will not be addressed by individual actors alone. Stakeholders become aware that together they must agree on solutions for systemic constraints in the supply chain and work together to take collective action to address these challenges and seize opportunities. For this reason, MSP have been widely used as an avenue for enhancing collaboration within supply chain networks.

The core of the supply chain cluster development approach is a rolling process of action-oriented brokering dialogue for fostering collaboration and investment facilitation among the key actors in each cluster to catalyse investments and remove bottlenecks to increase trading and profits and make the most of practical opportunities for growth. MSPs are platforms, processes or partnerships of different stakeholders / actors together with similar interests interacting each other for improving the situations affecting them through shared learning, joint decision-making and collective action as shown below (fig 2.).

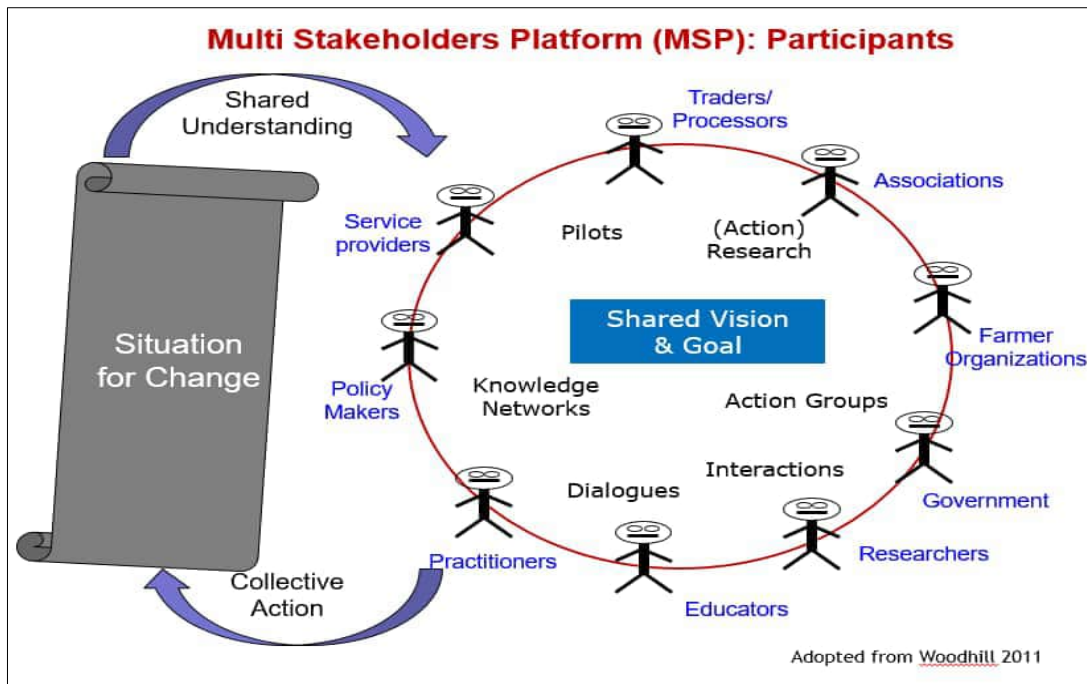


Figure 1. MSP Participants

MSPs bring together different actors at local, regional or national level and create space for dialogue to develop joint action that can bridge different values, objectives, and ways of working. Producers, Traders/Buyers, Processors, Commercial and non-commercial suppliers of technical/financial services or inputs as well as government agencies and other supporters including research institutions, insurance companies are participants of such MSP meetings.

MSP can be used as instrument to address complex issues in upgrading the supply chains whereby the actual form and function of the MSPs are contextual. Indeed, there is no blueprint model of MSP because:

- **First**, MSPs can come in **different models** and constitute in principle either a platform like setting or an issue-based process. In both settings, public-private partnerships (PPP) may emerge as the preferred option for implementation.
- **Second**, MSP can be situated at or between the **different layers** of a specific supply chain setting, i.e., primary actors, business development service providers, and the “enablers” of the supply chain.
- **Third**, MSPs can have very **diverse functional characteristics** depending on whether they aim at sector development, business development, service provision, or knowledge development.
- **Fourth**, markets and **supply chains change continuously over time**, as a consequence the nature, role and goals of MSPs as an instrument for systemic or issue-focused change need to be adapted with changing internal and external conditions.

Within such diverse settings, flexibility in design and operations is a prerequisite. Although the design and use of MSPs very much depend on the local context, working with individual stakeholders and their collectives requires a certain approach, which is in most cases very similar. In order to create win-win situations and align the various actors, the independent neutral facilitator (value chain team in JKCIP) should understand well the motivation and interest (drivers) of each individual actor and subsequently form an idea about the common ground, where these individual interests come together. The facilitator should be professionally autonomous and neutral broker but operate in line with the needs of the MSP actors.

MSP will be organised in each supply chains at regular intervals (1-2 times in a year) in the project at Hub and 3- 4 times in cluster level with anticipated outputs as illustrated in figure 3 below. MSPs will be initially facilitated by the project team but later jointly and /or individually by the producers and businesses themselves.

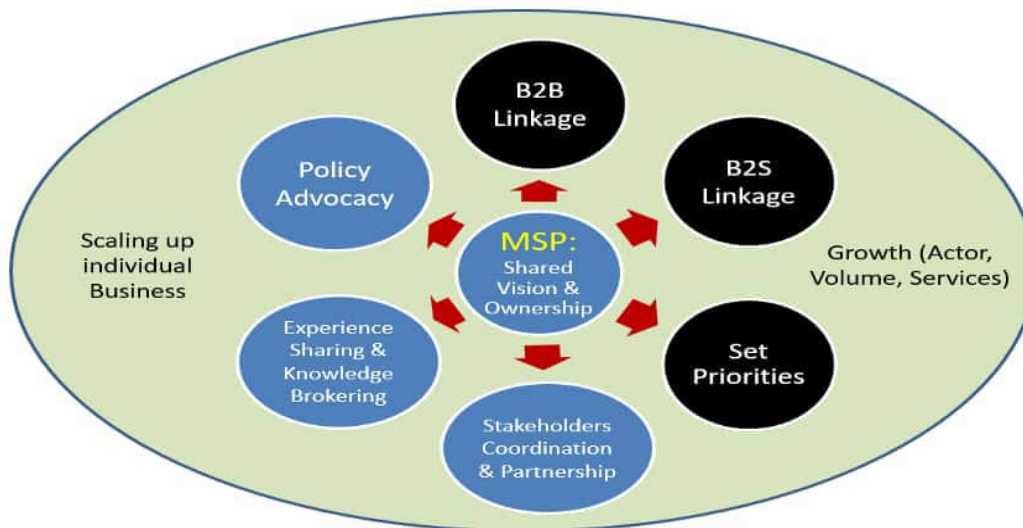


Figure 2. MSP Outputs & Outcomes

The MSPs for each Supply/Value Chain are driven by the actors and expected to serve following purposes as outlined below in general:

- Validation of information generated from Supply/Value Chain Mapping and Market assessment study.
- Identifying priorities in terms of issues, problems and opportunities for sector and business development.
- Identifying innovative / market driven interventions and its prioritization Increased ownership of Supply/Value Chain upgrading process.
- Facilitate meetings, coordination and enhance dialogue between buyers/agribusiness and producer group for business linkages and actors with other service providers (banks, nurseries, input suppliers, service centres, technical assistance providers etc.) to deepen mutual understanding for linkages /partnerships, laying the basis for establishing business and service relationships.
- Develop and agree on joint action plans (Supply/Value Chain Road map) among producer, agri-businesses and service providers for developing supply chain cluster and commit themselves for implementation through individual or joint investments including investment in public good infrastructures.
- Developing capacity through relating and engaging and Increased ownership of value chain upgrading process.
- Enhance transparency, Improved trust, quality and relevance of relationships between actors at different levels.
- Up-scaling of innovations through monitoring, sharing and collective learning.
- Bridge unequal power relations and differences in perception and language.

Investment Priorities for private and public good investments and follow-up by the project and others are set during the MSP process, in particular "cluster action plan" produced for each cluster as a key output of the meetings. The initial action plans will focus on immediate market opportunities or tackle the most immediate localized bottlenecks for quick wins. Over time, the plans will fit in an agreed vision for the supply chain and move towards more coordinated actions. The rolling cycle of MSP both at Hub and cluster level also create a practical mechanism to locally coordinate the support of the various government and non-government initiatives that are relevant and active in the local area.

Facilitating MSP at Hub and Cluster level: MSP is based on trust, the willingness to rely on another person or institution when one expects the action of that person or organization to take you into account in some relevant way. This refers to the extent to which all parties, including small scale farmers, are taking part in the upgrading of the VC, the extent to which actors have access to increased assets (finance, knowledge, technology, information), and the extent to which all parties are able to bargain on a proper footing for a fair share of total value addition in the chain. Facilitation in principle is about creating space for actors to participate in and contribute fully and on equal terms to a joint process.

Facilitation of MSP is useful for

- Promoting efficient and equitable linkages for the economically active poor along the value chain
- Strengthening existing and brokering new strategic partnerships with key stakeholders using the Public Private Partnership (PPP) model (Private sector, civil society, government bodies).
- Promote “meaningful dialogue” focus on impacts and economic performances, strategic planning and cooperative implementation action, collective monitoring and mutual learning.

Facilitators should provide following services in general during MSP facilitation:

- Define clear purpose of MSP meeting by setting smart objectives,
- Develop an agenda, with a realistic time schedule, making sure that the conclusions and planned actions at the end of the day are not rushed,
- Select the most critical participants by identifying which stakeholders are important in your Supply/Value Chain action plan, making sure there is enough private sectors,
- Ensure involvement of large buyers and Processors (Leaders/Champions in Supply/Value Chain) that have credible demand & can bring change to enhance production & foster Supply/Value Chain growth.
- Involve several buyers including buyers outside the target areas (Regional & National level) and Farmers representatives of Group /Agriculture cooperatives of potential Supply/Value Chain clusters.
- Set date and venue and inform by writing and verbally all stakeholders 2-3 weeks in advance, but make sure you remind the stakeholders 3-4 days in advance of the meeting,
- Provide feedback to participants on interventions,
- Update on support from government and development partners,
- Make tactical arrangements of who engages with whom,
- Coordination and facilitation among various stakeholders for convergence & minimizing duplication,
- Brokering, relation building and management of power relations,
- Capacity development, knowledge management and learning,
- Facilitating joint advocacy and stimulating government policies and self-regulation,
- Work towards consensus and develop knowledge e.g., world café session,
- Mediate concrete and time bound actions.

The operational services in above areas are sometimes straight forward. The challenge is to organise the right order and set of activities. Every MSP needs a unique arrangement of activities changing constantly over time. Supporting MSPs can have very many dimensions with various optional functions depending on the context, setting and goals in the wider dynamics of supply chain development. However, the steps followed and points to be considered by the supply chain team/Facilitator to generate various outputs are as follows:

Commitment and ownership: Commitment from supply chain stakeholders and ownership of the process are essential to build consensus on supply chain upgrading vision

and to prioritize interventions to steer the inclusive supply chain development in sustainable manner. The key factors to be considered in creating ownership and commitment during the MSP process are as follows:

- Talk little, listen carefully, ask questions (challenge them) and summarize e.g., it is not about you, it is about the stakeholders,
- Involve stakeholders at the earliest opportunity to enable them to influence the objectives and activities of the process,
- Communicate clearly with all involved actors and stakeholders about progress and successes,
- Ensure that everyone feels there is space for their ideas and concerns to be heard and taken on board,
- Ensure well facilitated processes that results in actions within an agreed timeframe,
- Review the process with stakeholders regularly and make changes to overcome emerging problems,
- Keep expectations realistic and focus on tangible results and early “wins”.
- Ensure commitment to shared responsibilities for implementing and funding agreed follow-up activities.
- Reimburse people appropriately for time and costs incurred.
- Ensure that there will not be over-representation of government staff instead of private sectors,
- Document outputs and outcomes for follow up and as input in next MSP.

Prioritizing Intervention /Action Plan Development for Upgrading: MSP identify and prioritized interventions addressing critical constraints, potential for upgrading the supply chain and sector competitiveness as a whole. This is mostly done during the initial Hub level MSP meetings based on the findings derived from the supply chain & market assessment study or rapid mapping, so as to guide the project to focus on critical areas within the limited resources and time. It is encouraged to come out with 4-5 potential five interventions in each supply chain addressing constraints critical for supply chain development among the list of interventions identified by the project team during the study. The points to be considered in conducting MSP and then prioritizing interventions and constraints are as follows:

- Make a presentation on findings of supply chain analysis/Rapid mapping exercise and the selected interventions areas and activities.
- Allow for ample time for people to ask short and concise questions, and do not allow opinions to be expressed.
- Request participants (SC stakeholders) to prioritize the list of constraints and interventions identified during the study,
- Divide participants into group by function (1) Producers organizations, (2) Traders /Agribusinesses, (3) service providers, (4) Support organizations/Stakeholders as government/projects and ask them to score in terms of priority with 1 indicating most important or critical.
- All groups are requested to present their scoring which is then recorded on the wall.
- Finalise the scoring and make total scores and share the top 5 priorities among the participants and build consensus after discussion.
- Moderate discussion in plenary: if scoring is similar for all groups, do not discuss, but discuss where scoring is different and identify the arguments, eventually leading to a change in scoring.
- Select the top 4 to 5 constraints and interventions with highest scores. Triangulate the relevancy between constraints and prioritized interventions.
- Make discussion rounds in a way that all 4 functional groups can discuss with each other separately on each of the priorities interventions and request them to come up with a limited number of concrete and direct implementable actions, preferably

to be implemented by collaborating stakeholders e.g., rotating groupings and make sure every grouping has its own moderator.

- If actions are not forthcoming, assist the groups with thinking on demand and supply, sourcing, input and service arrangements, how to improve service delivery and what support of the government and projects is realistic?
- Summarize the group findings on concrete and time bound actions. It is important is to identify what can be done “now” or “immediately” and present these in plenary.

The prioritized interventions guide the major areas of JKCIP support both in terms of facilitation and investments for supply chain development. Moreover, the direct involvement of Supply/value chain actors and stakeholders during this process helped to create ownership of the prioritized interventions and commitment too.

World Café for Business Linkages /Partnership: During the MSP, World café is organized to provide space for Producers Group representative and buyers/agribusiness as well as Supply chain/value chain actors and service providers (banks, nurseries, input suppliers, service centres, technical assistance providers etc.) to know each other, deepen mutual understanding among each other on the supply demand scenario, rules and regulations of the business and laying the basis for work together and arrangements. World café is an Interaction method which engages all the participants in various issues simultaneously. The points to be considered in conducting world cafe are as follows:

- Set equal number of venues as shown in Fig.4.
- Assign each Buyers/Agribusiness or service providers to host the venue as shown in fig.4.
- Producer’s group representatives are divided into several groups as the number of venue. It is recommended to form group of producer’s representatives by clusters.
- Each Group visit one venue at a time, get to know each other, exchange the information and held interaction on the exploring the business opportunities to work together (Fig.)
- The interaction is guided by the guiding questions which will be but not limited to: What are the opportunities they could work together in respective supply chain; What will be their sourcing /production plans to build business relationship in strengthening the supply chain.
- Separate Template is provided to both Buyers and producers representatives to note the discussion points and opportunities.
- Each venue has a facilitator (Value chain team) to facilitate the discussion.
- Group will go round to another venue (For e.g., Group to Venue 2 & Group 4 to Venue 1 as shown in fig) after each round, host remains at the Venue.
- Rotating time from venue to venue is 25 minutes. This continues till all group goes to all the venue.
- At the end, both host (Buyers/Agribusiness or Service provider) and Group (Producers) come out with business opportunities and concrete action for Business linkages / service provision.
- The Facilitator also take note of the opportunities and action plan which will serve as follow up plan for further process as Cluster level MSP (B2B Interaction and B2S Interaction).

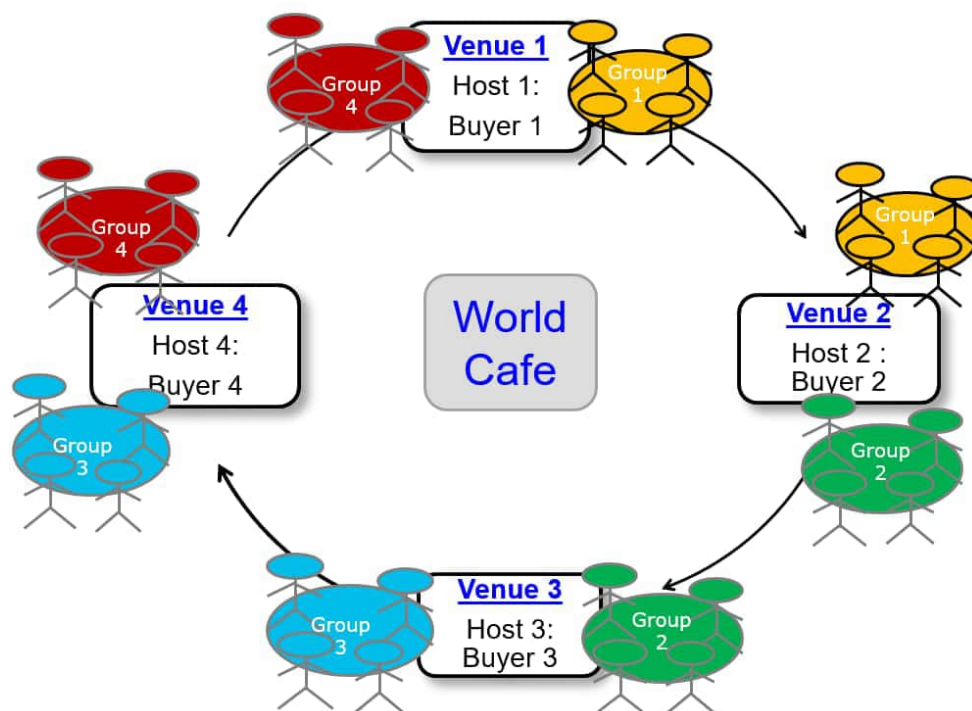


Figure 3. World Cafe

Business-to-business (B2B) follow-up (Cluster level MSP)

Shortly after the MSPs at Hub level, MSP at cluster level / Business to Business (B2B) meetings / interactions will be held, typically between buyer and group of producers who met during the MSPs world café and identified specific opportunities to do business together. The B2B follow-up meetings will focus on developing and negotiating market led production/sourcing plan between producers and buyers/businesses a reliable supply of products as required by the market to have competitive advantage (volume, seasonal & varietal) creating win-win situation for both parties as illustrated in figure 4 below. In turn, the agreed Production / trading plans will often lead to the need for specific actions or investments to be made by the producers, buyer/business or both. The investments and actions may be taken individually or jointly, depending on what has been agreed.



Figure 4. Steps involved from MSP to Product Delivery as per Market Demand

The project will facilitate this type of B2B, B2S interaction at group and cluster level on regular interval followed by regular support and monitoring to ensure implementation of joint action plan. The **generic role of the Value chain team / Facilitator during B2B interaction /Brokering** are as follows:

- Moderate and monitor meeting between traders /agri-business and farmers’ organization(s),
- Moderate an in(formal) contract with the following contents:
 - a. Basic price to be offered with prescribed quantity and qualities,

- b. Expected primary processing and packaging,
 - c. Mechanism for increasing/decreasing offered price in case change in market price at the time of buying,
 - d. Mechanism to establish reference market price like DCCIs, involved in implementing a MIS system under the HVAP support,
 - e. Agreement on the embedded services and support (post-harvest materials as crates, sacks, advance money etc) to be provided,
 - f. Description of mechanisms to cover potential non-fulfilment of contract terms in terms quality, quantity and timely delivery,
 - g. Acceptable mediation partners in case of disputes.
- Moderate regularly meetings to monitor and expand responsibilities.

The points to be considered for brokering Business to Business (B2B) linkages and relationship will be as follows:

- Talk little, listen, ask questions (challenge) and summarize e.g., it is not about you it is about the actors,
- Play the role of external broker (neutral and transparent), catalyst and coach for B2B partnerships and also Assure leadership of business,
- Ensure that B2B arrangements are based on the initiative and capacities of the actors involved addressing critical issue in the arrangements with farmers' organizations(s),
- Facilitate for joint investment plan and make investments available through grants, loan or own investments for working together among actors,
- Stick to the division of tasks between business and farmers' organisations(s) as agreed in memorandum of understanding (MoU),
- Focus on practical implementation and quick wins and openly acknowledge potential conflicts,
- Make involvement of government staff in monitoring and providing technical support,
- Provide mediation support to help B2B partners anticipate potential conflicts and facilitating dispute resolution and trust building.
- Document learning and outcomes as entry for a next brokering session and look for opportunities how other businesses and farmers' organisation(s) can learn from the arrangements.
- It is not necessary to involve many buyers in the beginning in clusters, if the group has opportunity to interact with several buyers during MSP. It is recommended to start with one buyers with several groups in clusters to meet buyer's requirement. One the volume grows and cannot be absorbed by the existing buyers than explore /introduce other buyers. However, the project should facilitate access to market price information of major markets.

e) Business-to-services (B2S) follow-up (Cluster level MSP)

Like B2B meetings, shortly after the MSPs at Hub level, Business to services meetings/interaction will be held so as to facilitate linkages between value chain/supply chain actors in particular producers and service provider (input supply, business, technical, financial etc.) with a focus to deliver wide range of services/products to help them operate and grow their businesses. The generic services and guidance for brokering B2S relationship is similar to B2B linkages and relationship.

Implementation Steps

Conducting MSP

- APD constitute an inter-Directorate focal group separately for Agriculture and Horticulture to conduct MSPs.

- The Sector Specialist will be coordinator of this group with support from the Business Development Manager.
- The focal group to identify market players interested in forging relationships with FPOs/FIGs and conduct meetings between the market players and producers comprising FPO/FIG leaders and farmers.
- At the end of the meeting workout marketing arrangements between the market player and the producers.
- Conduct one to one meeting between market player and the producers to formalize the arrangements.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Constitute an inter-Directorate focal group separately for Agriculture and Horticulture to conduct MSPs	APD	DioA-J, DioA-K, DioH-J and DioH-K	
Identify market players interested in forging relationships with FPOs/FIGs and conduct meetings between the market players and producers comprising FPO/FIG leaders and farmers	APD	DioA-J, DioA-K, DioH-J and DioH-K	
Conduct one to one meeting between market player and the producers to formalize the arrangements.	APD	DioA-J, DioA-K, DioH-J and DioH-K	

Trade fair participation

- APD to prepare a calendar of events indicating the trade fairs in different parts of the country and abroad.
- Prepare a list of criteria for selection and circulate both physically and electronically using print and digital media.
- Seek proposals from the interested entrepreneurs, review and select the entrepreneurs for participation in trade fairs.
- Provide funding to selected entrepreneurs.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Prepare a calendar of events indicating the trade fairs in different parts of the country and abroad.	APD	Directorates and Universities	
Prepare a list of criteria for selection of participants and circulate both physically and electronically using print and digital media.	APD	Directorates and Universities	
Seek proposals from the interested entrepreneurs, review and select the entrepreneurs for participation in trade fairs.	APD	Directorates and Universities	
Provide funding to selected entrepreneurs.	APD		

Buyer-seller meet

Organizing a buyer-seller meet, also known as a trade show, conference, or business networking event, requires careful planning and execution. The generic steps for conducting buyer and seller meet is provided below:

Define Your Objectives: Determine the purpose of the event. Is it for product showcasing, networking, sales, or information exchange? Set clear goals and objectives for the event, such as the number of attendees, revenue targets, or new business partnerships.

Budgeting: Create a budget that outlines all the expenses, including venue rental, marketing, staffing, catering, and promotional materials. Identify potential revenue sources, such as sponsorships, booth fees, or ticket sales, to cover the expenses.

Select a Date and Venue: Choose a convenient date that works for your target audience. Find a suitable venue with enough space, facilities, and accessibility for the event. Ensure it aligns with your budget.

Event Planning and Logistics: Create a detailed event plan that includes a timeline, tasks, and responsibilities. Arrange for necessary permits and insurance, if required. Select vendors and service providers for equipment, catering, decorations, and AV support.

Marketing and Promotion: Develop a marketing strategy to reach your target audience. Use a combination of online and offline channels, such as social media, email marketing, flyers, and press releases, to promote the event. Create a website or landing page for the event with registration and information about participants and exhibitors.

Participant Selection: Identify and invite potential buyers and sellers who align with your event's goals. Encourage exhibitors to book booths or spaces for showcasing their products or services.

Registration and Ticketing: Set up an online registration system for attendees and exhibitors. Determine ticket prices or fees for booth rentals, if applicable.

Event Agenda: Plan the event agenda, including keynote speakers, panel discussions, workshops, and networking sessions. Share the agenda with participants in advance.

On-Site Management: Ensure smooth event operations by having a dedicated team for registration, security, and logistics. Provide exhibitors with a setup schedule and guidelines.

Networking Opportunities: Organize dedicated networking sessions to facilitate interactions between buyers and sellers. Create a comfortable and welcoming environment for networking.

Technology and Communication: Set up technology infrastructure, including Wi-Fi, AV equipment, and power sources. Have a communication plan in place for announcements and emergency situations.

Feedback and Evaluation: Collect feedback from participants to gauge the event's success and identify areas for improvement. Use the feedback to make necessary adjustments for future events.

Post-Event Follow-Up: Send thank-you notes to participants and exhibitors. Share event highlights, photos, and videos on social media and your website. Continue to nurture the relationships and connections made during the event.

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Preparing the concept with clear goals and objective with focus commodity/s and theme	APD	Directorates and Universities	

Planning and budgeting for buyer and seller meet	APD	Directorates and Universities	
Identify buyers and sellers and seek their interest to participate.	Directorates and Universities		
Organize the buyer seller meet	Directorates and Universities		

Product development

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Conduct a workshop of food technologists and entrepreneurs to brainstorm on new products from Jammu and Kashmir.	SKUAST-J and SKUAST - K	APD	
Engage a reputed institution/s to develop the identified product with quality standards.	SKUAST-J and SKUAST - K	APD	
Provide technology to the J&K entrepreneurs.	SKUAST-J and SKUAST - K	APD	

Brand development and promotion

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Engage an agency to develop brand strategy, brand identity, brand messaging, brand promotion and brand assets.	APD	Directorates and Universities	Department of trade and Industry
Based on the recommendations of the brand development agency, prepare brand promotion activities in both print and digital media.	APD	Directorates and Universities	Department of trade and Industry

Export/Logistic Hub

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Establish quality control labs	SKUAST-J and SKUAST-K	APD	
Engage an agency to assess the feasibility of establishing export hub/logistic park.	APD	Department of trade and Industry	
Based on this report make plans for establishment of an export hub/logistic zone	APD	Department of trade and Industry	

C. Incubation and start-up

Rationale

Agriculture is a vital sector for Jammu & Kashmir's economy. By nurturing innovative agricultural startups, the state's agricultural productivity, and in turn the livelihood opportunities and state's prosperity will be enhanced. Start-ups are crucial elements of a

state which contribute to sustainable development of the state, because they solve the fundamental issues faced by farmers and micro-enterprises.

Under this support, ideas generated, discussed, and supported will factor in climate change risks and incorporate suitable adaptation measures. These activities primarily target youth and women, aiming to educate them about climate change and its impacts on enterprises. An essential measure of success for the project will be the internalization of this knowledge among the youth and women, contributing to successful project outcomes.

Challenges faced by farmers and micro-enterprises

Farmers and micro-enterprises face crucial challenges which become barriers to their success, and in turn the success of the state and the nation. In J&K, they especially face a unique set of challenges due to the state's geographical and environmental characteristics. Here are some of the common problems faced by the farmers and micro-enterprises operating at a local level:

- **Limited Access to Markets:** Micro enterprises and small farmers in rural areas struggle to access wider markets for their products. Lack of transportation infrastructure and connectivity make it difficult to reach customers beyond local markets.
- **Seasonal Nature of Agriculture:** Agricultural activities are highly dependent on seasonal variations. Farmers face income fluctuations and financial instability during off-seasons.
- **Lack of Access to Finance:** The smaller stakeholders of agriculture have limited access to formal financial institutions, making it challenging to secure working capital or invest in modern technology and equipment.
- **Technological Gaps:** Outdated or traditional farming and processing methods hinder productivity and quality. Micro-enterprises lack access to modern agricultural technologies, knowledge, and practices.
- **Infrastructure Deficiencies:** Inadequate infrastructure, including storage facilities and transportation networks, lead to post-harvest losses and difficulties in maintaining product quality.
- **Access to Inputs:** Access to quality seeds, fertilizers, pesticides, and other agricultural inputs may be limited in rural areas, affecting the quality and yield of crops.
- **Climate Change Vulnerability:** J&K, like most mountainous states of India, is prone to climate change-related challenges, including erratic weather patterns and natural disasters like landslides and floods. These factors can adversely affect agriculture and agri-based micro-enterprises and farmers.
- **Limited Education and Training:** Lack of access to agricultural training and education lead to inefficiencies and lower productivity. Many farmers are not aware of best practices in farming and processing.
- **Marketing and Value Addition:** Micro enterprises struggle with marketing their products effectively and adding value to raw agricultural produce. They are not equipped with business skills and training. This results in lower profitability.
- **Access to Skilled Labor:** Finding skilled labour in rural areas for specialized tasks, such as processing or packaging, can be difficult. Farmers and micro-enterprises do not have access to these specialized skills.
- **Quality Control and Certification:** Meeting quality standards and obtaining necessary certifications can be daunting for micro-ventures and individual small farmers. Compliance with food safety and quality regulations is essential for market

access, which makes it difficult for farmers and micro-enterprises to compete with larger players.

- **Limited Networking Opportunities:** Individual farmers and micro-enterprises have limited exposure to industry networks and opportunities for collaboration with other businesses or organizations.
- **Environmental Sustainability:** Maintaining sustainable agricultural practices are challenging due to limited resources and awareness. Balancing productivity with environmental conservation is a constant concern.
- **Access to Technology and Digital Tools:** The digital divide prevents micro enterprises and farmers from utilizing technology for marketing, value chain management, and access to information.

How can Agri-Startups address the Challenges faced by farmers and micro-enterprises?

Agri startups have the potential to play a significant role in improving the livelihoods of small and marginal farmers in J&K by addressing some of the challenges these farmers face. Some of the mechanisms through which start-ups address the challenges discussed above and become extremely relevant for the agricultural ecosystem are as follows:

- **Access to Technology:** Agri startups can provide small farmers with access to modern agricultural technologies, such as precision farming tools, weather forecasting apps, and mobile-based farm management systems. These technologies can help farmers make informed decisions, optimize resource use, and increase yields.
- **Market Access:** Startups can create online platforms and mobile apps that connect small farmers directly to buyers, eliminating the need for intermediaries and ensuring fair prices for their produce. They can also help farmers access wider markets, including urban areas and even international markets, by facilitating transportation and logistics.
- **Financial Inclusion:** Agri startups can partner with financial institutions to offer digital financial services, including microloans and insurance products tailored to the needs of small farmers. Mobile-based payment systems can simplify transactions and reduce the risks associated with cash handling.
- **Supply Chain Optimization:** Agri startups can work on improving supply chain efficiency by offering services like cold storage, warehousing, and transportation solutions. This can help reduce post-harvest losses and improve the quality of produce. IoT-based monitoring can help small farmers and buyers track the condition of produce throughout the supply chain.
- **Access to Inputs:** Startups can create networks for the procurement and distribution of quality seeds, fertilizers, pesticides, and other agricultural inputs. This ensures that small farmers have access to essential resources for cultivation.
- **Crop Diversification:** By providing information and incentives for crop diversification, agri startups can help farmers reduce their dependence on single crops, mitigating risks associated with crop failure. Encouraging the cultivation of high-value crops or organic produce can also increase farmers' income.
- **Sustainability Practices:** Startups can promote sustainable farming practices, such as organic farming, water conservation, and agroforestry, to help small farmers maintain soil health and reduce environmental impact.
- **Collective Farming and Cooperatives:** Agri startups can facilitate the formation of farmer cooperatives or self-help groups, allowing small farmers to collectively access resources, negotiate better prices, and share risks. These cooperatives can also benefit from bulk purchasing and marketing support.

- **Weather and Climate Information:** Startups can offer real-time weather information and climate forecasts tailored to the local agricultural conditions in J&K. This helps farmers make timely decisions related to planting, irrigation, and harvesting.
- **Customized Farming Solutions:** Using data analytics and AI, startups can offer personalized recommendations to small farmers based on their specific crop types, soil conditions, and local weather patterns.
- **Government Support:** Agri startups can partner with government agencies to ensure that small and marginal farmers in J&K can access government schemes, subsidies, and support programs more effectively.

Overall, agri-startups can bridge the technological and informational gap that often hinders the progress of small and marginal farmers in J&K. Their innovative solutions can empower these farmers to enhance productivity, increase income, and improve their overall quality of life.

How can Incubation Centres facilitate the Operations and Success of Start-ups?

It is proposed to establish incubation centre hubs in SKUAST-J and SKUAST-J which are focused on agriculture and allied sectors. These centres will provide startups with essential resources such as workspace, mentorship, training, access to technology, access to funds, and networking opportunities. Some strategies and initiatives through which incubation centres can help support building a startup ecosystem in this sector are as follows:

- **Financial Support:** Create a fund or grant program specifically for agriculture startups. Offer financial incentives, subsidies, or grants to encourage innovation and entrepreneurship in the sector.
- **Technical Assistance:** Provide technical and agronomic support to startups, including access to agricultural experts, soil testing, and crop management guidance. Collaborate with agricultural universities and research institutions to offer specialized training.
- **Knowledge and Training:** Develop advanced training programs that provide start-ups with information on best farming practices, pest and disease management, sustainable agriculture techniques, and best business and management practices.
- **Market Access:** Facilitate market access for startups by connecting them with local and regional markets, food processing industries, and export opportunities. Establish farmer-producer organizations and cooperatives to help startups collectively market their products.
- **Technology Adoption:** Encourage startups to leverage technology for precision farming, data analytics, and farm management. Support the development and adoption of agricultural technology solutions tailored to the region's needs.
- **Capacity Building:** Organize workshops and skill development initiatives to introduce start-ups to farmers and negotiate joint agendas for greater farmer impact.
- **Research and Innovation:** Promote research and innovation in agriculture by fostering partnerships between startups, agricultural universities, and research institutions. Support research projects that address local agricultural challenges.
- **Infrastructure Development:** Invest in start-ups, who in turn invest in rural infrastructure, including drip-irrigation systems, cold storage facilities, and transportation networks, to reduce post-harvest losses and improve supply chain efficiency.

- **Access to Credit:** Facilitate access to credit and financial services for startups and farmers. Collaborate with financial institutions to create tailored loan and credit products for the agriculture sector.
- **Government Support:** Advocate for favourable policies and regulatory frameworks that support agricultural startups. Streamline land acquisition and leasing processes for farming ventures.
- **Promotion and Awareness:** Create awareness campaigns to highlight the importance of agriculture and allied sectors as viable career options. Encourage youth to consider entrepreneurship in agriculture.
- **Monitoring and Evaluation:** Implement a robust monitoring and evaluation system to track the progress and impact of startup initiatives in the agriculture sector. Make data-driven decisions to refine support programs.
- **Networking Platforms:** Establish local and regional agricultural startup networks and associations. Encourage collaboration, knowledge sharing, and peer support among startup founders.
- **Incentives for Innovation:** Offer innovation awards, recognition, or competitions to incentivize startups to develop solutions that address pressing agricultural challenges in the region.
- **Sustainable Practices:** Promote climate resilient and environmentally sustainable adopting 'cause no harm' approach among startups to ensure long-term soil and natural resource conservation.

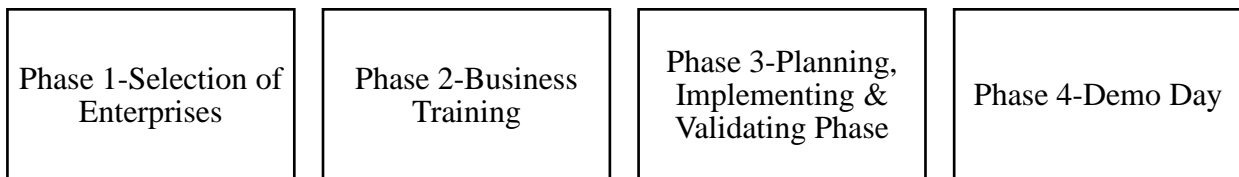
Proposed Project Activities

In order to establish an advanced entrepreneurship ecosystem in J&K over the next seven years, several activities are proposed, which are detailed below:

Mentorship of Incubation Centers

Two universities – SKUAST-J and SKUAST-K have been identified as the incubation centre hubs under the proposed project.

The Agri-Entrepreneurship Incubation Framework



Phase 1- Selection of enterprises

- The program starts with the awareness & application process followed by a careful selection of agri-business ideas/startups/enterprises in year one to go forward with the 24-month long acceleration process. The program will focus on providing business acceleration support to ideas/startups/enterprises from J&K.
- Inviting progressive farmers/FPOs/SHGs/federations/local academic institutions/ relevant departments/lead banks to be a part of two workshops one each in Jammu & Kashmir region of J&K.
- Posting an Advertisement of Program in regional Newspaper of J&K & Online Promotion

Phase 2- Business training phase

- In this stage, the entrepreneurs will go through two months of intensive experiential learning where they learn entrepreneurial skills and develop an entrepreneurial mindset in an online as well as physical class model at end of learning phase.

Need Assessment/Problem Statement	Business Description	Mission & Vision of Enterprise	Products Offering
Differentiation (USP)	Identifying Price Point	Process of manufacturing/ usage steps	Building Backward & Forward Linkage
Total Quality Management	Target Market- Identifying the Customers	Determining Market Size of Product	Latest Trends in Business
Effective Marketing Strategies	Managing Digital Communications	SWOT Analysis of Business	Pricing Strategies
Sales Channel & Distribution	Building Partnerships	Analysis of Competition	Team & Key Responsibilities
Bookkeeping & Accounting Records	Making Income & Expenditure Account	Understanding Profit & Loss Statement	Preparing Financial Projections & Making A Business Plan

Phase 3- Business Incubation- Planning, Implementing & Validating Phase

- In this phase, the chosen startups/enterprises will be supported to develop the MVP/Prototype, develop business strategy and access to finance along with to be market ready and implement the learnings from the initial learning & training sessions to develop a roadmap to take their business forward.
- In this Phase, the entrepreneurs will go through several business-related mentoring on topics such as conducting primary and secondary research, preparing a business plan, financial projection, managing business cash flows etc.

Phase 4- Demo Day

- The demo day/graduation day to be conducted at lead business incubator/Agriculture department HO marks the end of the yearlong acceleration program, where the entrepreneurs will pitch their ideas for investment.
- A grant amount of INR 5 lakhs per enterprise (amount not included in program budget) may be awarded to the top five entrepreneurs recommended by evaluation committee.
- All 20 participants will receive a business acceleration program completion certificate.

This yearly incubation program will be conducted by the lead business incubator every year following the processes set in the first year of operations. Over the entire duration of the project, it is expected that the hubs and spokes will collectively identify and support 500 agri-startups with annual incubation services.

Capacity Building of Incubation Centers

A capacity building program for agri-focused incubators is essential to equip these organizations with the knowledge and skills necessary to support agri-entrepreneurs effectively. The capacity building program should consist of a structure consisting of following:

- **Needs Assessment:** Starting with a comprehensive needs assessment to identify the specific challenges and areas where agri-focused incubators require capacity building. Understanding their current strengths and weaknesses.

- **Program Objectives:** Defining clear objectives for the capacity building program. These objectives may include enhancing agri-entrepreneurs support, improving organizational sustainability, and fostering innovation in agri-related startups.
- **Curriculum Development:** Creating a well-structured curriculum that covers key areas such as agri-tech, sustainable farming practices, business development, financial management, and marketing. This also entails tailoring the content to the specific needs of agri-focused incubators.
- **Expert Faculty and Resource Persons:** Inviting experts, industry professionals, and successful agri-entrepreneurs to serve as faculty and resource persons for the program; and ensuring they have practical experience in agribusiness and can provide valuable insights.
- **Training Modules:**
 - Developing training modules that focus on topics like:
 - Agri-tech trends and innovations
 - Sustainable and precision farming practices
 - Access to agricultural resources and funding
 - Building agri-entrepreneurship ecosystems
 - Market access and value chain development
 - Monitoring and evaluating agri-startup progress.
- **Practical Workshops:** Including hands-on workshops where participants can learn by doing. For example, organize field visits to agri-tech startups, farms, and agricultural research institutions.
- **Case Studies:** Sharing case studies of successful agri-startups, incubators, and innovations to provide practical insights.
- **Networking Opportunities:** Facilitating networking sessions and partnerships among agri-focused incubators, industry players, and other stakeholders.
- **Evaluation and Assessment:** Implementing regular assessments and evaluations to measure the impact of the program. Using feedback to make improvements and tailor the program to the needs of incubators.
- **Post-Program Support:** Offering ongoing support and mentorship to incubators as they implement what they've learned. Encouraging them to apply the knowledge and best practices in their programs.
- **Sustainability:** Discussing strategies for sustaining agri-focused incubators, including revenue models, funding sources, and partnerships. - Encouraging them to seek financial sustainability to continue supporting agri-entrepreneurs.
- **Certification:** Providing certificates to participants upon successful completion of the capacity building program.
- **Knowledge Sharing:** Creating a platform for incubators to share their experiences and knowledge, fostering a collaborative community.
- **Follow-Up:** Regularly following up with incubators after the program to track their progress and offer support as needed.
- **Impact Assessment:** Evaluating the impact of the capacity building program on agri-focused incubators and the startups they support. Share success stories and insights gained through the program.

Establishing Incubation Center Spokes

The Hub & Spoke model is a strategy often used to promote entrepreneurship and economic development in various regions. In this model, a central "hub" location serves as the primary centre for resources, support, and expertise, while "spoke" locations are distributed throughout the region to provide access and connectivity to entrepreneurs and businesses. This model aims to foster entrepreneurship, innovation, and economic growth by creating a network of support and collaboration.

The Hub & Spoke model can be applied to promote entrepreneurship as follows. The lead incubator working as Hub in Hub and Spoke model will provide the state-of-the-art infrastructure and world-class incubation facilities to the centres working as Spoke and to

the students, startups and incubates across the state of J&K. Incubation centre working as Hub will act as a Centre of Excellences (CoE) for the other satellite incubators (spokes) in the state. The Hub will assist in the capacity building of satellite incubators to set up at the district level. It will focus on commercializing new technologies, prototype research and development, patent filing, and creating new jobs, thereby strengthening the economy.

The lead incubator working as hub will have a dedicated incubation and startup specialist team with support staff. Key objectives of this model will be to:

- To encourage startups, college students and faculties to pursue Innovation and Entrepreneurship.
- Proactive engagement with industry to continuously promote and identify Innovation.
- To foster an ecosystem to generate ideas across disciplines that can be transformed into successful innovative technologies, products, and services.
- To develop human capital, by creating the right environment and support systems for learning, experimentation, and innovation from the early phases of education.
- Focus on creating sustainable funding models, through Govt. funds and other instruments.
- Encourage startups in Rural and Social Entrepreneurship space by providing additional incubation facilities.
- To provide mentorship, guidance, and support to envision startups.
- To collaborate with various J&K Govt Depts, Research Organizations, Industry and Funding agencies to promote and support innovation, technology development and startups.
- To create an institutional framework for effective implementation, monitoring and evaluation of this policy in the state via introducing the J&K-state incubator ranking framework and felicitate the innovations via J&K innovation awards.

Under this program, it is intended to utilize the existing KVK infrastructure to create 'Startup Centres of Excellence' in each district. These KVKs, along with district level universities, departments, it is and other academic setups, under the broad guidance of SKUAST-J and SKUAST-K, will develop an end-to-end Innovation and Entrepreneurial Startup Ecosystem in J&K, helping start-ups move the journey of "Ideation-to-Commercialization".

Conducting Bootcamps

For a budding entrepreneur, the process of preparing a business proposal with a financial plan is not so encouraging, and pitching for funding requires lots of hard work and effort. Even so much hard work and effort may fail to get the business off the ground. In such a case, boot camps could come to the rescue. Boot camps help start-ups or wannabe entrepreneurs in understanding the nuances of entrepreneurship, acquiring the necessary skills to write a business proposal and skills to effectively pitch. Boot camp is a space for budding entrepreneurs to meet others who are in the same boat as they are and learn from each other's experiences. It serves as a platform to learn, interact and get direct feedback from industry experts, start-up mentors and top-notch academicians.

Start-up Bootcamp is a one-of-a-kind platform that allows participants to work in a mentoring atmosphere and pitch before a panel of recognized industry experts on their idea. The sole goal is to show participants & future entrepreneurs, how to make a business plan and take a close look at their financial needs and prospects. It's also an opportunity to fix budding entrepreneur's idea shortcomings and offer them answers to their doubts.

Boot Camp Components

The workshop will have two parts covered in 02 days: Day 01 involves training sessions, guest lectures, and practice pitching and on Day 02, the final business pitches will be made by the teams to the evaluation committee for shortlisting among top 10 ideas across 20 districts of J&K.

Day 01
<ul style="list-style-type: none"> • Bootcamp Orientation • Startup Ecosystem in J&K • Finance & Accounting of an Enterprise • Developing Business Plan Canvas for a Business Idea • Leadership & Managing a Team in Startup • Scaling Up & Growth Strategies • Business Plan Training to Participants • Practice Pitching Sessions

Day 02
<ul style="list-style-type: none"> • Story of Renowned Enterprises-Audio Visual Mode • Talk of An Entrepreneur-Journey & Challenges • Business Plan Pitching • Mentoring Support to Individual Promising Ideas • Open Session for Doubt Clearing on Startup Support

Boot Camp Design



Conducting Hackathons

Hackathons focused on agriculture, often referred to as "Agri Hackathons," are events designed to bring together individuals, teams, and experts to develop innovative solutions to challenges in the agricultural sector. These events aim to foster entrepreneurship, enhance technological innovation, and address pressing issues in agriculture. The Agri Hackathons should have a clear objective which may include promoting agri-tech innovation, enhancing sustainable farming practices, or addressing specific agricultural challenges. The hackathon should have a specific theme or challenge that aligns with the agricultural sector's needs. Topics like precision agriculture, farm management, agri-finance, supply chain optimization, or climate-resilient farming may be considered to be the theme of conducting the Agri Hackathon.

Key Objectives for Conducting Agri Hackathon in J&K Agri Startup Support System

- Identifying the most exciting, innovative, and futuristic ideas to address the core challenge or theme identified in Agri Hackathon
- Building the connection between startups, agribusiness giants, policymakers & financial institutions bringing all on a single platform
- Brainstorming & discussions on challenges in Agri space & scope of Agri tech startups with subject matter experts
- Highlighting incubation & funding opportunities for scale-up

Ideal Candidates to Participate in Agri Hackathons

The Agri Hackathons conducted under IFAD supported Agri startups support program will be looking for Startups, innovators, students, researchers, and groups of individuals who

have developed or are developing technology-based innovations that have the potential to solve the problem of identified thematic challenge in the agriculture sector and the proposed solution demonstrates a business model sustainability. The solution must be focused on the given problem statements only and no deviation is entitled. The proposed solutions must have a Prototype before the jury.

Evaluation Criteria

- All the submitted applications would be scrutinized by our evaluators under different focus areas. Each application will be evaluated by a set of evaluators to ensure the best submission gets selected for the next round.
- The applications will be judged on different parameters, including but not limited to the problem statement, market need, the novelty of the idea/innovation, stage of development, scalability, potential impact, technical & financial feasibility, commercialization capacity, the team, and the overall business plan.
- The evaluation committee would reserve the right to select or reject any submission without assigning any reasons whatsoever and without thereby incurring any liability to the participant(s) whatsoever.

Rewards at Agri Hackathon

- Funding Opportunities- Startups/Ideas shortlisted for the grand finale may get a chance to participate in the centre supported Agri startup program subject to fulfilling evaluation criteria for selection in the RABI program.
- Incubation Support- Winners may be offered incubation support at lead Agri startups incubator.
- Business Connection- Startups/Ideas shortlisted for the grand finale will be introduced to agri-business companies for scaling up the solution to a larger market.
- The Event Plan: This event would be conducted in three stages. In the first stage, teams will submit concept notes on their problem statement. The concept note must not exceed 500 words. It should be explicit and must have a title, justification, methodology, potential impact, technological and economic feasibility, and conclusion. After the screening, selected participants will be notified to present their solution (product/practices) for the problem statement (offline/online/hybrid mode) before the expert committee in the second stage. About 15 minutes time will be allocated for the presentation and discussion. The presentation should focus on innovativeness, market need, scalability, technical and economic feasibility, budget requirement, stage of development, potential impacts, etc of the solution (product/practice). The right to reject any entry at any stage of this event remains with organizers if there are any discrepancies. The final decision/s of the judging committee will be acceptable to all and no representation against their decision/s will be accepted. Shortlisting of the top 20 startups/ideas will be done in this round. These 20 startups/ideas will participate in the physical hackathon event at SKUAST Universities.
- The hackathon will be a 02-day event where on day 01, startups will learn business basics from different faculty members & subject matter experts of agri business incubator. The grand finale will be organized on day 02 identifying the top 05 solutions working in the domain of specified theme in agriculture by a group of jury members consisting of investors, agribusiness representatives, subject matter experts, lead agri business incubators Professors & policymakers.
- The speakers, guests, investors, industry experts, and government officials may be invited to come together to discuss the potential future happenings in agricultural technology revolving around given topics.

Creating a year-long Incubation Support Programs

A year-long Incubation Support Program aims to provide startups with sustained guidance, resources, and mentorship to help them grow and succeed. Designing a year-long Incubation Support Program specifically tailored to agri startups requires a deep understanding of the unique challenges and opportunities in the agricultural sector. Here's a comprehensive plan for such a program:

- **Program Orientation and Needs Assessment (Month 1):**
 - Conducting a thorough needs assessment to understand the specific challenges and goals of each startup.
 - Setting clear expectations and program goals.
- **Mentor Matching and Onboarding (Months 1-2):**
 - Matching each agri startup with experienced mentors who have a background in agriculture, agribusiness, or related fields.
 - Conducting mentor-mentee onboarding sessions to establish communication guidelines and goals.
- **Agri-Specific Workshops and Training (Months 2-6):**
 - Organizing a series of workshops and training sessions that address agriculture-specific topics.
 - Covering areas such as sustainable farming practices, agri-tech, market access, and value chain development.
 - Inviting industry experts, agronomists, and successful agri-entrepreneurs as trainers.
- **Access to Agricultural Resources (Throughout):**
 - Providing startups with access to agricultural resources, such as farmland for testing and experimentation, agricultural machinery, and research facilities with assistance from agri business incubation centre
 - Facilitating partnerships with local agricultural research institutions and cooperative farms.
- **Business Model Refinement (Months 6-8):**
 - Helping startups refine their business models and go-to-market strategies.
 - Encouraging them to incorporate sustainable and innovative approaches into their plans.
 - Supporting the development of prototypes or pilot projects for agri-tech solutions.
- **6. Market Expansion and Value Chain Integration (Months 8-10):**
 - Assisting startups in exploring new markets, forming partnerships with distributors, and integrating into agricultural value chains.
 - Focusing on increasing access to markets, including local, regional, and international markets.
- **7. Investment and Funding Readiness (Months 10-12):**
 - Preparing agri startups for investment opportunities by providing training in investor pitch development, financial management, and due diligence.
 - Facilitating connections with potential investors, impact funds, and grants specific to agriculture.

- 8. Field Trials and Scaling (Months 10-12):
 - Supporting startups in conducting field trials, scaling up their agricultural practices, or expanding agri-tech solutions.
 - Monitoring progress and provide guidance on scalability challenges.
- 9. Demo Day and Graduation (Month 12): - Organizing a Demo Day event where agri startups can present their progress and innovations to investors, industry experts, and potential partners. - Celebrating the graduation of startups from the program, recognizing their contributions to the agricultural sector.
- 10. Post-Program Support and Alumni Network (Beyond Year 1): - Establishing an alumni network to facilitate ongoing collaboration and knowledge sharing among graduates. - Continuing to provide support and mentorship to alumni as they navigate the challenges of scaling their agribusinesses.
- 11. Evaluation and Program Enhancement (Throughout and After): - Continuously evaluating the program's effectiveness and impact on agri startups' growth and sustainability. - Using feedback and data to improve and refine the program for future cohorts.
- 12. Outreach and Promotion (Throughout): - Promoting the program within the agricultural community and among potential agri-entrepreneurs. - Sharing success stories and outcomes to attract new participants and mentors.

Building a module for regular entrepreneurship training

There seems to be an immediate need for building a module for entrepreneurship training to be adopted for participants planning to start an agri focused startups in Jammu & Kashmir. These modules may be delivered to enthusiastic agri-entrepreneurs through identified spokes at different location. The training envisions equipping participants with the fundamental knowledge and skills required to start and grow a successful business. The entrepreneurship modules will provide practical insights into entrepreneurship through real-world case studies and interactive activities. This will foster an entrepreneurial mindset and problem-solving abilities among participating entrepreneurs. The entrepreneurship training may be designed to be delivered in 03 months following below mentioned modules in general-

Session 1: Introduction to Entrepreneurship (Week 1)

- Define entrepreneurship and its importance.
- Explore different types of entrepreneurships (e.g., small business, social enterprise, tech startup).
- Discuss the mindset and qualities of successful entrepreneurs.

Session 2: Idea Generation and Validation (Week 2)

- Methods for generating business ideas.
- Techniques for validating and refining business concepts.
- Conducting market research and identifying target audiences.

Session 3: Business Planning (Week 3)

- Creating a comprehensive business plan.
- Components of a business plan: executive summary, market analysis, operations, financial projections, and more.
- Setting clear business goals and objectives.

Session 4: Legal and Regulatory Considerations (Week 4)

- Overview of legal structures (e.g., sole proprietorship, LLC, corporation).
- Registering a business and complying with local regulations.
- Intellectual property protection.

Session 5: Funding and Financial Management (Week 5)

- Sources of startup capital (e.g., personal savings, loans, investors).

- Basics of financial management, budgeting, and cash flow.
- Preparing financial statements and forecasts.

Session 6: Marketing and Sales Strategies (Week 6)

- Developing a marketing strategy and plan.
- Effective branding, digital marketing, and traditional marketing techniques.
- Sales techniques and customer relationship management.

Session 7: Operations and Scalability (Week 7)

- Managing day-to-day operations efficiently.
- Scaling a business, growth strategies, and expansion considerations.

Risk management and contingency planning.

Session 8: Leadership and Team Building (Week 8)

- Leadership skills for entrepreneurs.
- Building and leading effective teams.
- Handling challenges related to human resources.

Session 9: Innovation and Adaptation (Week 9)

- Encouraging innovation within the business.
- Adapting to market changes and disruptions.
- Case studies of businesses that successfully pivoted.

Session 10: Pitching and Investor Relations (Week 10) - Crafting an effective business pitch. - Building investor relations and seeking funding opportunities. - Practicing pitch presentations.

Session 11: Networking and Building a Support System (Week 11) - The importance of networking in entrepreneurship. - Strategies for building a professional network. - Leveraging mentors and support organizations.

Session 12: Graduation and Next Steps (Week 12) - Reflecting on the entrepreneurship journey. - Setting goals and action plans for the future. - Graduation ceremony and certificate distribution.

Assessment and Evaluation:

- Participants can be evaluated through assignments, quizzes, and a final project where they apply what they've learned to create a business plan or pitch.
- Regular feedback and self-assessment can be encouraged to track progress and identify areas for improvement.

Resources:

- Providing participants with reading materials, templates, and access to online resources related to entrepreneurship.
- Guest speakers, entrepreneurs, and industry experts can be invited to share their experiences and insights.

Creating a challenge fund

Creating a challenge fund for agri startups in Jammu & Kashmir is an excellent way to incentivize innovation, address agricultural challenges, and support the growth of the agri-entrepreneurship ecosystem in the region. The objective of challenge fund includes promoting agri-tech innovation, improving agricultural productivity, enhancing food security, and fostering entrepreneurship in the agricultural sector.

Identifying Focus Areas and Challenges:

- Incubation partner needs to collaborate with experts, stakeholders, and the agricultural community to identify specific focus areas and challenges within the agricultural sector. These could include topics like sustainable farming practices, water management, pest control, agri-tech innovation, and more.

Eligibility Criteria for Participation in Challenge Fund:

- Agri startups based in J&K.
- Farmer Producer Organizations (FPOs)
- UG/PG/Research Students of J&K Based Academic Institutions with Innovative Solutions in Agriculture Space for J&K
- Progressive Farmers of J&K
- SHG/VO/CLFs Engaged in Agriculture & Allied Activities

Amount of Challenge Fund

The amount of challenge fund to be distributed to winning startups/enterprises per year per startup should be INR 5.00 **lakhs**. A maximum of 75 agri based startups may be allocated with the challenge fund in any financial year.

Promotion and Outreach:

- Launching a robust marketing and outreach campaign to promote the challenge fund.
- Using various channels, including social media, local media, agricultural forums, and partnerships with universities and research institutions, to reach potential participants.

Application and Evaluation:

- Opening the application process and providing startups with ample time to prepare and submit their proposals.
- Assembling a diverse panel of judges or evaluators with expertise in agriculture, agri-tech, and entrepreneurship.
- Evaluating proposals based on predefined criteria, such as innovation, feasibility, impact, and scalability.

Further funding to Startups and Creating Convergence with Other Schemes

Agri startups and entrepreneurs supported under IFAD startup support scheme through challenge fund or winning amounts in ideathon/hackathon will be monitored on various parameters including increment in topline, adding new customers & partners, positive EBITDA, customer retention, operational efficiency in business. The startups with positive cash flow and convincing balance sheet should be supported with the next round of funding by linking them with different startup support schemes run at regional and national level. A few of these schemes run at regional & national level are as follows:

RKVY RAFTAAR Agri Business Incubation Program- Under this, financial assistance of a maximum of Rs. 25 lakhs will be provided to potential startups that have a minimum viable product (MVP) based on innovative solutions, processes, products, services, and business models in the agriculture and allied sectors.

Agriculture Accelerator Fund- An Agriculture Accelerator Fund has been set up to encourage agri-startups by young entrepreneurs in rural areas under Union budget 2023-24. The fund will aim at bringing innovative and affordable solutions for challenges faced by farmers. It will also bring in modern technologies to transform agricultural practices and increase productivity and profitability.

Startup India Seed Fund Scheme- Startup India Seed Fund Scheme (SISFS) aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry and commercialization. This would enable these startups to graduate to a level where they will be able to raise investments from angel investors or venture capitalists or seek loans from commercial banks or financial institutions. The startups will be provided a financial support up to INR 50 lakhs based on the recommendation of investment committee of respective incubation centres supported by Govt of India under this scheme.

Venture Capital Firms & Private Investors- Along with government funding to agri startups, there lies a huge opportunity of attracting private investors focused on the agriculture sector. An annual investor summit may be organized for supported agri startups

in J&K inviting private investors to become a part of the event. A few of investors for this purpose have been listed below:

Omnivore	Ankur Capital	Indigram Labs	Avishkar Capital
Omidyar Network India	Acumen Fund	Yournest Ventures	Orios Ventures
Blume Ventures	Elevor Equity	Indian Angel Network	Better Capital
Qualcomm Ventures	Artha Ventures	Matrix Partners	LetsVenture

Linking the Agri Startups with J&K Startup Policy- The policy provides various benefits and incentives to the entity recognized as a start-up. The government provides co-working space with uninterruptible high-speed internet to the selected recognized start-ups besides a monthly allowance of Rs. 10,000 (for a period of one year) is also being paid to the start-ups. Similarly, startups are provided one-time assistance of Rs 10 Lakh for Product Research and Development/Marketing/Publicity. The scheme also has the provision of a 100 per cent subsidy on the purchase and installation of Diesel Generator set Solar/Wind Generator or Hybrid Solar Wind Systems to recognized start-ups.

Connecting with NABARD's Venture Capital Arm NABVENTURES- NABVENTURES Limited is a wholly owned subsidiary of NABARD. NABVENTURES is the Investment Manager of NABVENTURES Fund I with a target corpus of INR 500 crore. The fund focusses on investments in early to mid-stage start-ups in agriculture, agtech, agri-biotech, food, agri/rural fintech and rural businesses.

Risk mitigation measures

The project will pilot risk mitigation measures to reduce the perceived risk for financial institutions, making them more willing to provide loans to rural borrowers/small farmers who often face greater income volatility and less predictable cash flows. These schemes play a crucial role in promoting financial inclusion and supporting economic development in rural areas. The project will during implementation will engage consultants to review the credit uptake, and repayment performance by smallholders in project funded activities such as agricultural and horticultural crop expansion and enterprise promotion and design appropriate products in consultation with APD and the participating financial institutions.

Climate risk will be regarded as one of the credit risks during risk assessment and while proposing solutions. This approach will aid entrepreneurs in understanding the types and levels of risks, the methods used for assessment, and the identification of a range of adaptation or mitigation measures available to them.

Implementation Steps

- APD to entrust the task of incubation centre establishment and start-up support to SKUAST-Jammu and SKUAST-Kashmir.
- Chief Executive of the Incubation centre to visit IIM-Jammu and IIT-Jammu to understand their processes and procedures in start-up promotion.
- Engage IIM-Jammu and IIT-Jammu as mentors for the Incubation Centres.
- Establish Incubation Centre Spokes in the KVK of each district.
- Conduct bootcamps/Ideathons in each district.
- Provide mentoring support to select ideas/concepts.
- Conduct challenges for providing seed capital to select start-ups.
- Continue providing mentoring support.
- Link the start-ups to other sources of finance.

Implementation responsibility

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Entrust the task of incubation centre establishment and start-up support to SKUAST-Jammu and SKUAST-Kashmir.	APD	SKUAST-J and SKUAST-K	
Organize visit of Incubations centre staff to IIM-Jammu and IIT-Jammu	SKUAST-J and SKUAST-K		
Engage IIM-Jammu and IIT-Jammu as mentors for the Incubation Centres.	SKUAST-J and SKUAST-K		
Establish Incubation Centre Spokes in the KVK of each district.	SKUAST-J and SKUAST-K	KVK	
Conduct bootcamps/Ideathons in each district.	KVK	SKUAST-J and SKUAST-K	
Provide mentoring support to select ideas/concepts.	SKUAST-J and SKUAST-K	KVK	
Conduct challenges for providing seed capital to select start-ups.	SKUAST-J and SKUAST-K		
Continue providing mentoring support.	SKUAST-J and SKUAST-K	KVK	
Link the start-ups to other sources of finance.	SKUAST-J and SKUAST-K		

III. Support to Vulnerable Communities

A. Support to Pastoralists

Introduction

The major vulnerable communities of Jammu and Kashmir are pastoralists. And majority of them are Bakarwals and Gujjars. They have been recognized as Scheduled Tribes (ST). They are primarily nomadic and semi-nomadic communities and have a distinct way of life, culture and traditional knowledge that have been shaped by their close relationship with their animals and the unique environment of the region.

Livestock is an important sector in the economy of Jammu and Kashmir (J&K).The pastoralists adopt sheep, goat and buffalo rearing as prime occupations. There are 3.04 million sheep,1.5 million goats and 0.7 million buffaloes in J&Kas per 20th Livestock Census. Besides these horses, ponies and mules too have a sizable number of 0.08 million mainly reared by these vulnerable communities.

Jammu and Kashmir, a region with diverse climatic conditions, holds great potential for the wool sector. Its geography, including high-altitude pastoral areas, makes it an ideal location for sheep rearing and wool production.

Wool has been a traditional livelihood and source of income for many communities in the region, mainly the fringe pastoralist communities like Bakarwals and Gujjars. The wool sector has played a crucial role in the socio-economic development of Jammu and Kashmir from ages. Wool production and related activities contribute significantly to the state's economy. It provides livelihoods to a large population, particularly the transhumance which counts to more than 0.9 million.

Jammu and Kashmir is the second-largest producer of wool in the country. J&K produces approximately 70 lakh kg (7000 MT) of wool per year. Unfortunately, even with such a high production, the wool is not up to the quality standards of woollen industries of India. The wool is not processed in the region due to the lack of proper infrastructure and development of the wool value chain (VC). On the contrary, the raw wool is transported to Punjab and Haryana for processing and subsequently, the finished products like yarn, blankets, apparel, and many other items are supplied to the Valley. This way wool growers of the region are not getting enumerative returns.

Constraints

Climate Changes: Pastoralists are among the most vulnerable communities to the impacts of climate change. They migrate seasonally to graze their livestock and are at the forefront of bearing the negative effects of climate change. Changes in weather conditions, non-availability of water sources and the quality and quantity of grazing lands affect livestock health and productivity.

Limited Infrastructure: The lack of modern infrastructure, including wool processing units and storage facilities, hinders the sector's growth. Inadequate transportation and connectivity add to the challenges.

Quality Control: Inconsistent wool quality due to poor breeding practices and lack of standardized testing and grading facilities makes the produced wool uncompetitive to market.

Marketing and Market Access: Limited market access and marketing networks for wool producers. The absence of value addition and branding hamper the sector's profitability.

Seasonal Dependency: The wool sector's activities are highly seasonal, leading to income instability for wool producers and there is a lack of off-season employment opportunities for youth of the community.

Technical Knowledge: Limited awareness and training among farmers on modern sheep-rearing practices and good wool production. There is a need for sustainable and eco-friendly techniques in wool production.

Land Rights and Displacement: Pastoralists in J&K have faced historical challenges of land rights and displacement. Many of them have limited or no formal land titles, making their traditional grazing lands vulnerable to encroachment and land-use changes.

Low Price for Wool: The wool produced in Jammu and Kashmir are of average 24 micron or more and does not match the Indian wool apparel industry's demands of finer wool of less than 20 micron, which they import from outside of the country. J&K wool fetches only INR 25-35 per kg whereas import fine wool comes at a very high price of INR 800-1000 per kg.

Less developed Alternative Income Sources: Pastoralists depend on Goat rearing and equines for their additional source of income since the ages. Unfortunately, due to unstructured and unplanned breeding practices not much has been achieved so far in development of these sectors.

Interventions Proposed

JKCIP project proposes the following interventions for Wool sector development in Jammu and Kashmir:

- Wool Value sector support covering wool supply chain feasibility study, multi-stakeholders' platforms, support to the Wool Sector and wool processing units with Private Partners
- The proposed value chain study aims to evaluate their climate vulnerability and recommend practical adaptation measures along with diversified income-generating activities.

Besides these, as additional support to pastoralists' livelihood following is being proposed:

- Goat Breed Improvement
- Ponies, Horses, Mules (Equines) Breed Improvement feasibility study
- Equines Breed Improvement

The project planned activities directly correlates with the goal of boosting income and establishing diverse income-generating opportunities, including skill development and employment generation, for tribal communities, thereby enhancing their resilience to both economic challenges and climate-related impacts.

Wool sector support

Objective: The primary objective of the wool value chain study is to conduct a comprehensive assessment of the wool sector including industry in Jammu and Kashmir. The study aims to gather accurate and up-to-date data on various aspects of wool production, processing, marketing, and consumption.

There is a need to review the current situation by undertaking a comprehensive study of the wool value chain and assess its growth potential. The study should become a reference for future development of the wool industry and policy making in J&K.

The study will aim to cover a representative sample of wool-producing areas/wool processing within J&K, considering factors such as production volumes, the diversity of sheep breeds along with shearing/grading and marketing of raw wool, and the presence of various value chain actors along facilities for marketing of finished goods.

Rationale: To develop a robust wool value chain from productivity and quality enhancement to market linkages with the interest of fetching better returns to wool growers, a feasibility study of the wool sector in Jammu and Kashmir is essential to assess the viability and potential for growth and development in this sector.

The study will focus on the complete ecosystem of wool production of pastoralists and other wool producers. Depts. of Sheep Husbandry and Tribal Welfare of GoJ&K have started many programs and schemes for support to pastoralists. Still, a comprehensive plan for the complete value chain development of wool with an eye for competitiveness in the marketing nationally and internationally is the need of the hour.

Although India has the 3rd largest number of sheep, it depends on the import of fine quality wool for application in woollen clothing. India imported USD 232.35M (approx. INR 1931.59cr) of raw wool in 2022-23 becoming the 2nd largest importer of wool in the world. India imports wool primarily from Australia, New Zealand, Syria, China and South Africa. The main importers of raw wool (greased not carded and combed) in India are Raymond Limited, Shree Ram Woollen Industries, Grentex & Co. Pvt. Ltd, Rane Brake Lining Ltd etc.

Indian woollen industry's demand and import of raw wool in large quantities opens opportunities for the wool sector in Jammu and Kashmir. Thus, comprehensive support to pastoralist wool producers and developing complete wool chain development will boost the financial status of these communities.

A comprehensive study will help identify opportunities for economic growth and development in the region, especially in the context of wool production, which is a significant contributor to the local economy.

The wool sector provides livelihoods for a large number of people in the region. Assessing its feasibility can lead to strategies for enhancing income and improving the quality of life for those involved in the sector.

The study can explore ways to add value to the wool produced in Jammu and Kashmir, potentially increasing its **market value and competitiveness.**

With climate change and environmental concerns, the study can evaluate the sustainability of current practices and suggest environmentally friendly alternatives.

Terms of Reference for Wool Industry Consultant/Consultants for study

The project should select an agency to field a team of consultants to study the wool sector. The terms of reference of the study include:

- Conduct a survey of pastoralists covering their migratory routes, wool shearing habits, wool shearing schedules, wool shearing seasons and locations, the current quality of wool produced compared to the market demand and quantity available in different locations, current marketing practice and price realization.
- Conduct market research for marketing J&K wool, identify issues related to marketing and reasons for the inability of J&K farmers to get better prices.
- Develop strategies for improving the wool sector of J&K with private-sector participation.
- Identify potential private sector partners interested in collaborating with GoJ&K for investment in the wool sector and prepare guidelines for private sector participation.
- Prepare a detailed project report for investment in the wool sector considering techno-economic feasibility.

Implementation steps

- Conduct a study of wool industry, wool mandis and wool markets in the country by a team to be selected by the PMU comprising officers from the Directorate of Sheep Husbandry, Department of Industry and Commerce, representatives of communities, representatives of NGOs working in the wool sector and the Universities.
- The team to prepare a report comprising the market scenario, wool prices, comparative quality and price analysis, minimum quantity requirements, issues in marketing of J&K wool, and recommendations for improving the wool sector and present it to the JKCIP-PMU.
- Engage an agency to conduct a comprehensive study of the wool sector. ToRs provided above.
- Submission of the report by the agency and a presentation of its findings to the JKCIP-PMU.
- Submission of a detailed project report with techno-economic feasibility for private sector engagement.
- Private sector consultation and firming up wool sector development plan.

The implementation responsibility chart is provided below:

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
A wools market survey by the officials of GoJ&K	APD	DoSH	
Engage an agency to conduct a wool sector study	APD	DoSH	
Review the recommendations of the wool sector study	APD	DoSH	
Take steps to implement activities agreed	APD	DoSH	Private sector

2. Goat breed improvement

Objectives

Jammu and Kashmir has varied agro-climatic and geo-physical conditions (high mountains, low hills and vast meadows), rich alpine pastures, host of other natural endowments and unique socio-cultural setup suitable for livestock production. The farm animal biodiversity in the J&K closely follows the geographical diversity.

Among all farm animals, goats are considered the most reliable livelihood resource of poor farmers. Goats are easy to manage and maintain owing to their small size and they can sustain a wide range of agro-climatic conditions. Goat is an efficient converter of the sparse vegetation available in wastelands, community grazing lands and tree leaves into milk, meat, skin manure, and fibre.

In J&K important breeds of Goats are Bakerwali and others are nondescript goats. Nomadic Gujjars and Bakerwals maintain the Bakerwali Goats. The goats are being used mainly for meat purposes. There is a need for improvement of breeds of these goats for better growth and for maintaining high value germplasm. Distribution of high-quality male bucks to goat farmers for natural breeding is being proposed as an intervention through JKCIP.

Rationale:

More often goats are reared for production of meat called **Chevon**. On an average J&K is consuming 50,000- 60,000 MT of mutton (sheep meat) every year with local production of about 30,000-35,000 MT which makes the J&K dependent on 15000 to 30000 MT of meat coming from other neighbouring states.

With exponential increase in tourist influx the demand for **Chevon** (goat meat) is increasing in J&K day by day. Thereby creating huge opportunities for breed improvement of goats in J&K for Chevon and thus providing additional lucrative sources of income to marginalized and poor farmers.

There is great scope for rearing goats for meat and milk production under semi-intensive and intensive systems of management. A complete management programme with respect to breeding, nutrition, management, health care and economics is required to improve goat production in J&K.

Implementation steps:

- Identification and selection of Goat rearers in a cluster in sub-tropical and tropical regions in J&K having at least 10-20 female goats, as beneficiaries.
- Preference will be given to women and unemployed youth of pastoralists and Gujjars who are not migratory and settled.
- 250 identified beneficiaries in a cluster may be termed as a Goat Valley. 04 such clusters will be developed in 04 years, 01 in each year. 02 in Kashmir and 02 in Jammu region.
- Each identified beneficiary having 10-20 goats shall be provided 01 improved quality Buck for breed improvement.
- The breeding bucks already with the beneficiary shall be castrated or replaced by improved quality bucks.
- Initially as per the Livestock Breeding Policy of J&K the quality bucks for distribution shall be arranged from neighbouring states.
- The Bucks coming from outside must be examined and quarantined for at least 15 days before distribution to beneficiaries to avoid disease outbreaks and to ensure best adaptability and performance.
- The Govt Goat Breeding farms and private goat entrepreneurs shall be strengthened and encouraged to be developed as nucleus mother farms as a hub.
- The convergence with the GoI scheme of NLM for Goat Breed Multiplication should also be incorporated.

- In the second year onward in the project the distribution of improved breeding bucks should mainly be sourced from the Govt Goat breeding farms and private entrepreneurs making an economically viable value chain for them.
- An effective MIS and structured breeding plan would be developed by JKCIP-PMU.

The implementation responsibility chart is provided below:

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identification and Selection of beneficiaries	DoSH	APD	
Prepare a structured breeding plan	DoSH	APD	
Strengthening of existing Govt Goat farms as breed multiplication and quarantine station	DoSH	APD	GoI-NLM
Purchase of improved Bucks from neighbouring states and their quarantine	DoSH	APD	
Distribution and replacement of Bucks	Farmers	DoSH	APD
Monitoring and Evaluation of performances and improvement in breed	DoSH	APD	

3. Equine breed improvement

Objectives:

Population of equines like horses, ponies and mules in J&K is 0.14 million and it also ranks second after Uttar Pradesh in India.

Bakarwal community, the pastoralists of Jammu and Kashmir are mainly associated with equine rearing. The community mainly uses equines as pack animals during yearly migration along with other animals and rents them for yatras (pilgrimage) in the hills. Majority of Bakarwals and pastoralists having Horses, Ponies and Mules are landless and only 5.03% have marginal land holdings. They have no permanent residence. Each pastoralist's family has on average 1-6 equine animals along with other livestock such as cattle, buffaloes, sheep and goats. Traditionally the Bakarwals are not open to adopting new methods, techniques and innovations evolved over years in equine breed improvement. Breed characterization and documentation of the local equine population too have not been undertaken so far. Equine breed improvement in Jammu and Kashmir can be a crucial initiative to enhance the quality and productivity of equine populations.

Rationale:

The feasibility study for breed improvement of horses, ponies and mules in Jammu and Kashmir is essential to improve the genetic makeup of local equine breeds to produce animals with desirable traits such as strength, endurance and temperament. Also, to safeguard and conserve the unique local equine breeds that may be under threat of extinction due to unplanned and ignorant breeding practices or other factors. The outcome of this study will promote equine-related livelihoods and empower local communities by enhancing the value and utility of equines. Enhancing equine breeds can improve their overall health and welfare, reducing the risk of diseases and injuries.

Terms of reference for the equine breed improvement study:

The SKUAST-Kashmir in its campus of Faculty of Veterinary Sciences and Animal Husbandry has a Ponies research centre. The faculties and scientists of this organization may be entrusted to carry out this study. The terms of reference for study should include:-

- A comprehensive survey to collect data on the existing equine population. Documentation of the distribution, numbers, and breed characteristics of equines in the region.
- Evaluation of the genetic diversity and traits of indigenous equine breeds. Assessment of the potential for crossbreeding and its impact on local breeds.

- Analysis of existing breeding practices, including mating techniques and selection criteria. Identification of areas for improvement in breeding management.
- The healthcare and nutrition practices for equines. Evaluate the welfare conditions and identify areas for enhancement.
- Engagement with local communities, equine owners and stakeholders to gather insights and input on breed improvement.
- A comprehensive report detailing the findings and recommendations for equine breed improvement in Jammu and Kashmir.

Implementation Steps:

- A team should be formed by the University to carry out the study, consisting of faculties, scientists, research scholars, field veterinarians from Deptt of Animal/Sheep Husbandry J&K, representatives of the community and NGOs working for the equine welfare in the region.
- As per the ToRs, the team is to prepare a plan of actions and timeline in coordination with JKCIP-PMU.
- The team conducts surveys, data collections, evaluation, analysis and preparation of recommendations.
- Submission of the report by the team and a presentation of its findings to the JKCIP-PMU and all stakeholders.
- Implementation of Activities as per the agreed recommendations.

The implementation responsibility chart is provided below:

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Formation of Study Team	SKUAST-J&K	APD	
Conduct the equine breed improvement study	SKUAST-J&K	APD	
Review the recommendations of the study	APD	APD	
Take steps to implement activities agreed	APD	SKUAST-K&J	

B. Support to other vulnerable groups

Introduction

Besides Bakarwals, other major vulnerable communities of J&K are Gujjars and Fisherfolk. Gujjar community is one of the largest ST communities which is largely settled but seasonally migrates to the neighbouring districts in search of fodder for their cattle, buffaloes, sheep, goats and other livestock. ST communities and the fisherfolk communities are vulnerable communities on account of their isolation from the mainstream communities and dependent on common property resources. These communities depend on livestock and fish farming and forefront of experiencing impacts of climate change.

Constraints

Gujjars and fisherfolk communities in J&K face various constraints and challenges when it comes to their livelihoods and employment opportunities.

- Both Gujjars and fisherfolk often reside in remote and geographically isolated areas, making it difficult to access markets, healthcare, and education facilities. This isolation can hamper their economic prospects.

- The livelihoods of fisherfolk are often dependent on seasonal variations in fish availability and Gujjars are primarily engaged in seasonal livestock farming. This seasonality can lead to income instability and financial vulnerabilities.
- These communities may lack awareness and opportunities for diversifying their income sources. Relying solely on traditional occupations can make them vulnerable to economic shocks.
- Limited access to formal financial institutions and credit options can hinder their ability to invest in productive assets and upgrade their livelihoods.
- Lack of access to modern technology for fishing and livestock management is also a constraint.
- In some cases, the communities may face challenges related to land and resource rights, which can affect their ability to engage in their traditional livelihoods.
- They are more exposed to climate change impacts. Their key means of livelihood, fish and livestock sectors, are more sensitive to the impact of climate change making their traditional livelihoods more challenging.
- Both Gujjars and fisherfolk may face difficulties in accessing markets to sell their products, often due to geographical isolation and lack of transportation infrastructure.
- Limited access to skill development and vocational training opportunities can hinder their ability to adapt to changing market demands and take up alternative income-generating activities.
- These communities can face social discrimination and marginalisation, which may limit their access to various government programs and services.
- Lack of proper facilities and infrastructure for post-harvest handling, storage and value addition, which can result in product losses and reduced incomes.

Interventions Proposed:

The planned project activities are closely linked to the objective of increasing earnings and creating various income-generating chances, such as enhancing skills and generating employment, for vulnerable communities. This aims to strengthen their ability to withstand economic difficulties and the effects of climate change.

To facilitate the vulnerable communities of Gujjars and fisherfolk, the project envisages to support the development of the milk supply and value chain by establishing 12 milk collection and 08 associated milk processing units preferably with women SHGs and supporting in development of market linkages.

The settled sheep/goat farmers of these communities will be supported with provision of providing 800 units of 10 female and 1 male animals to augment their income and livelihood.

For vulnerable communities of fisherfolk 10,000 ice boxes for preserving, transporting and marketing have been incorporated in the project proposal.

Additionally, the youth and women of these vulnerable communities will be supported with establishment of 1,250 livestock-based enterprises and startups with the aim of boosting employment opportunities.

1. Milk supply chain improvement

Objectives:

There is a great demand for establishing milk processing units in J&K because J&K is still miles away from attaining self-sufficiency in milk and milk products. Presently J&K is receiving per day 11,000 litres of processed milk and 51,000 litres of raw milk from Punjab and other neighbouring states.

The current milk production is 697.5 thousand tonnes and 732.91 thousand tonnes with marketable surplus of 235.06 thousand tonnes and 246.98 thousand tonnes in the divisions of J&K, respectively. Though Jammu division has more marketable surplus, but milk producers are scattered on hilly tracts at longer distances from the main consumption centres.

Jammu and Kashmir Milk Producers Cooperative Limited (JKMPCL) is the oldest organisation with two milk plants, one each at Srinagar and Jammu, and is the state level federation of 186 and 130 dairy cooperative societies, respectively.

Supporting the development of the milk supply and value chain in Jammu and Kashmir for vulnerable Gujjar communities at village level is a valuable initiative to improve their livelihoods and socio-economic well-being.

Almost all families in the community rear the cattle or buffaloes for milk production and its marketing. Average numbers of milch animals with each family is 2-5 animals with average daily surplus milk of 20-50 litres for sale. But due to lack of milk collection cold chain (Bulk Milk Coolers) and milk processing facilities at village level, the surplus marketable milk either does not fetch good prices or gets destroyed.

With development of community/SHGs based dairy, milk collection units and village-based milk processing units, an economically viable competitive milk value chain would be established.

Rationale:

- Dairy farming provides a year-round income source, reducing the dependence on seasonal livelihood activities.
- Involving women's SHGs empowers them economically and socially, contributing to gender equality.
- Establishing processing units and market linkages ensures that the produced milk is processed efficiently and reaches consumers, improving market access and profitability.
- Dairy products are a valuable source of nutrition, which can help improve the health and well-being of the communities.
- Promoting sustainable and eco-friendly dairy practices aligns with long-term environmental and animal welfare goals.

Implementation steps:

- The Department of Animal Husbandry in Jammu and Kashmir (DoAH J&K) with support from JKCIP-PMU and in collaboration with JKMPCL would conduct a comprehensive needs and market assessment with local dairy farmers to understand their specific requirements putting emphasis on processing and market linkages. A detailed project plan with inputs from stakeholders would be prepared by them.
- DoAH J&K will identify the 12 SHGs and places where milk is available in surplus and where Milk Collection Units (BMCs) with capacity of 500/1000 ltrs may be established in both divisions of J&K.
- DoAH J&K will also identify the common strategically located places where 08 small/medium sized Milk Processing Units(MPUs) for pasteurisation, value addition, packaging and marketing may be established.
- Capacity building and training to SHG members, especially women on modern dairy farming practices, animal husbandry, and milk handling. Train women's SHGs in entrepreneurship, business management and cooperative principles by DoAH J&K and SKUAST J&K.
- Improvement of quality of the communities' livestock by providing access to high-yielding dairy breeds and artificial insemination services. Convergence with

ongoing schemes of GoI-NLM and J&K government schemes for Dairy development would be sought.

- Establishment of market linkages and partnerships with local markets, dairy processors, and retail outlets and exploring the opportunities for branding and marketing of dairy products.
- A robust monitoring and evaluation system is to be developed to assess the impact of the interventions on the communities' economic well-being and sustainability.

The implementation responsibility chart is provided below:

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Milk surplus and market assessment study & DPR preparation	DoAH-J&K	JKMPCL	APD
Identification of places for 12 Milk Collection Units(BMCs) and establishment	DoAH-J&K	JKMPCL	APD
Identification of places for 08 Milk Processing Units (MPUs) and establishment	DoAH-J&K	JKMPCL	APD
Training and Capacity Building of SHGs and members of vulnerable communities in milk handling and processing	DoAH-J&K	JKMPCL	APD
Branding, Marketing and milk value chain development	DoAH-J&K	JKMPCL	APD

2. Sheep and goat Scheme

The SCs/STs in Jammu and Kashmir are distinct ethnic and cultural groups that have historically been marginalised and disadvantaged. The major ST tribes in J&K are Bakarwals and Gujjars who traditionally depend on cattle, buffalo, sheep and goat rearing for their livelihood.

To support settled SC/ST communities mainly Gujjars and to provide a source of employment for the women and youth in families the JKCIP project proposes to additionally supplement their livestock with a unit of 10 females and 01 male of sheep or goats.

Objectives:

- To improve the economic well-being of vulnerable Gujjar communities in Jammu and Kashmir by providing them with sustainable income opportunities through sheep and goat rearing.
- To reduce the dependency on seasonal livelihoods, such as livestock herding, by diversifying income sources through the establishment of sheep and goat units.
- To uplift the socio-economic status of Gujjar families, particularly women, by providing them with the means to generate income and improve their living conditions.

Rationale:

- The Gujjar community traditionally relies on livestock herding for their livelihoods, but this can be season-dependent and uncertain.
- By providing 10 female and 01 male sheep and goat units, the scheme aims to empower women within the Gujjar community, as women often play a significant role in small ruminant rearing.
- Sheep and goats are prolific breeders and can provide a stable source of income through the sale of meat, milk, and other related products.
- Sheep and goats are well-suited to the hilly and rugged terrain of Jammu and Kashmir, making them a sustainable choice for the region.

Key Features of the Scheme:

- The scheme will support the 800 beneficiaries' family in establishment of sheep goat units in convergence with JKIP, GoJ&K schemes and beneficiary share.
- Each beneficiary family will receive 10 female sheep or goats and 01 male for breeding purposes.
- The scheme will also support the development of market linkages for the sale of meat, wool, milk, and other products derived from sheep and goats and promoting value addition by training on wool processing and dairy product preparation.

Implementation Steps:

- Deptt of Sheep Husbandry, J&K(DoSH-JK) would conduct a comprehensive assessment to identify eligible beneficiary families within the Gujjar community.
- Register eligible families and select beneficiaries based on criteria such as socio-economic status and willingness to participate.
- Procure healthy and productive sheep and goats, including 10 females and 1 male for each beneficiary family.
- Conduct training sessions for beneficiaries on small ruminant management, health care, and sustainable farming practices.
- Provide financial support and technical assistance to help beneficiaries set up proper shelter and enclosures as their share in the scheme.
- Support the establishment of fodder farms to ensure a consistent supply of nutritious feed.
- Facilitate access to veterinary care, vaccination, and disease management services.
- Establish market connections for the sale of sheep and goat products, ensuring fair prices for the beneficiaries.
- Implement a robust monitoring and evaluation system to assess the impact of the scheme on the socio-economic well-being of Gujjar communities. Periodically review and adjust the scheme based on feedback and outcomes.

The implementation responsibility chart is provided below:

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identification and selection of eligible beneficiaries	DoSH-J&K	APD	
Prepare a scheme for support of SCs/STs	APD	DoSH-J&K	
Capacity Building and Training	DoSH-J&K	APD	
Procurement and distribution of Sheep/Goat Units	DoSH-J&K	APD	
Establishment of market linkages	DoSH-J&K	APD	

3. Icebox to fisherfolk

Objectives:

Fisherfolk of J&K are engaged in small time fishing business where they directly sell their catch without involving any middlemen. This is usually practised by the wives of the fisherfolk. The objective of this scheme is to empower vulnerable fisherfolk/fisherwomen in Jammu and Kashmir by providing them with Ice Boxes to improve the preservation,

transportation, and marketing of fish. The scheme aims to enhance the income and livelihoods of fisherwomen and promote gender equality in the fisheries sector.

Rationale:

- Fisherwomen often play a significant role in the post-harvest value chain, but they face challenges in preserving and transporting fish. This scheme empowers them by providing essential equipment.
- Ice boxes help maintain the freshness and quality of fish, ensuring higher market prices and reducing post-harvest losses.
- By enabling fisherwomen to access better markets and receive fair prices for their catch, their income and livelihoods are enhanced.
- Promoting women's participation in the fisheries sector and providing them with tools for economic empowerment contributes to gender equality and women's economic independence.

Key features of the scheme:

- JKCIP and Deptt of Fisheries Jammu and Kashmir (DoF-J&K) aims to distribute 10,000 ice boxes to eligible fisherfolk/fisherwomen across Jammu and Kashmir in 05 years of project period on grant-in basis.
- Along with ice boxes training programs to educate fisherfolk/fisherwomen on the proper use of ice boxes, fish handling, and hygiene practices.
- The scheme encourages the formation of women's self-help groups and cooperatives among fisherwomen to facilitate collective marketing and bargaining power.
- Monitoring and evaluation mechanisms will be in place to assess the impact of the scheme, including improvements in fish quality and income.
- The scheme includes efforts to establish market linkages for fisherfolk/fisherwomen, connecting them with local markets, restaurants, and other potential buyers.
- Provisions for maintenance and repair of ice boxes are to ensure their long-term usability.

Implementation steps:

- Identify and select vulnerable fisherfolk/fisherwomen who meet the eligibility criteria for receiving ice boxes.
- Procure the ice boxes from reliable suppliers or manufacturers, ensuring they meet the required specifications.
- Organise training programs to educate fisherfolk/fisherwomen on the proper use of ice boxes, fish handling, and hygiene practices.
- Distribute the ice boxes to eligible beneficiaries in a fair and transparent manner, ensuring that each recipient receives the necessary equipment.
- Promote the formation of self-help groups or cooperatives among fisherwomen to foster community engagement and collective marketing efforts.
- Establish connections with local markets, restaurants, and potential buyers to create marketing opportunities.

- Implement a monitoring and evaluation system to track the scheme's progress and measure its impact on fisher women's income and livelihoods.
- Provide mechanisms for the maintenance and repair of ice boxes to ensure their longevity and functionality.

The implementation responsibility chart is provided below:

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Identification and selection of eligible beneficiaries	DoF-J&K	APD	
Capacity Building and Training	DoF-J&K	APD	
Procurement and distribution of Ice Boxes	DoF-J&K	Fisherfolk	
Establishment of market linkages	DoF-J&K	DoF-J&K	

4. Enterprise Support-Income Diversification

Objectives:

Enterprises support interventions in JKCIP project in Jammu and Kashmir to other vulnerable communities aim to help income diversifications for youth and women of families of Gujjars and Bakarwals, who are not migratory and are comparatively settled.

The young generations of traditional livestock herders in Jammu and Kashmir are disinterested and distracted from their family occupation of cattle, sheep, goat rearing due to many constraints and difficulties.

The younger generation among Gujjars and Bakarwals may seek opportunities outside traditional livelihoods and income diversification can help address youth unemployment by offering alternative career paths.

Rationale:

- Historically, Gujjars and Bakarwals have been primarily dependent on livestock rearing, particularly goat and sheep herding. Relying solely on traditional livelihoods can be risky, as it exposes these communities to external threats like climate change, environmental degradation, and fluctuations in livestock dependent enterprises.
- Income diversification with engagement of the private partners in initiatives such as poultry farming, dairy, agribusiness and non-farm enterprises can play a pivotal role in improving the economic resilience and overall well-being of Gujjars and Bakarwals in Jammu and Kashmir.
- These initiatives would be designed in consultation with the communities, taking into account their cultural practices, resources, and aspirations, and should be implemented with a long-term perspective to achieve sustainable results.

Key features of the scheme:

- The scheme proposes to support 1250 income diversification enterprises in settled families of Gujjar and Bakarwals in collaboration with private sectors to create sustainable livelihood opportunities.
- The private sector can play a vital role in providing resources, expertise, and market access.
- Dairy and Milk Processing, Poultry Farming and Processing, Honey Production and Processing, Fish Farming and Marketing, development of homestays, adventure tourism, Startups, Entrepreneurship Development, private business development organisations and incubators etc could be few examples of new enterprises.
- Unit Costs for these enterprises may be decided as per the NABARD guidelines for bankable projects.

- These interventions should be developed in close collaboration with the private sector, ensuring that the initiatives align with market demand, quality standards, and sustainability. Public-private partnerships can play a significant role in enhancing the income diversification opportunities for the youth and women of settled Gujjar and Bakarwal families in Jammu and Kashmir.

Implementation steps:

- JKCIP-PMU and Deptt of Animal Husbandry, Sheep Husbandry, KVKs and Incubation Centres in SKUAST in Jammu and Kashmir would plan together the project modalities.
- Surveys to identify eligible beneficiaries from the communities who wish to engage in additional enterprises.
- Stakeholders’ consultations to identify private partners.
- Assistance to beneficiaries in selecting and preparing business plans for their chosen enterprises, considering local resources, market demand, and individual preferences.
- Training programs to build the capacity of beneficiaries in the chosen enterprises, covering areas like productivity and quality enhancement, product processing, and marketing.
- Necessary financial support in the form of grants or loans to help beneficiaries set up or expand their enterprises.
- Facilitation in market linkages and establish connections with potential buyers, local markets, and cooperatives to ensure a ready market for their products.
- Development of a robust system to monitor the progress of beneficiaries, assess the impact of the scheme, and make necessary adjustments.
- Promote community engagement and collective efforts through the formation of self-help groups or cooperatives among beneficiaries.

The implementation responsibility chart is provided below:

Activity	Partners and their implementation responsibility		
	Primary	Secondary	Collaborative
Preparation of a scheme for supporting enterprise development	APD	DoAH-J&K DoSH-J&K	
Identification and selection of eligible beneficiaries	DoAH-J&K DoSH-J&K	APD	
Selection of Enterprises as per choice of beneficiaries	DoAH-J&K DoSH-J&K	APD	
Preparation of enterprise proposals and due diligence	DoAH-J&K DoSH-J&K	APD	
Capacity Building and Training	DoAH-J&K DoSH-J&K	APD	
Support for establishing enterprises	DoAH-J&K DoSH-J&K	APD	
Establishment of market linkages	DoAH-J&K DoSH-J&K	APD	

C. Integration of Youth

Jammu & Kashmir is bestowed with a predominantly young population with about 69 % of the population being below the age of 35 years and are a valuable human resource for J&K. They can contribute significantly for the holistic socio-economic and environmental

development of J&K through constructive engagement. In order to engage with them and to channelize the huge energy, Govt of J&K initiated the Mission Youth.

Mission Youth intends to provide sustained support for all young people in developing their physical, intellectual and emotional capacities, skills, talents, strengths and abilities for enabling them to develop exceptional leadership skills and a sense of devotion towards community service. This can potentially engage them for mainstreaming activities and thereby, generating employment for them. In continuation with this initiative and to motivate them for the social and environmental activities as well as to generate decent employment for the youth, the JKCIP has proposed to work on the youth club activities. The youth clubs are already formed at the panchayat/ municipal ward level in rural and urban areas under the supervision of the SDM. This youth clubs will be selected for the additional activities through the project and thereby helping them to be engaged in constructive activities for the society. The objectives of the youth clubs are as follows:

Objectives

- To disseminate information and create awareness among local people, especially in remote locations & vulnerable area on environment and waste management for better climate change adaptation.
- To train the youth club members on water body rejuvenation along with the local communities in the region and physically rejuvenate one water body in each panchayat/ municipal ward.
- To train them to interpret the district level climate advisory services and communicate it in the local language in advance of 5 days at village level to help the local community for better adaptation.
- To enable youth to identify environmental and climate-related issues and address them through a participatory approach led by local youths To enhance youth behaviour concerning the environment sustainability and climate change adaptation.
- To facilitate effective delivery of basic services at the village level and make the local community aware about the government schemes and programmes.
- To communicate the aspirations of the vulnerable communities at the village level to the concerned SDM, BDOs and the Project Management Unit.

Rationale:

The youth clubs consist of members of the age group of 18 to 35 years. One youth club in each panchayat/ municipal ward has already been constituted under the supervision of the sub-divisional magistrate (SDM) in consultation with the local PRI/ council member. All Block Development officers (BDOs) under the jurisdiction of SDM ensures necessary coordination wherever, required.

Up till now 4524 youth clubs have been constituted involving total number of 70,743 youths across the twenty districts of J & K. Out of these 4524 youth clubs, 2700 youth clubs will be identified for the activities under JKCIP starting from 200 in the first year 2024 and 500 each from year 2025 to 2029.

These youth clubs will be the forefront of all the activities planned for JKCIP. They will also be carrying out the activities of Mission youth and the additional activities under JKCIP will be also undertaken by them. These activities will help to reach out to the communities of each panchayat especially the blocks which has been identified for the JKCIP programme. This will also support to communicate the other activities of the JKCIP programme especially the beneficiary selection for the agri-horti cultivation, reaching out to rural youth for establishment of the incubation centre etc.

Key features of the scheme

This scheme will follow the modalities of the current youth clubs' constitution under Mission Youth. JKCIP will strengthen the activities of the youth club, build their capacities to undertake additional activities as mentioned above.

Implementation steps:

The steps that will be followed is as follows:

- The SDM will provide a notification to all the youth clubs for enrolment for the training programme on climate change and environment awareness, waste management, water body rejuvenation, climate advisory services etc. at a periodic manner.
- The training will be conducted at the block level by an expert resource person. PMU will have the responsibility to look for experts. Preference will be given for the experts belong to J&K and then this position will be open for the entire country based on the requirement.
- In each batch maximum 30 youth will be trained taking 2 members from each clubs, therefore, 15 clubs can be trained in one go for specialized training like climate advisory services, waterbody rejuvenation, waste management etc.
- The selection of the youth club will be done based on their previous experience under mission youth and the motivation of the youth to come forward for these activities.
- Once they will be trained, they will work as a master trainer, and they will have to impart training to the other youth in those villages under the panchayat.
- They can then apply for the grants with the specific activities through a proposal to the SDM. These proposals will be assessed by the district level committees based on the above-mentioned criteria and recommend to the SDM for approval. The SDM approve the proposal and send to PMU for grant sanction.
- Once the grant will be sanctioned, the funds will come to SDO office for disbursement to the bank account of the youth clubs. The BDO will handholds them if required and monitor the activities periodically. The PMU staff will also visit the activities randomly.
- As per the design of the project, each youth clubs will be allocated to 3 lakh INR for these activities. The training and capacity development of the youths will be done from the project.
- Through this grant money, the youth clubs will rejuvenate one water body at least in their panchayat/ municipal ward. They will generate awareness activities among the local communities and the school children as a campaign mode. Minimum 3 awareness campaign to be organized in each panchayat.
- They will be responsible for the climate advisory services to be put in the common place in each village and making the communities aware about the advisories. These will help the vulnerable communities to better adapt with the climate variabilities and change.
- The best performing clubs will be awarded a trophy and a cash prize at the final year of the project.
- Through these activities the local youth will build their capacities to take up environmental activities and this will help them get decent employment both at government and/or non-government sectors, teaching activities or start up enterprises at the later stage.

Activity	Partners and their implementation responsibility
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	Primary	Secondary	Collaborative
Prepare guideline/scheme for supporting youth clubs	APD	Mission Youth	
Identification and selection of Youth clubs	District Administration	Mission Youth	APD
Training of youth club members	District Administration	Mission Youth	APD
Preparation of proposals for support	Youth clubs	District Administration	Mission Youth
Approval of the proposal	District Administration	Mission Youth	
Implementation of the proposal	Youth clubs	District Administration	Mission Youth

IV. Access to Finance

Introduction

The agricultural landscape in India is a testament to its role as an economic backbone, supporting the livelihood of a majority of its population. As per the 2011 Census, out of the total 481.7 million workers, 118.7 million were cultivators, and 144.3 million were agricultural laborers, cumulatively making up about 55% of total employment. However, this share has been in decline, with the Labour Bureau Report 2015-16 indicating a reduction to 46.1% and ILO estimates suggesting a further decrease to approximately 44% by 2018.

According to the Agriculture Census 2015-16, India had 146 million operational holdings, with an operated area of 157.14 million hectares. Small and marginal holdings (<2.00 ha) accounted for 86.21%, holding 47.34% of the total operated area, with an average holding size of 1.08 hectares.

Access to finance in the agricultural value chain is pivotal for these stakeholders. The institutional framework in place has notably boosted formal credit to the agriculture sector, escalating from ₹37.71 billion in 1981 (around 16% of the agricultural GDP of 1980-81) to ₹13694.56 billion in 2017-18, representing roughly 16% of total bank credit and about 51% of the Agriculture & Allied Gross Value Added (GVA) at current prices.

Despite advancements, challenges persist. The NABARD All India Rural Financial Inclusion Survey (NAFIS) highlighted that while about 61% of agricultural households favour institutional credit, nearly 30% rely solely on non-institutional sources, which raises concerns. This reliance could stem from the need for consumption loans, the challenges faced by tenant farmers and landless laborers in providing collateral, involvement in subsistence farming, or perceived credit unworthiness by banks. Furthermore, the specific challenges are i) **Collateral Requirements**, ii) **Financial Literacy**, and iii) **Credit History**. To address some of the challenge the GOI has taken several policy initiatives:

Policy Initiatives and Programs:

- **Priority Sector Lending (PSL):** Mandated by the RBI, commercial banks are obliged to allocate 18% of their ANBC or Credit Equivalent Amount of Off-Balance Sheet Exposure to agriculture, fostering both direct and indirect finance in the sector.

- **Kisan Credit Card (KCC) Scheme:** With over 69.43 million KCCs issued till March 2021, this scheme ensures credit availability for farmers based on cropping patterns and provides interest subvention to prompt repayers.
- **Agricultural Infrastructure Fund (AIF):** This ₹1 lakh crore initiative is aimed at providing medium to long-term debt financing for post-harvest infrastructure and community farming assets.
- **Pradhan Mantri Fasal Bima Yojana (PMFBY):** As one of the largest crop insurance schemes globally, PMFBY safeguards farmers from pre-sowing to post-harvest risks.
- **National Bank for Agriculture and Rural Development (NABARD):** Through refinance support to various banks, NABARD fosters agricultural and rural development financing.

Jammu Kashmir Context:

Jammu and Kashmir presents a stark contrast to other regions in India regarding financial inclusion and the development of its banking sector, primarily driven by its distinct socio-political landscape, rugged terrain, and harsh climatic conditions. Historically, the region's political instability and security concerns have significantly impeded the development of its banking sector compared to other parts of India, limiting the penetration of financial services. This situation is compounded by logistical difficulties in reaching remote and mountainous areas, which affects both conventional banks and microfinance institutions (MFIs). While institutions like the Jammu and Kashmir Bank, NABARD, and SIDBI are active, their reach remains constrained, leaving a considerable portion of the population outside the formal financial system. Informal MFIs, including self-help groups (SHGs) and NGOs, play a crucial role in bridging this gap, yet they too grapple with challenges like low levels of financial literacy and infrastructural deficits. The recent COVID-19 pandemic further strained the region's microfinance sector, exacerbating loan repayment difficulties and impacting the local economy. Despite these challenges, there is potential for growth in the sector, especially given J&K's vibrant entrepreneurial culture and the significant population of unbanked individuals who stand to benefit from improved financial inclusion.

Amidst the geographical and socio-political complexities, J&K's microfinance ecosystem operates with a combination of formal institutions like the Jammu and Kashmir Bank, NABARD, and SIDBI, alongside informal channels such as SHGs and NGOs. Despite their efforts, the formal sector's outreach remains limited due to the conservative lending practices reflected in the credit to deposit (CD) ratio², and informal groups often fill the gap in providing access to financial services. However, this gap signifies the substantial potential for growth and the need for targeted financial products and literacy programs to harness the entrepreneurial spirit prevalent in the region.

The government's initiatives aimed at enhancing financial inclusion and supporting micro-enterprise development, such as Jammu and Kashmir Entrepreneurship Development Institute (JKEDI)³, Pradhan Mantri Mudra Yojana (PMMY)⁴, and National Rural Livelihood

² This is exemplified by the credit to deposit (CD) ratio of the Jammu and Kashmir Bank, which stood at approximately 62 percent in fiscal year 2021. This marked a decline from around 66 percent in the previous fiscal year and was significantly lower than the overall CD ratio for Indian private sector banks, which averaged 82 percent in the same period. Reserve Bank of India

³ The JKEDI is an organization established by the Government of Jammu and Kashmir. Its primary objective is to foster and develop entrepreneurship in the region.

⁴ The PMMY is a scheme launched by the Government of India with the aim of providing access to affordable credit to micro and small enterprises and individuals in the non-corporate small business sector. Under this

Mission (NRLM)⁵, are steps toward closing the financial services divide. For J&K to catch up with the rest of the country, concerted efforts to improve infrastructure, stabilize the socio-political landscape, and boost financial literacy are crucial.

Rationale and Objective

The rationale for facilitating access to finance for farmers and the landless in Jammu and Kashmir (J&K) is deeply rooted in the region's economic and social fabric, which is characterized by a significant reliance on agriculture and allied activities. Considering the challenges in accessing finance due to factors such as political instability, geographic isolation, and limited institutional reach, there's a pressing need to bridge the financial gaps that impede the growth of smallholders, Farmer Producer Organizations (FPOs), and entrepreneurs in the selected value chain. Enhancing their access to credit is critical for increasing agricultural productivity, fostering innovation, and building resilience against economic adversities. Furthermore, improved financial inclusion can mitigate the reliance on non-institutional lending sources, which often carry onerous terms and stifle economic progression. In addition, addressing these financial barriers can catalyse socio-economic empowerment, particularly for marginalized communities, thereby contributing to overall regional stability and growth. The project's primary objective is to facilitate an inclusive financial ecosystem that caters to the needs of smallholders, FPOs, and entrepreneurs in the project area.

Challenges and Financing Options Across Agricultural Value Chain Actors

The value chain actors encounter distinctive challenges that hinder their access to finance. This project identifies and addresses these challenges, with a particular focus on input suppliers, producers, aggregators, and Farmer Producer Organizations (FPOs) involved in processing. By tailoring solutions to their specific needs, the project aims to enhance their financial capabilities and support their participation in the value chain. The table below provides comprehensive overview of the financial landscape faced by different actors, aiding in the understanding of their unique needs and potential solutions.

Actors	Characteristics	Challenges in Accessing Finance	Challenges with Banks	Challenges with Value Chain Actors	Financing Available
Input Supplier	Unorganized suppliers – shopkeepers	- Lack of formal business documentation	- Stringent lending criteria	- Payment delays from buyers	- Microfinance
	Shopkeepers with PAN cards/fulfilling KYC	- Limited credit history or collateral	- High interest rates for unsecured loans	- Competitive market margins	- Business loans
	Proprietorship company	- Proprietor's personal credit history	- Personal guarantee requirements	- Dependence on a limited	- Trade credit, Bank overdrafts

scheme, loans up to 10 lakh INR are extended to non-farm income-generating enterprises in sectors like manufacturing, trading, and services. The loans under PMMY are categorized into three types: 'Shishu' (loans up to ₹50,000), 'Kishor' (loans above ₹50,000 and up to ₹5 lakh), and 'Tarun' (loans above ₹5 lakh and up to ₹10 lakh).

⁵ The NRLM, now renamed as Deendayal Antyodaya Yojana-NRLM, is an initiative by the Government of India to reduce poverty by enabling the poor households in rural areas to access gainful self-employment and skilled wage employment opportunities. The mission aims to create sustainable community institutions around self-help groups (SHGs), their federations, and producer groups/cooperatives. NRLM's approach is to mobilize rural poor households into SHGs and continuously nurture and support them until they achieve sustainable livelihoods. The program focuses on financial inclusion, social mobilization, and skill development, and it plays a critical role in empowering rural women and marginalized communities.

				number of buyers	
Production	Producers- Landowners	- Reluctance from institutions to use land as collateral	- Foreclosure risks in case of default	- Price volatility, weather dependency	- Agricultural loans, Land mortgage loans
	Landless	- No collateral to offer for loans	- Lack of credit history	- Exploitation by intermediaries	- Government grants, Group loans
	Producers – sharecroppers	- Unstable income, lack of land rights	- High risk perception	- Binding contracts with landowners	- Crop loans, Sharecropping agreements
	Producers- leased land	- Proving profitability to lenders	- Short-term leasing contracts	- High rental costs	- Lease financing, Contract farming
Aggregators	FPO (Farmer Producer Organization)	- Initial setup costs, creditworthiness	- Collateral requirements	- Trust and reputation building with members	- Cooperative loans, Government subsidies
	Village collector – non-organized	- Informality of business	- Unrecognized by formal banking sector	- Low bargaining power, market access	- Informal lending, Peer-to-peer lending
	Procurement agents	- Irregular income, seasonal cycles	- Fluctuating cash flows	- Dependency on a few large buyers	- Factoring, Trade credit
	Authorized traders of APMC mandi	- Compliance and regulations	- Regulation complexities	- Competition with other traders	- Mandi financing, Working capital loans
	Unorganized individuals/entrepreneur	- Meeting lender requirements	- Lack of business history	- Contract enforcement, product standards	- Personal loans, Angel investors
	Proprietorship	- Personal assets at risk	- Limited funding without collateral	- Managing supply and demand fluctuations	- Business loans, Merchant cash advances
	Companies	- Lack of trading history for new companies	- Creditworthiness, financial ratios	- Need to establish credibility within the chain	- Venture capital, Bank loans, Equity financing
Retailer	Unorganized shopkeepers	- Lack of financial literacy, informal records	- Inadequate documentation for loans	- Dependence on a single supplier or buyer	- Microloans, Supplier credit
	Proprietorship	- Credit constrained by proprietor’s finances	- Personal credit used for business purposes	- Competition with larger retailers	- Business credit cards, Overdrafts

Financial Needs, Institutions

Instead of the project directly providing lending resources, it will strategically leverage the existing financial resources available within the private and government sectors. The project's primary focus will be on enabling and empowering the various actors in the value chain, including producers, Farmer Producer Organizations (FPOs), entrepreneurs, and input suppliers, to build their financial capacity and effectively leverage the diverse range of financing options available to them.

The project will play a pivotal role in facilitating access to finance by offering capacity-building initiatives. This includes financial literacy programs, creditworthiness enhancement training, and guidance on navigating the intricacies of financial institutions and products. By strengthening the financial acumen and capabilities of these actors, the project aims to empower them to independently access the financing resources they require.

Additionally, the project will act as a conduit between the value chain actors and the available financing sources, helping them establish relationships with banks, government schemes, and other financial institutions. This collaborative approach ensures that the actors are well-prepared to present their financial needs and proposals effectively. Table 2 provides detailed information on available sources of financing and financing needs for each actor based on their characteristics.

Actors	Financial Needs Detail	Financial Institutions and Products in Jammu and Kashmir	Financing Available Through Value Chain Actors
Input Supplier			
Unorganized suppliers – shopkeepers, Nursery Owners	- Small-scale loans, insurance	- J&K Bank: Customized Retail Trade Finance	- Trade credit from larger distributors, Informal local lenders
Shopkeepers with PAN cards/fulfilling KYC	- Working capital loans, credit lines	- J&K Grameen Bank: Microenterprise loans	- Supplier credit, Cooperative credit schemes
Proprietorship company	- Business loans for expansion, trade credit	- Punjab National Bank: MSME Loans	- Advance payments from aggregators
		HDFC Bank: Business Loans	
Production			
Producers- Landowners	- Loans against land, crop insurance	- J&K Bank: Agriculture Term Loans, Weather-Based Crop Insurance	- Government subsidies, Input credit from suppliers
Landless	- Unsecured loans, government grants	- J&K Grameen Bank: Microfinance Loans	- Microfinance institutions, NGOs
Producers – sharecroppers	- Sharecropping financing, crop loans	- NABARD: Refinance schemes for sharecroppers	- Sharecropping agreements, Input credit

Producers- leased land	- Lease financing, contract farming agreements	- SIDBI: Loans for agri-business projects	- Contract farming advances, Lease agreements
Aggregators			
FPO (Farmer Producer Organization)	- Cooperative loans, grants	- NABARD: Support for FPOs, Development Funds	- Member investments, Community savings schemes
Village collector – non-organized	- Microloans, peer-to-peer lending	- J&K Women’s Development Corporation: Microcredit	- Informal community-based lending
Procurement agents	- Trade credit, factoring services	- J&K Bank: Factoring Services	- Prepayments from processors, Agreements with exporters
Authorized traders of APMC mandi	- Working capital loans, mandi financing	- Punjab National Bank: Mandi Financing	- Commission-based financing, Delayed payment agreements
Processor/ Bulk Supplier/ Exporter/ Trader			
Unorganized individuals/entrepreneur	- Personal loans for business, angel investment	- Jammu & Kashmir Entrepreneurship Development Institute: Seed Capital	- Angel networks, Local investment pools
Proprietorship	- Business loans, merchant cash advances	- J&K Bank: Entrepreneur Loan Schemes	- Cash advances based on orders, Inventory financing from suppliers
Companies	- Venture capital, bank loans, equity financing	- Canara Bank: SME & Corporate loans	- Equity stakes by value chain partners, Joint venture agreements
Retailer			
Unorganized shopkeepers	- Microloans, supplier credit	- J&K Bank: Retail Finance Schemes	- Credit from wholesalers, Local money lenders

Proprietorship	- Business credit cards, overdrafts	- HDFC Bank: Business Credit Cards, Overdraft Facilities	- Supplier credit terms, Cooperative bank loans
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The GoI and Government of Jammu and Kashmir have number off schemes for different players. The below Table, provides different schemes and description which would be leveraged.

Entity Type	Scheme	Expanded Description & Sponsorship
Input Suppliers	Pradhan Mantri Mudra Yojana (PMMY)	The Micro Units Development & Refinance Agency Bank (MUDRA) loans are a part of the Pradhan Mantri Mudra Yojana (PMMY), introduced by the Government of India to provide financial support to micro-enterprises and individual entrepreneurs. The key objective is to boost the development and refinancing activities of micro units in various sectors, including manufacturing, trading, and services. MUDRA loans are categorized into three products: 'Shishu' for loans up to ₹50,000, 'Kishore' for loans from ₹50,001 to ₹5 lakh, and 'Tarun' for loans from ₹5 lakh to ₹10 lakh, catering to enterprises at different stages of their growth and development. This initiative primarily targets small businesses, artisans, traders, and other segments of society that are traditionally excluded from formal banking systems, aiming to foster entrepreneurship and employment at the grassroots level.
	Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)	The Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) is an initiative by the Government of India to facilitate credit to the Micro and Small Enterprises (MSE) sector. Established jointly by the Ministry of Micro, Small and Medium Enterprises (MSME) and the Small Industries Development Bank of India (SIDBI), the scheme provides credit guarantees to financial institutions for loans extended to MSEs. This guarantee mitigates the risk for lenders and encourages them to extend credit to small businesses without the need for collateral or third-party guarantees. The primary goal of CGTMSE is to boost the credit flow to the MSE sector, which plays a crucial role in the economic development of the country, fostering entrepreneurship, creating jobs, and contributing to GDP growth.

	J&K Bank's Finance Scheme for Traders	<p>J&K Bank's Finance Scheme for Traders is a specialized financial program designed by the Jammu & Kashmir Bank to cater to the specific needs of traders within the region. This scheme provides traders with essential financial assistance to meet their working capital requirements, helping them manage inventory, operations, and other business-related expenses more effectively. Aimed at strengthening the local trade and commerce ecosystem, the scheme offers traders an opportunity to expand and grow their businesses with easier access to credit.</p>
Production	Pradhan Mantri Fasal Bima Yojana (PMFBY)	<p>The Pradhan Mantri Fasal Bima Yojana (PMFBY) is an ambitious agricultural insurance scheme launched by the Government of India to provide comprehensive crop insurance to farmers against the failure of any notified crop due to natural calamities, pests, and diseases. This scheme replaces previous crop insurance schemes and aims to reduce the burden of premiums on farmers and ensure quick claim settlements. Under PMFBY, farmers pay a uniform, low premium rate of 2% for kharif crops, 1.5% for rabi crops, and 5% for commercial and horticultural crops, while the government subsidizes the remaining premium amount.</p>
	National Rural Livelihood Mission (NRLM)	<p>The National Rural Livelihood Mission (NRLM), now known as the Deendayal Antyodaya Yojana-NRLM, is a poverty alleviation project implemented by the Government of India. This mission aims to promote self-employment and organization among the rural poor, primarily through the formation and development of Self Help Groups (SHGs). It focuses on empowering women, enabling them to contribute to household and rural economic activities. NRLM seeks to create sustainable livelihood opportunities for the rural poor by providing them skill development, financial inclusion, and access to markets. The program also emphasizes social mobilization and building strong grassroots institutions of the poor. NRLM's approach is inclusive, aiming to reach out to all rural poor families and link them to sustainable livelihood opportunities, thereby transforming rural poverty into prosperity.</p>

	Rashtriya Krishi Vikas Yojana (RKVY)	Rashtriya Krishi Vikas Yojana (RKVY) is a flagship agricultural development scheme of the Government of India, initiated to ensure holistic growth of the agriculture and allied sectors. The primary objective of RKVY is to incentivize states to increase public investment in agriculture and allied sectors, thus enhancing farm productivity and ensuring sustainable agricultural practices. The scheme focuses on adopting an area-based approach for strategic planning and encourages convergence with other programs to realize sector-wide development. It supports a wide range of activities, including crop cultivation, livestock, dairy, and fisheries, along with the creation and strengthening of agricultural infrastructure.
	Kisan Credit Card (KCC) Scheme	The Kisan Credit Card (KCC) Scheme is a government initiative in India designed to provide farmers with timely access to credit for their agricultural needs. Launched to ensure that farmers are not driven to borrow from informal sources at high interest rates, the scheme offers short-term loans for crop production and other expenses related to agriculture and allied activities. It also provides insurance coverage and extends credit for post-harvest expenses, farm maintenance, and other activities. The KCC scheme simplifies the process of obtaining credit and aims to reduce the financial burden on the farming community by offering flexible repayment options and reasonable interest rates.
Aggregators	Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs)	The "Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs)" is a comprehensive initiative by the Government of India aimed at creating and strengthening FPOs across the country. These FPOs are collective groups of farmers and agricultural producers designed to improve access to technological inputs, financial resources, and markets, thereby enhancing the profitability and sustainability of their agricultural activities. The scheme focuses on organizing farmers, especially small and marginal ones, into clusters, providing them with support in terms of financial assistance, training, and capacity building.

	Self Help Group (SHG) Bank Linkage Programme	The Self Help Group (SHG) Bank Linkage Programme, launched by the National Bank for Agriculture and Rural Development (NABARD) in India, is a pioneering initiative aimed at providing formal banking services to the unreached rural poor. Under this program, SHGs formed by the rural poor are linked to banks for the provision of credit, enabling them to access financial services such as loans, savings, and other banking products.
	Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)	The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) is a central sector scheme by the Government of India that provides income support to landholding farmer families across the country. Under this program, eligible farmer families receive a financial benefit of ₹6,000 per year, paid in three equal installments of ₹2,000 each. This initiative aims to supplement the financial needs of small and marginal farmers in procuring various inputs to ensure proper crop health and appropriate yields, corresponding to the anticipated farm income.
	Market Intervention Scheme (MIS)	The Market Intervention Scheme (MIS) is a program initiated by the Government of India, designed to provide a safety net to farmers against sharp fall in prices of agricultural produce. The scheme is primarily implemented in cases where prices of perishable and horticultural commodities decrease due to a glut in production or seasonal oversupply. Under MIS, the government agencies purchase the surplus produce directly from the farmers at a declared Minimum Support Price (MSP), thereby ensuring that the farmers receive remunerative prices for their produce. This scheme plays a crucial role in stabilizing the agricultural market and protecting the farmers from making distress sales during peak harvest periods.
Processor/Bulk Supplier/Exporter/Trader	Pradhan Mantri Employment Generation Programme (PMEGP)	The Pradhan Mantri Employment Generation Programme (PMEGP) is a flagship initiative by the Government of India, aimed at generating self-employment opportunities by establishing micro-enterprises in the non-farm sector. Administered by the Khadi and Village Industries Commission (KVIC), this credit-linked subsidy program targets traditional artisans and unemployed youth. It provides financial assistance for setting up new projects, with the maximum project cost capped at ₹25 lakhs for manufacturing units and ₹10 lakhs for service units. The subsidy

		<p>varies from 15% to 35%, depending on the beneficiary's category and location. PMEGP plays a crucial role in stimulating entrepreneurship and reducing unemployment, particularly in rural and semi-urban areas.</p>
	<p>Credit Linked Capital Subsidy Scheme (CLCSS)</p>	<p>The Credit Linked Capital Subsidy Scheme (CLCSS) is a program by the Government of India aimed at facilitating technology upgradation for Micro, Small, and Medium Enterprises (MSMEs). This scheme provides an upfront capital subsidy of 15% (up to a maximum of ₹1 crore) for entrepreneurs investing in new technology or upgrading existing technology in their businesses. Primarily targeting small-scale industries, CLCSS addresses the need for technological advancement to improve productivity and competitiveness in the national and international markets. The scheme not only aids in reducing the cost of production but also enhances the quality of products, contributing significantly to the growth and development of MSMEs.</p>
	<p>Support to Training and Employment Programme for Women (STEP)</p>	<p>The Support to Training and Employment Programme for Women (STEP) is a Government of India initiative aimed at providing vocational and skill development training to underprivileged and marginalized women. Focusing on a variety of sectors such as agriculture, horticulture, handicrafts, and IT services, STEP is implemented by NGOs, government organizations, and other experienced institutions. The program offers comprehensive support, including financial assistance for training, materials, stipends, and tool kits, to enhance women's employability and self-employment opportunities. This initiative plays a pivotal role in empowering women, fostering their independence, and promoting gender equality in the workforce.</p>

Retailer	Micro Units Development & Refinance Agency Bank (MUDRA) loans	The Micro Units Development & Refinance Agency Bank (MUDRA) loans are a part of the Pradhan Mantri Mudra Yojana (PMMY), introduced by the Government of India to provide financial support to micro-enterprises and individual entrepreneurs. The key objective is to boost the development and refinancing activities of micro units in various sectors, including manufacturing, trading, and services. MUDRA loans are categorized into three products: 'Shishu' for loans up to ₹50,000, 'Kishore' for loans from ₹50,001 to ₹5 lakh, and 'Tarun' for loans from ₹5 lakh to ₹10 lakh, catering to enterprises at different stages of their growth and development. This initiative primarily targets small businesses, artisans, traders, and other segments of society that are traditionally excluded from formal banking systems, aiming to foster entrepreneurship and employment at the grassroots level.
	Prime Minister's Employment Generation Programme (PMEGP)	The Prime Minister's Employment Generation Programme (PMEGP) is a credit-linked subsidy initiative by the Government of India, executed by the Khadi and Village Industries Commission (KVIC). It aims to generate self-employment opportunities by assisting entrepreneurs in establishing micro-enterprises in non-farm sectors. Targeting traditional artisans and unemployed youth, the program offers financial assistance with a maximum project cost of ₹25 lakhs for manufacturing units and ₹10 lakhs for service units. Subsidies range from 15% to 35%, varying by project location and beneficiary category. The scheme encompasses training and support, promoting entrepreneurship to reduce unemployment, especially in rural and semi-urban areas

Key Activities in Detail

The project will focus on enhancing financial access and inclusivity for smallholders, Farmer Producer Organizations (FPOs), and entrepreneurs within the selected value chain in the Jammu and Kashmir region. This comprehensive strategy will be executed through the following key activities:

- a. **Pilot Projects for Improved Access to Finance:** Implement at least four (4) pilots to drive access to finance for different target clients, including but not limited to: project smallholders and their organizations.
- b. **Financial Literacy Campaigns:** The project will launch extensive financial literacy campaigns with the primary objective of educating smallholders and entrepreneurs. These campaigns will focus on topics such as understanding financial products, the significance of maintaining a positive credit history, effective savings practices, and efficient financial planning.

- c. **Credit Facilitation:** The project's Manager Rural Finance Manager, will work closely with stakeholders in the field. The project will assist in navigating the complex process of obtaining credit, providing valuable support with documentation, proposal writing, and clarifying the terms and conditions associated with various credit options.
- d. **Partnerships and Alliances:** The project plans to establish strategic partnerships with non-banking financial companies (NBFCs), microfinance institutions (MFIs), and technology firms. By forging these alliances, it aims to broaden the spectrum of financial services available to target beneficiaries. Additionally, leveraging technology will enable easier access to financial resources.
- e. **Graduated support for FPO Bank Readiness:** Systematically assess, train, and mentor Farmer Producer Organizations (FPOs) through a graduated approach, enhancing their financial management capabilities, compliance with banking requirements, and ultimately facilitating their access to formal banking and financial services.

Implementing Mechanism

Pilot Project for Improved Access to Finance

The project, in collaboration with financial institutions and partners, plans to launch a minimum of four pilot programs based on a well-defined rural finance strategy. These pilots aim to enhance financial access for diverse groups, including smallholders and their organizations. Key elements include: (i) establishing connections between FPOs, MSMEs, and producers with financial institutions for credit and insurance access; and providing business and financial literacy training. On the supply side, the focus will be on developing accessible financial products with innovative collateral and risk-sharing approaches, incorporating project matching grants and private sector co-financing. These will be tailored to market demands, supporting climate-smart and youth and women-led business investments. Efforts will also be made to expand the outreach of financial institutions, leveraging marketing strategies and ICT solutions to reduce costs and risks. These pilots are premised on the idea of nurturing robust business ventures, thereby creating appealing opportunities for investment and lending.

The proposal for these pilots will be meticulously developed, and the project will seek IFAD's no-objection, as well as clearance from IFAD's Technical division, before moving forward with implementation. The list of activity that can be financed under the pilot but not limited to are:

Demand-Side Activities:

- Facilitate Linkages Between Stakeholders and Financial Institutions:
 - Organize workshops and meetings between FPOs, MSMEs, producers, and financial institutions.
 - Develop a digital platform for easy connectivity and information exchange.
 - Facilitate contract signings and partnership agreements, incorporating incentives like interest subvention schemes, matching grant and blocked deposit and cashback rewards.
- Business and Financial Literacy and Capacity Building:
 - Conduct training programs on financial management, business planning, and sustainable agricultural practices.
 - Develop and distribute educational materials and online resources, including modules on leveraging blocked grants and interest subvention benefits.
 - Organize mentorship programs linking successful entrepreneurs with new business owners, focusing on maximizing incentives and grants.

Supply-Side Activities:

- Development of Accessible Financial Products:
 - Collaborate with financial institutions to design financial products such as microloans, insurance, savings schemes, and investment options, incorporating interest subversion strategies and cashback options, blocked grant/ deposit.
 - Integrate climate-smart investment options and support for youth and women-led businesses.
 - Utilize project’s matching grants and venture capital co-finance as risk-sharing mechanisms, including options for blocked grants and incentivized financing.
- Improve Outreach and Footprint of Financial Institutions:
 - Support the development of digital financial services (DFS) and mobile banking solutions, featuring cashback and reward programs to encourage usage.
 - Implement community-based marketing strategies for financial products, highlighting the benefits of interest subvention and other incentives.
 - Develop credit scoring models based on local data and market dynamics, considering the impact of incentives like cashback on customer behaviour.

Cross-Cutting Activities:

- Market Research and Demand Assessment:
 - Conduct surveys and focus group discussions to understand the specific financial needs and preferences of target clients, especially in terms of interest subvention and cashback incentives.
 - Analyze market trends and potential growth areas in the agricultural sector, considering the impact of blocked grants and other financial incentives.
- Partnership Development with Private Sector:
 - Engage with private sector entities for co-financing and investment opportunities, emphasizing the role of incentives in enhancing collaboration.
 - Explore public-private partnerships for broader project impact, with a focus on creating mutually beneficial incentive structures.
- Monitoring and Evaluation:
 - Set up a system to monitor the progress of the pilots and gather feedback, particularly focusing on the effectiveness of interest subvention, cashback, and incentive mechanisms.
 - Regularly evaluate the effectiveness of activities and adjust strategies accordingly, with an eye on optimizing incentive structures for better outcomes.
- ICT4D Integration:
 - Utilize information and communication technologies for development (ICT4D) to enhance service delivery, including features that support incentive programs.
 - Implement tech-driven solutions for risk management and cost reduction, integrating aspects like cashback and blocked grants for improved financial management.
- Promotion of Good Business Practices:
 - Encourage transparency, ethical business practices, and sustainability among all project stakeholders, highlighting the positive role of financial incentives in promoting good practices.
 - Highlight successful models and stories to attract further investment and interest, especially those that have effectively utilized blocked grants, interest subvention, and other incentives.

a. Financial Literacy of Farmers and Entrepreneurs and Credit facilitation

1. Financial Literacy Workshops: The Project will conduct regular financial literacy workshops to educate participants on fundamental financial concepts, banking

procedures, and the importance of credit history. These workshops will equip individuals with the knowledge needed to navigate the financial landscape effectively.

2. **Access to Financial Resources:** the Project will provide guidance on accessing financial resources, including loans, credit lines, and grants. Participants will receive assistance in preparing loan applications and understanding the requirements of financial institutions.
3. **Creditworthiness Building:** Training sessions will be organised focused on building and maintaining a positive credit history. Participants will learn how their financial behaviour impacts their creditworthiness and the steps to improve it.
4. **Financial Planning:** Facilitate workshops on financial planning and budgeting. Participants will develop personalized financial plans to manage their income, expenses, and savings effectively.
5. **Banking Relationships:** Help participants establish and nurture relationships with local banks and financial institutions. The Incubation centre will facilitate meetings and coordination with banks to simplify access to financial services.
6. **Credit Application Support:** The Incubation Centre will assist participants in preparing loan applications, ensuring that they meet the criteria set by financial institutions. This includes helping them compile necessary documentation and financial statements.
7. **Financial Counselling:** The Incubation Centre will provide one-on-one financial counselling sessions to address individual financial challenges and goals. Participants can seek personalized advice on managing debts, investments, and financial risk.
8. **Credit Assessment Training:** Train participants in understanding the credit assessment process used by banks. This knowledge will enable them to present their financial profiles effectively to lenders.
9. **Loan Repayment Strategies:** Provide strategies for responsible loan repayment, emphasizing the importance of timely payments to maintain a positive credit record.
10. **Financial Inclusion Initiatives:** Promote financial inclusion by encouraging participants to open bank accounts and access banking services. Educate them on the benefits of formal banking, saving, and accessing credit.
11. **Access to Government Schemes:** Inform participants about government-sponsored financial schemes and subsidies available to support agricultural and entrepreneurial activities. Assist them in applying for these schemes when relevant.

b. Partnerships and Alliances

1. **Engage in District Level Coordination:**
 - The Project will attend District Level Coordination Committee (DLCC) meetings where representatives from various government agencies, banks, and financial institutions gather to discuss financial inclusion and rural development.
 - Use these meetings as a platform to introduce the project, its objectives, and the potential benefits of collaboration with financial institutions.
2. **State-Level Coordination:**
 - Elevate the collaboration to the state level by engaging with higher-level authorities and decision-makers in the financial sector.
 - Explore the possibility of signing Memorandums of Understanding (MoUs) with banks and financial institutions at the state level. These MoUs will outline the terms of collaboration and the roles and responsibilities of each party.
3. **Collaboration with NABARD and RBI Branch**
 - The project will forge strategic collaborations with key stakeholders in the financial sector, including the National Bank for Agriculture and Rural Development (NABARD) and the local branch of the Reserve Bank of India

(RBI). Through these collaborations, the project aims to leverage NABARD's expertise in rural development and agriculture financing, exploring funding opportunities, and accessing refinancing facilities. Additionally, the project will engage with RBI to ensure regulatory compliance, seek regulatory insights, and explore support for enhancing digital payment systems in rural areas.

c. Graduated support for FPO Bank Readiness:

To ensure access to finance for FPOs, the approach involves guiding newly established FPOs from mere compliance to actively conducting business activities, with the aim of becoming bank ready. This readiness is marked by improved financials, increased sales, and established sales contracts and buyers. Support will be provided in the form of grading tools to assess the FPOs, helping them meet the banks' credit underwriting criteria. For existing FPOs, due diligence will be conducted to assess their current status, followed by strategizing to advance them to a state of bank readiness. The key indicators in the aforementioned matrix serve as benchmarks for FPOs to achieve this readiness.

Category	Key Indicator	Acceptable Benchmark
Financial Health	Revenue Growth	5-10% annually
	Profit Margin	10-20%
	Positive Cash Flow	Consistent year-over-year growth
	Healthy Balance Sheet	Debt-to-Equity ratio < 1-2
	Earnings Growth	5-10% annually
Market Position	Established sales contract	at least 3 sales contract
	Diversified Customer Base	Not more than 20% revenue from one client
Operational Efficiency	Productivity	Year-over-year improvement
	Operational Costs	Reduction by 2-5% annually
	Supply Chain Efficiency	Delivery on-time rate > 95%
Customer	Retention Rates	Above 75-85% (repeated orders from the clients)
	Customer Feedback	Over 80% positive feedback
	Customer Base Growth	5-10% increase annually
Regulatory Compliance	Adherence to Regulations	Zero compliance issues
	Ethical Practices	High ethical standards adherence
	Environmental Compliance	Meeting or exceeding regulatory standards
Governance and Management	Leadership and Decision-making	High stakeholder confidence
	Board Effectiveness	Regular, positive evaluations
	Organizational Structure	Clear hierarchy and roles

	Risk Management	Effective mitigation of key risks
	Transparency in Reporting	Accurate and timely reports
	Stakeholder Communication	High satisfaction in stakeholder surveys

Implementation modalities

The Manager for Financial Inclusion will assume a pivotal role, overseeing the coordination of activities aimed at enhancing financial inclusion within the project. In addition to their managerial responsibilities, the Manager will be tasked with organizing targeted training programs tailored for the field staff, Incubation Centre Manager, and young professionals involved in the project. These training sessions will equip the team with the necessary knowledge and skills to effectively facilitate access to finance for the project's beneficiaries.

The field staff, working in collaboration with the Incubation Centre Manager, will serve as the project's frontline ambassadors in the field, playing a crucial role in bridging the gap between the beneficiaries and financial services. They will work diligently to ensure that smallholders, farmers, and entrepreneurs have the information and support they need to access financial resources that can empower their livelihoods.

Furthermore, the project is committed to establishing fruitful collaborations with key stakeholders such as the National Rural Livelihood Mission (NRLM) and lead banks operating within the district. These partnerships will serve as a catalyst for facilitating financial access and expanding the project's impact. By aligning efforts with NRLM and engaging with lead banks, the project will tap into existing networks and resources, optimizing its outreach and effectiveness in promoting financial inclusion.

To reach even the most remote and underserved areas, the project will harness the power of a network of banking correspondents. These dedicated intermediaries will act as a vital bridge, ensuring that financial services reach the 'last mile.' This approach will extend the project's footprint and empower individuals and communities in the farthest reaches of the project area to access financial resources and transform their lives."

Exit Strategy

The exit strategy for the project focusing on enhancing financial access and inclusivity in the Jammu and Kashmir region involves several key steps to ensure sustainability and continued impact after the project's completion. These steps are designed to transition the responsibility and capability to the local stakeholders, including smallholders, Farmer Producer Organizations (FPOs), and entrepreneurs. Here's an outline of the exit strategy based on the project activities:

1. **Self-Sustainability of Pilot Projects:** Ensure that the pilot projects for improved access to finance are designed to become self-sustaining. This involves establishing clear business models and revenue streams or integrating the pilots into existing local systems that can continue without external support.
2. **Integration of Financial Literacy into Local Institutions:** Transfer the responsibility of continuing financial literacy campaigns to local educational institutions, community organizations, or FPOs. Develop a train-the-trainer model to create a cadre of local trainers who can perpetuate financial literacy education.
3. **Local Ownership of Credit Facilitation:** Train local stakeholders, such as the staff of FPOs or community leaders, to take over the role of the Rural Finance Manager. This would include skills in navigating credit processes, proposal writing, and understanding credit terms, ensuring that the community retains these capabilities.

4. **Strengthening Partnerships:** Solidify partnerships and alliances with NBFCs, MFIs, and technology firms to ensure they are robust and continue beyond the project lifespan. These partnerships should be structured to provide ongoing support to the local communities and FPOs.
5. **Sustainable FPO Development:** with a clear roadmap for FPOs to achieve financial management self-reliance, ensuring they can maintain compliance and access to banking services independently. This might involve setting up internal training programs, mentorship structures, or partnerships with local financial institutions.

Risk and Mitigation Strategy

Risk	Likelihood	Impact	Mitigation Strategy
Lack of access to financial resources	Moderate	High	- Conduct financial literacy campaigns to raise awareness
			- Facilitate collaboration with banks and financial institutions
			- Establish a network of banking correspondents for outreach
Insufficient capacity of FPOs and staff	Moderate	High	- Implement training programs for capacity building
			- Collaborate with NABARD and RBI for expertise and guidance
			- Engage in regular DLCC meetings to align with RBI's efforts
Regulatory hurdles	Low	Moderate	- Ensure compliance with RBI and NABARD regulations
			- Develop clear policies and procedures for financial activities
			- Maintain transparent governance and record-keeping
Market fluctuations and weather risks	Moderate	High	- Promote crop insurance and risk mitigation strategies
			- Encourage FPOs to diversify their agricultural activities

V. Implementation phasing

The project implementation steps with phasing for the important activities planned under the project is provided in Appendix C2A2.

Appendix C2A1: Grant regime and financing plan for household level investments

Category of beneficiaries	Example activities	Grant/Loansize	Grant/ loan policy
Farmer Producer Organizations	Equity support for mobilizing equity capital for the FPOs	Max Rs 2000 per member.	Matching equity support (50%) from the project – additional incentives to women and youth to be worked out by the project but not exceeding Rs 3,000 per women/youth member
Farmer Producer Organizations	Collective investments (semi-public) – aggregation of inputs and outputs, farm mechanization units, collective irrigation/water management systems, orchard management business and other businesses.	Unit cost Rs 200,000 to Rs 1,000,000. 80% grant initially.	These investments will be available to FPOs with minimum 100 members and have mobilized required contribution of 20% based on a participatory business planning. During the project implementation systems will be built to provide loans to FPOs and thereafter this support will be reduced.
Smallholder farmers for niche agricultural crop production	Support for enhancing production and productivity. Diversification into Saffron, Black Cummin, Aromatic rice, Off-season vegetables, aromatic and medicinal plant and other niche crops	Unit cost of Rs 5000 to Rs 34,000 per Kanal. 50% grant	The project will target FIGs and individual farmers. to provide this support. Balance 50% either from own contribution of the farmer or through loans under Kisan credit card.
Smallholder farmers for niche agricultural crop production	Vegetable seed business and seed cluster development	Unit cost of Rs 300,000 to Rs 500,000. 50% grant	The project will target FIGs, FPOs and individual farmers. Balance 50% from own contribution of the farmers.
Small holder farmers for horticultural crop production	Support for enhancing production and productivity of horticultural crops and diversification and intensification of fruit and nut crops – Apple, Walnut, Mango, Litchi, Citrus, Kiwi and others	Unit cost of Rs 20,000 to Rs 200,000 per Kanal. 50% grant	The project will target FIGs and individual farmers. Balance 50% from own contribution of the farmers. During project implementation products for financing the horticultural crops will be introduced and thereafter the grant support will be reduced.

Small holder farmers for horticultural crop production	Support for horticultural nurseries, solar fencing, irrigation facilities	Unit cost of Rs 200,000 to rs 1,000,000. 50% grant	The project will target FIGs, FPOs and individual farmers. Balance 50% from own contribution of the farmers. During project implementation innovative products for financing these activities will be introduced and thereafter the grant support will be reduced.
Entrepreneurs	Grading lines, processing units, CA storages, mushroom production, agri-tourism, honey production and processing and others	Unit cost from Rs 200,000 to Rs 2,000,000. In some cases such as CA stores cost may reach Rs 105 million. Grant of 50% but not exceeding Rs 10 million.	The project will target individuals, partnerships and companies. Grant release linked to financing of loans from banks. During project implementation innovative products for financing these activities will be introduced and thereafter the grant support will be reduced. The project will establish special incentives to attract women and youth.
Start-ups	Start-up businesses in agri and allied sectors	Only seed capital of Rs 200,000 per start-up to be provided as grant and all scale up capital will be accessed through bank loan and convergence.	The project will target individuals with business idea and mentor them to grow into businesses. The mentorship will include both technical and financial mentorship.
Vulnerable community support	Milk collection centres, processing of milk products, ice boxes for fisherfolk (largely semi-public investments)	Unit cost of Rs 120,000 to Rs 1,000,000. 80% grant	The project will target vulnerable communities comprising pastoralists and fisherfolk.
Vulnerable community support	Micro-enterprise support - trading, small shops, livestock units	Unit cost of Rs 200,000. 50% grant	The project will target vulnerable communities who have started settling down. Grant release linked to financing of loans from banks

Appendix C2A2: Implementation Phasing

S. No.	Activity	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Project Closing
A	Preparatory Activities									
	Obtain approval of GoJ&K for the project									
	Seek supplementary budget of INR 5.00 Crores for initial project expenditure									
	Issuance of a notification nominating a Secretary level officer as Mission Director of JKCIP reporting to the PS, DAP&FW									
	Finalize project blocks									
	Finalize terms of reference and RFP for baseline survey									
	Submit project readiness check list to DEA									
	Constitute a delegation to negotiate and initial the negotiated text of the financing agreement with IFAD									
	Staff recruitment for JKCIP-PMU									
	Conduct a start-up workshop									
B	Climate-smart and market led production									
1	Upscaling Collectivization									
	a) Capacity building									
	Review FPOs and identify business verticals									
	Develop curriculum for training FPO Development Officers									
	Develop curriculum for FPO manager and Accountants									
	Develop curriculum for FPO leaders									
	Recruit FPO Development Officers									
	Conduct training of FPO development Officers									
	b) FPO mobilization									
	FPO mobilization around a business of community's interest									
	Conduct training of FPO staff and FPO leaders									
	FPO business planning									
	Develop and approve business proposals of FPOs									
	Conduct rating of FPOs									
2	Niche Agricultural Support									
	a) Capacity building -niche crops									
	Develop curriculum in Climate smart and GAP									
	Train the trainers									
	Train the farmers									
	b) Saffron Centre of Excellence - Business plan									
	Engage an agency for preparing a business plan for Saffron CoE									
	Conduct a workshop to present findings									
	Prepare a policy note									
	Make an action plan									
	Implement the action plan									
	c) Tulip-CoE									
	Assess research requirements for Tulip propagation									
	Prepare a research action plan									
	Engage an agency for conducting Tulip-CoE feasibility study									
	Review the feasibility study and prepare an action plan									
	Implement the action plan									

S. No.	Activity	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Project Closing
	d) Seed system development									
	Develop a seed village scheme for implementation									
	Identify FPOs and seed villages									
	Build capacity of farmers									
	Implement seed village concept									
	e) Vegetable seed business									
	Identify FPOs interested in seed business									
	Identify private sector seed companies interested in partnerships with FPOs									
	Build capacity of farmers									
	Implement vegetable seed business activity									
	f) Production expansion									
	Prepare schemes for production expansion of important niche crops									
	Identify farmers in clusters									
	Build capacity and implement the schemes									
	g) Protected cultivation									
	Prepare schemes for protected cultivation									
	Identify farmers in clusters									
	Build capacity and implement the schemes									
	h) Water management									
	Prepare schemes for water management									
	Identify farmers in clusters									
	Build capacity and implement the schemes									
	i) Weather advisory services									
	Establish a working group									
	Prepare a plan for providing advisory services									
	Implement the plan									
3	Horticultural Crop Support									
	a) Capacity building -horticultural crops									
	Develop curriculum in Climate smart and GAP									
	Train the trainers									
	Train the farmers									
	b) Horticulture Centre of Excellence - Business plan									
	Engage an agency and prepare a business plan									
	Conduct a workshop to present findings									
	Prepare a policy note									
	Make an action plan									
	Implement the action plan									
	c) Study apple expansion system									
	Engage an agency and study the apple expansion system									
	Conduct a workshop to present findings									
	Prepare a policy note									
	Make an action plan									
	Implement the action plan									

S. No.	Activity	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Project Closing
	d) Nursery development									
	Identify entrepreneurs interested in high tech nurseries		■							
	Facilitation for DPR preparation and bank linkages		■	■	■	■				
	Capacity building		■	■	■	■				
	Implement nursery business		■	■	■	■	■			
	e) Solar fencing									
	Identify areas and farmers for solar fencing		■							
	Prepare a scheme for supporting solar fence		■	■	■	■	■			
	Implement		■	■	■	■	■			
	f) Water management									
	Prepare schemes for water management		■							
	Identify farmers in clusters		■	■	■	■	■			
	Build capacity and implement the schemes		■	■	■	■	■			
	g) Production expansion									
	Prepare schemes for production expansion of important horticultural crops		■							
	Identify farmers in clusters		■	■	■	■	■	■		
	Build capacity and implement the schemes		■	■	■	■	■	■	■	
	h) Rejuvenation Scheme									
	Need assessment and creation of a business model for rejuvenation		■							
	Consultation with FPOs and selection of farmers interested in this business		■	■	■	■	■	■		
	Build capacity of farmers		■	■	■	■	■	■		
	Make a rejuvenation business plan for FPOs		■	■	■	■	■	■		
	Implement the rejuvenation plan		■	■	■	■	■	■		
	h) FPO-Input services									
	Selection of potential area & FPO		■							
	Build a scheme for assistance to FPOs		■	■	■	■	■	■		
	Capacity building and linkages with private sector agro-chemical companies		■	■	■	■	■	■		
	Rollout the business		■	■	■	■	■	■		
	i) FPO- Farm Machinery									
	Selection of potential area & FPO		■							
	Farm machinery need assessment		■	■	■	■	■	■		
	Build a scheme for assistance		■	■	■	■	■	■		
	Capacity building		■	■	■	■	■	■		
	Rollout of farm machinery banks		■	■	■	■	■	■		
	j) FPO-output aggregation									
	Selection of potential area & FPO		■							
	Assess scope for collective marketing of output		■	■	■	■	■	■		
	Develop a scheme for assistance		■	■	■	■	■	■		
	Capacity building		■	■	■	■	■	■		
	Rollout of output aggregation		■	■	■	■	■	■		

S. No.	Activity	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Project Closing
C	Agri-business ecosystem development									
1	Enterprise promotion support									
a)	Business led enterprise development									
	Identify existing entrepreneurs interested in supporting other entrepreneurs through market linkage.									
	Seek and appraise the proposals									
	Approve the proposals and start implementation									
b)	Enterprise promotion									
	Prepare schemes for supporting various types of enterprise									
	Seek applications and provide business development service									
	Conduct meetings with banks and initial due diligence									
	Bank loan approval and enterprise establishment									
c)	Matching grant reduction strategies									
	Engage an agency /Consultant to develop a strategy for reducing matching grant.									
	Conduct a consultation to discuss the strategies and work out modalities for developing a pilot									
	Take approval and implement a pilot									
2	Market promotion support									
a)	Multi-stakeholder platforms									
	Constitute an inter-Directorate focal group separately for Agriculture and Horticulture to conduct MSPs									
	Identify market players and producers interested in market linkage									
	Conduct MSPs									
	Workout market linkage agreements									
b)	Trade fair participation									
	Prepare a calendar of events									
	Publicize the criteria for selection of participants									
	Seek proposals from interested entrepreneurs									
	Select and provide support									
c)	Buyer seller meet									
	Plan and budget preparations									
	Identify buyers and sellers and seek their participation									
	Organize buyer-seller meets									
d)	Product development									
	Conduct a workshop									
	Engage reputed institutions to develop products									
	Provide technology to entrepreneurs									
e)	Brand development and promotion									
	Engage an agency to develop brand strategy and promotion									
	Implement the strategy									
f)	Export/Logistic Hub									
	Establish quality control labs									
	Engage an agency to assess the feasibility of establishing export hub/logistic hub									
	Make plans for establishment of export hub/logistic park									

S. No.	Activity	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Project Closing
3	Incubation and start-up									
	Organize visit of Incubations centre staff to IIM-Jammu and IIT-Jammu		■							
	Engage IIM-Jammu and IIT-Jammu as mentors for the Incubation Centres.		■							
	Establish Incubation Centre Spokes in the KVK of each district.		■							
	Conduct bootcamps/Ideathons in each district.		■							
	Provide mentoring support to select ideas/concepts.		■							
	Conduct challenges for providing seed capital to select start-ups.		■							
	Continue providing mentoring support.		■							
	Link the start-ups to other sources of finance.			■						
C	Support to vulnerable communities									
1	Support to pastoralists									
	a) Wool sector support									
	A wools market survey		■							
	Engage an agency to conduct a wool sector study		■							
	Review the recommendations of the wool sector study		■							
	Take steps to implement activities agreed			■						
	b) Goat breed improvement									
	Identification and Selection of beneficiaries		■							
	Prepare a structured breeding plan		■							
	Strengthening of existing Govt Goat farms as breed multiplication and quarantine station		■							
	Purchase of improved Bucks from neighbouring states and their quarantine			■						
	Distribution and replacement of Bucks			■						
	Monitoring and Evaluation of performances and improvement in breed			■						
	c) Equine breed improvement									
	Formation of Study Team		■							
	Conduct the equine breed improvement study		■							
	Review the recommendations of the study		■							
	Take steps to implement activities agreed			■						
2	Support to other vulnerable groups									
	a) Milk supply chain									
	Milk surplus and market assessment study & DPR preparation		■							
	Identification of places for 12 Milk Collection Units(BMCs) and establishment		■							
	Identification of places for 08 Milk Processing Units (MPUs) and establishment		■							
	Training and Capacity Building of SHGs and members of vulnerable communities in milk handling and processing			■						
	Branding, Marketing and milk value chain development			■						
	b) Sheep and goat scheme									
	Identification and selection of eligible beneficiaries		■							
	Prepare a scheme for support of SCs/STs		■							
	Capacity Building and Training		■							
	Procurement and distribution of Sheep/Goat Units		■							
	Establishment of market linkages			■						

S. No.	Activity	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	Project Closing
	c) Iceboxes to fisherfolk									
	Identification and selection of eligible beneficiaries									
	Capacity Building and Training									
	Procurement and distribution of Ice Boxes									
	Establishment of market linkages									
	d) Enterprise support- Income diversification									
	Preparation of a scheme for supporting enterprise development									
	Identification and selection of eligible beneficiaries									
	Selection of Enterprises as per choice of beneficiaries									
	Preparation of enterprise proposals and due diligence									
	Capacity Building and Training									
	Support for establishing enterprises									
	Establishment of market linkages									
3	Integration of youth									
	Prepare guideline/scheme for supporting youth clubs									
	Identification and selection of Youth clubs									
	Training of youth club members									
	Preparation of proposals for support									
	Approval of the proposal									
	Implementation of the proposal									
D	Knowledge Generation and Dissemination									
	Conducting studies to generate knowledge									
	Preparation of success stories									
	Knowledge sharing through social media									
E	Planning, MIS and M&E									
	Development of MIS software									
	Baseline survey									
	AWPB and Procurement Plan submission									
	Mid-line survey									
	Submission of ORMS									
	Midterm review									
	Endline survey									
	Project Completion Report									

Chapter 3 : Project Organization and Management

A. Introduction

1. Project Management structures are built to ensure the efficient delivery of project services including fund flow. IFAD projects in India use three models of project management: (i) project management structure built into the existing corporations; (ii) a separate PMU built into the implementing Department's structure; and (iii) a separate society is established, or an existing society used as the Lead Project Agency for implementation. The advantages of working with the corporations and societies include the ability to retain unspent funds at the end of the fiscal year enabling these institutions to start project activities without waiting for budget release. However, the current regulations allow declaring the implementing Department as a Nodal Agency with a budget that is non-lapsable at the end of the financial year.

2. GoJ&K uses the non-lapsable fund model for implementing the central sector projects by nominating the implementing Department as the Nodal Agency by allowing this agency to open separate bank accounts outside the regular Treasury system to manage fund flow with non-lapsable funding from the government budget. It also uses the society model of implementation to implement specific programmes/missions by the Rural Development, Health, Education and e-governance departments.

3. APD would be the Lead Project Agency and would be nominated as J&KNodal Agency to operate a non-lapsable bank account and to receive funds from budgetary allocation. A PMU will be established within the APD to implement JKCIP. Field level implementation will be undertaken by the project implementation parties comprising Directorates of Agriculture, Horticulture, Agriculture Marketing and Animal Husbandry, Sher e Kashmir Universities of Agriculture Science and Technology, APEDA and other relevant Directorates/Agencies of GoJ&K and GoI both in Jammu and Kashmir regions.

B. Project Management

4. At the central level, DEA would be the nodal agency for the project and the APD, GoJ&K would be the Lead Project Agency. The following agencies will be the major project parties for the implementation of the JKCIP:

- a. Directorates of Agriculture - Jammu and Kashmir
- b. Directorates of Horticulture - Jammu and Kashmir
- c. Sher e Kashmiri Universities of Agricultural Science and Technology – Jammu and Kashmir

5. The other project parties with limited roles include: (i) Directorates of Sheep Husbandry; (ii) Directorates of Animal Husbandry; (iii) Directorates of Floriculture; (iv) Indian Institute of Management, Jammu; (v) Indian Institute of Technology- Jammu; and (iv) any other agency under the overall supervision of APD.

6. Two broad principles would govern the management structure for this project. They include: (i) alignment to the existing government structure; and (ii) flexibility to make changes based on the requirements that may arise during the implementation phase. The project would be aligned with the existing government structure. A schematic presentation of the project management structure is provided in Appendix C3A1.

7. **J&K level Project Management:** The project intends to build the capacity of the existing structures comprising Directorates and Universities in both Jammu and Kashmir regions. The proposed management structure is built around the core competencies of the existing Directorates which will enable integration of the project activities into the regular

government programme and structures. A PMU of JKCIP will be established within the PMU of HADP. The JKCIP-PMU will be responsible for overall technical, coordination, financial management and other compliance requirements of the project comprising consolidated AWPB and procurement plan preparation, consolidated M&E and MIS, preparation of withdrawal application, audit and procurement guidance and support. JKCIP-PMU will report to the Secretary of APD who will be nominated as the Mission Director reporting to the Principal Secretary, APD.

8. The JKCIP-PMU will be supported with staffing related to overall technical domains, financial management, Planning and M&E, Procurement and Knowledge management and other mainstreaming priorities. The staffing support to JKCIP-PMU will include: (i) Agriculture Specialist; (ii) Horticulture Specialist; (iii) Rural Finance Specialist; (iv) Procurement Specialist; (iii) Managers - Finance, Institutions, Planning and M&E, MIS, Gender and Youth and Knowledge Management. These professionals will report to the Mission Director.

9. Overall, JKCIP-PMU would be responsible for compliance to the stipulation of Financing Agreement signed between GoI and IFAD. More specifically the JKCIP-PMU will be responsible for (i) consolidation of project plans of the project implementation parties leading to preparation of consolidated AWPBs and PPs; (ii) budget-related functions with GoJ&K including seeking fund allocation and release; (iii) JKCIP-PMU level financial management and procurement; (iv) management and administration; and (v) co-ordination with GoI and IFAD as detailed below:

- a. Project planning, implementation and monitoring/ reporting: organizing Central Apex Committee, Empowered Committee and Executive Committee meetings, supporting project implementation parties in activity planning, technical backstopping and supervision of the activities being implemented by the project implementation parties, preparing and submitting consolidated AWPB after consolidating AWPBs of project implementation parties and JKCIP-PMU, preparing a procurement plan for review by IFAD; establishing an effective JKCIP-PMU level MIS and M&E system to track project progress and undertaking knowledge management activities.
- b. Financial management and procurement: incorporating the budget requirements of the project as per the AWPB submitted by the project implementation parties into the overall budget of the GoJ&K and ensuring flow of funds; ensuring release of funds to the PIUs for implementing project activities; operating Project Accounts for timely release of funds to the PIUs; receiving statement of expenditure related to fund release and keeping an account of fund release and utilization; preparing overall project financial statements; and assisting the PIUs in evaluating bids, and finalizing and executing contracts with service providers and suppliers of goods and services for implementing various project activities.
- c. Management and administration: liaising with the other line departments to ensure coordination and convergence to facilitate PIUs in project implementation; preparing and submitting progress reports semi-annually and annually to IFAD by consolidating the reports received from PIUs; and establishing an effective MIS and M&E system to track project progress.
- d. Reporting and co-ordinating with GoI and IFAD: preparing and submitting withdrawal applications to GoI/CAAA for onward transmission to IFAD; ensuring preparation and submission of annual audit reports and financial statements to IFAD and ensuring compliance to the audit observations; and preparing and submission results data as per the logframe and physical progress data requirements of IFAD.

10. APD will mainstream project implementation within the management of the project parties implementing the project. The project will provide incremental staff related to compliance to the major project parties. The project parties will be responsible for planning, managing and supervising the implementation of project activities by harmonising them with their existing district and block-level structures. The Director/Head of the Directorate will be responsible for project implementation. The staffing for the major project parties include: (i) Planning and M&E Officer, (ii) Gender and Youth Officer; (iii) Procurement Officer' and (iv) Finance Officer.

11. All contractual staff recruitments will be on a competitive basis in compliance with IFAD guidelines. The contractual staff engaged in this project will be either sourced using a service provider or directly by the Department/Directorate concerned. The Terms of reference are provided in Appendix C3A2.

12. The main function of the project parties will be as follows:

- a. Programme planning, implementation and monitoring/ reporting: Preparing project implementation plans for the activities allocated to the Directorate; conceptualizing, planning, supervising, and monitoring project activities and their progress towards achieving physical, financial and outcome-related targets and organizing project review meetings; preparing and submitting AWPB after consolidating AWPBs of the District Offices and a procurement plan for review by JKCIP-PMU; establishing an effective MIS and M&E system to track project progress; and supporting JKCIP-PMU in undertaking knowledge management activities.
- b. Financial management and procurement: preparing the project AWPB and submitting budget requirements to the JKCIP-PMU; seeking fund release from the JKCIP-PMU and ensuring release of funds to the District Offices for implementing project activities; operating project accounts for timely release of funds to the Districts and other partners; receiving statement of expenditure and supporting documents related to fund release and keeping an account of fund release and utilization; preparing overall project financial statements related to the respective sector and submitting to JKCIP-PMU; procurement related functions related to the respective sector including evaluating bids, and finalizing and executing contracts with service providers and suppliers of goods and services for implementing various project activities.
- c. Management and administration: liaising with the JKCIP-PMU and other line agencies to ensure coordination and convergence to facilitate project implementation; preparing and submitting progress reports semi-annually and annually to JKCIP-PMU; and establishing an effective MIS and M&E system to track project progress.
- d. Activity Implementation: Implement the activities planned in the AWPB and report to the JKCIP-PMU on the progress.

13. The project would fund the capacity building of the staff of the project implementation parties, the development of a computerised accounting system and an MIS. The project would also fund the contracting of specialist agencies for conducting a baseline survey, a mid-line survey and an end-line survey and preparation of a Project Completion Report at the end of the project.

C. Project Coordination Mechanisms

14. GoJ&K has established a four-tier governance structure for managing the implementation of HADP vide Government Order No: 144-JK(GAD) of 2023 dated: 31.01.2023 comprising: (i) a Central Apex Committee; (ii) an Empowered Committee; (ii) an Executive Committee; and (iv) a District level Committee. JKCIP's coordination and governance structures will be nested within these structures. A schematic presentation of the project coordination structure is provided in Appendix C3A3.

15. The **Central Apex Committee** would function as the Apex Governing Body chaired by the Hon'ble Lieutenant Governor of GoJ&K. The members will include the Chief Secretary, Administrative Secretary, Finance Department, Administrative Secretary, APD&FW, Administrative Secretary, Industries and Commerce Department, Administrative Secretary, Forest, Ecology and Environment Department, Administrative Secretary, Rural Development & Panchayati Raj Department, Administrative Secretary, Revenue Department, Administrative Secretary, Cooperatives Department, Administrative Secretary, Planning, Development and Monitoring Department, Vice Chancellors SKUAST, Jammu and Kashmir with the Mission Director, HADP as the Member Secretary.

16. The main functions of this committee include: (i) Mentorship, extension of Vision, Directions and setting Priorities; (ii) Extension of strategic support for program implementation; (iii) Overall monitoring of the progress of the HADP; (iv) Approve the projects along with operational guidelines based on sectoral needs; (v) Approve necessary changes if any (such as deletion, addition and modification of any project) with regard to the plan, without altering the total funding and allocation; and (vi) Policy guidance & direction.

17. The **Empowered Committee (EC)** would be the main inter-departmental coordination mechanism with the Chief Secretary, GoJ&K as the Chairperson. The members will include, the Administrative Secretary, Finance Department, Administrative Secretary, Agriculture Production Department, Administrative Secretary, Industries & Commerce Department, Administrative Secretary, Forest, Ecology and Environment Department, Administrative Secretary, Rural Development & Panchayati Raj Department, Administrative Secretary, Revenue Department, Administrative Secretary, Cooperatives Department, Administrative Secretary, Planning, Development and Monitoring Department, Vice Chancellors SKUAST, Jammu and Kashmir, Chief General Manager, NABARD, Managing Director, J&K level Bankers Committee with Mission Director, HADP as the Member Secretary. Provision exists for the inclusion of progressive farmers of the various districts as members to be nominated by the Administrative Secretary, APD&FW. The Chairperson may co-opt domain expert(s) as members of the Empowered Committee.

18. The main functions of this committee include: (i) approve re-appropriation of funds and necessary revisions to sub-components/activities during the course of implementation of HADP based on field situations, requirements and feedback from implementing agencies so as to remove difficulties in the implementation of HADP; (ii) Approve revision of physical targets and financial allocations of the sub- components/activities including revision of the year-wise physical targets of individual sub-components/activities within the overall financial allocations based on the sectoral demands, local priorities and pace of fund off-take; (ii) approve need-based changes to the sub-components/activities within the broad framework of the scheme based on the sectoral priorities, requirements and feedbacks from the implementing agencies, fund off-take, local needs, etc. so as to remove difficulties in implementation and for optimal outcomes; (iv) Approve Annual Action Plan indicating physical and financial targets including anticipated outcomes of the year under the "Holistic Agriculture Development Plan" based on the progress of preceding year(s), pipeline proposals (in hand), annual budgetary allocation, financial liability of previous years,

demands and needs of the sector, inputs/preparedness of project parties, etc.; (v) approve inclusion of activities/components/effective technologies, and exclude unviable activities/ components/ technologies taking into consideration the sectoral needs and demands; (v) earmark the extent of funds under administrative expenses that would be released to the Implementing Agencies based on the recommendations of the Executive Committee; and (vi) update the cost norms of different activities as required from time to time due to variation of the price index of different commodities related to a particular activity.

19. The Empowered Committee would meet on an annual basis and its function would be to secure interdepartmental coordination and linkages for JKCIP. It would: (i) review the progress of the project based on the reports submitted by the JKCIP-PMU; (ii) resolve any issues related to interdepartmental coordination and convergence; and (iii) resolve any policy bottlenecks that impact project implementation. The Chairperson, on the advice of the Administrative Secretary, APD may convene special meetings of the Empowered Committee.

20. The **Executive Committee** under the chair of the Administrative Secretary, APD&FW will be responsible for the overall implementation of HADP with the Mission Director as its convenor. The members include the Project Head, Agriculture, Project Head, Horticulture, Project Head, Livestock, Project Head, Marketing & Value Addition, Project Head, R&D. VC, SKUAST-J, VC, SKUAST-K along with representatives from concerned faculties, Director Agriculture, Jammu/Kashmir, Director Horticulture, Jammu/Kashmir, Director Animal Husbandry, Jammu/Kashmir, Director Sheep Husbandry, Jammu/Kashmir. Director Sericulture, J&K, Director, Horticulture Planning & Marketing, J&K, Director Fisheries, J&K, Chief General Manager, NABARD, Managing Director, J&K level Bankers Committee, representative of Jammu and Kashmir Horticulture Produce Marketing Board. 21. The main functions of the Executive Committee include: (i) implementing and monitoring the projects and furnishing their progress on a quarterly basis; (ii) monitoring the implementation of project(s) at the ground level; (iii) making changes in guidelines as approved by the Empowered Committee; (iv) handholding in implementing and executing the projects on the ground; (v) making recommendations to the EC from time to time for continuous improvement of implementation of the HADP; (vi) handholding beneficiaries to facilitate them to submit the proposal; (vii) undertaking outreach of the scheme; and maintaining liaison with the respective banks for monitoring the fund flow to the beneficiary.

22. Under JKCIP, the Executive Committee of HADP will convene a meeting on a quarterly basis and if necessary, by region/province. This committee will be vested with the responsibilities to provide strategic and policy guidance, approve the Project Implementation manual and amendments, approve project staff selection, approve Annual Work Plan and Budget, procurement plan, fund allocation and obtaining budgetary allocation, review project progress, approval of manuals of procedures, coordination and communication with DEA and IFAD for on project related matters including requesting changes loan allocation within the initially approved categories, oversee the external and internal audit process and take action on findings, ensure coordination among all stakeholders, and provide guidance to project management. In the interest of fast-tracking implementation, the PMU may obtain approval from the Chairperson and thereafter seek ratification from the Executive Committee. The Chairperson, on the advice of the Member Secretary, may convene special meetings of the Executive Committee.

23. The **District Level Committee** is responsible for overall field-level coordination and implementation review. The District Magistrate is the Chairperson of this committee. The members include the District Heads of Line Departments such as Agriculture, Horticulture,

Animal Husbandry, Sheep Husbandry, Sericulture, Fisheries, Forest, KVK-SKUAST, Horticulture Planning and Marketing and Horticulture Produce Marketing Board, District Lead Bank Manager, District Manager, NABARD, General manager, District Industries Center, District level representative from the Cooperative Department, Rural Development & Panchayati Raj Department Revenue Department and progressive farmers nominated by the District Magistrate.

24. The functions of the District Level Committee include: (i) implementation of the HADP at the District Level including its supervision and monitoring; (ii) approval of beneficiaries for Beneficiaries oriented individual/group activities of HADP' (iii) convergence of activities under HADP with activities/interventions of other Schemes and programs at the district level; and (iv) facilitate fostering linkages with Banks/Financial Institutions to the beneficiaries.

25. The DPCC would meet quarterly to discuss the project implementation progress, constraints and remedies. The most important function of this committee is to ensure flow of convergence funds to the project communities for implementing agriculture and horticulture-related activities.

D. Implementation Plans

Preparatory Phase Implementation Steps for project readiness

Pre-loan negotiation

1. The following agreements have been reached:
 - a. Submission of final detailed project design report by IFAD to APD by 1, December 2023 and the AP&FWD to seek GoJ&K approval for the project by 15 December 2023.
 - b. Prepare a list of activities and approximate cost allocation for allocation under retroactive financing from out of the activities indicated in the detailed cost tables by 30 November 2023.
 - c. Approval of APD as the State Level Nodal Agency for implementing JKCIP with authorization to open Bank Accounts at the APD level and also the level of Project Party.
 - d. Issuance of a notification nominating a Secretary level officer as the Mission Director of JKCIP.
 - e. Block Selection:
 - APD to conduct a state-level consultation with the officials concerned from the Directorates of Agriculture, Horticulture and Animal Husbandry to identify about 90 project blocks within the project area taking into account the exclusions and value chain prospects as detailed in the PDR.
 - APD to provide a list of blocks to be covered under JKCIP as per the format provided below to IFAD.

District	Block	Total number of HHS	No. of BPLHHS	No. of SC/ST HHS

Total				

- f. Finalize terms of reference, procurement modality and initiate the process for engaging contractual staff for the project.
- g. Finalizing terms of reference and Request for Proposals for baseline survey.
- h. Preparation and approval of implementation plan and project readiness checklist and submission to DEA by 15 February 2024.
- i. Constitution of a state delegation authorised by the Lt Governor/Chief Secretary to negotiate and initial the negotiated text of the financing agreement on behalf of GoJK by 4 March 2024.

Post Loan Negotiation and before effectiveness

a. Overall steps

- Issue a notification to use the committee established under HADP to concurrently function as project governance structure of JKCIP
- Review and finalization of PIM and get the same approved by the Executive Committee.
- Establish the JKCIP-PMU and engage contract staff where necessary.
- Undertake procurement of all office equipment, technical team and service providers required for implementation.
- APD to sign project agreements with the project parties..

b. Financial Management

- CAAA to open a designated account for IFAD loan
- Open non-lapsable project bank accounts for JKCIP-PMU and other project parties.
- Appoint a Manager - Finance for the JKCIP-PMU and Finance Officers project parties on a contract basis.
- Establish an accounting system using Tally.
- Release funds to project parties as per AWP&B.

Post Loan Effectiveness

a. Start up

- Conduct a start-up workshop at J&K level to launch the project.
- Prepare AWPB for the first financial year and share the draft with IFAD for review before obtaining approval from the Executive Committee.

b. Project Management

c. Supervision

- JKCIP-PMU/Designated Officials of project parties to undertake supervision of the field-level activities and ensure implementation of project activities as planned.
- Designated Officials of project parties to submit regular reports to JKCIP-PMU and JKCIP-PMU in turn to the Executive Committee.
 - Action taken report to be submitted on the recommendations of IFAD's Supervision Mission reports within 30 days from the date of receipt of management letter.

d. Preparation of AWP&B

- JKCIP-PMU to provide an indicative budget for each project party.
- Based on the yearly plans of the project and indicative budget, AWPB for each project party is to be prepared and submitted to JKCIP-PMU.
- JKCIP-PMU to consolidate these AWPBs and send the same to IFAD for comments and no-objection by 30 January every year.
- Based on comments of IFAD, JKCIP-PMU along JKCIP-PMU/Project parties to rework AWPB and present it to the Executive Committee for approval.
- Based on this, include the fund requirement of the AWPB into the budget of APD.

e. Fund flow

- As per the AWPB, JKCIP-PMU to seek the release of funds from GOJK and thereafter transfer them to Project parties.
- Fund to flow from the Directorates to their respective district offices.
- The fund recipients to submit a statement of expenditure every month certified by their authorised signatory.

f. Monitoring and Evaluation

- JKCIP-PMU to engage an agency specialized in M&E for conducting Baseline, midline and end-line surveys. A baseline survey to be undertaken during the first year of the project.
- JKCIP-PMU to engage an agency to develop a computerised management information system and integrate the system with the ongoing efforts of APD.
- JKCIP-PMU to develop a system for web-based uploading of photographs/videos related to demonstrations and field days with geo-tagging.

g. Knowledge Management

- Identify emerging best practices and contribute to knowledge management-related activities of the project.
- Prepare documentation of best practices and lessons for knowledge sharing and also place it on the website of the project.
- Undertake thematic studies covering various innovations and also effectiveness of government programmes that have been converged with the project.
- Develop knowledge-sharing platforms for knowledge dissemination amongst project parties, entrepreneurs and community cadre.
- Document replications resulting from such knowledge dissemination exercise.

h. Reporting

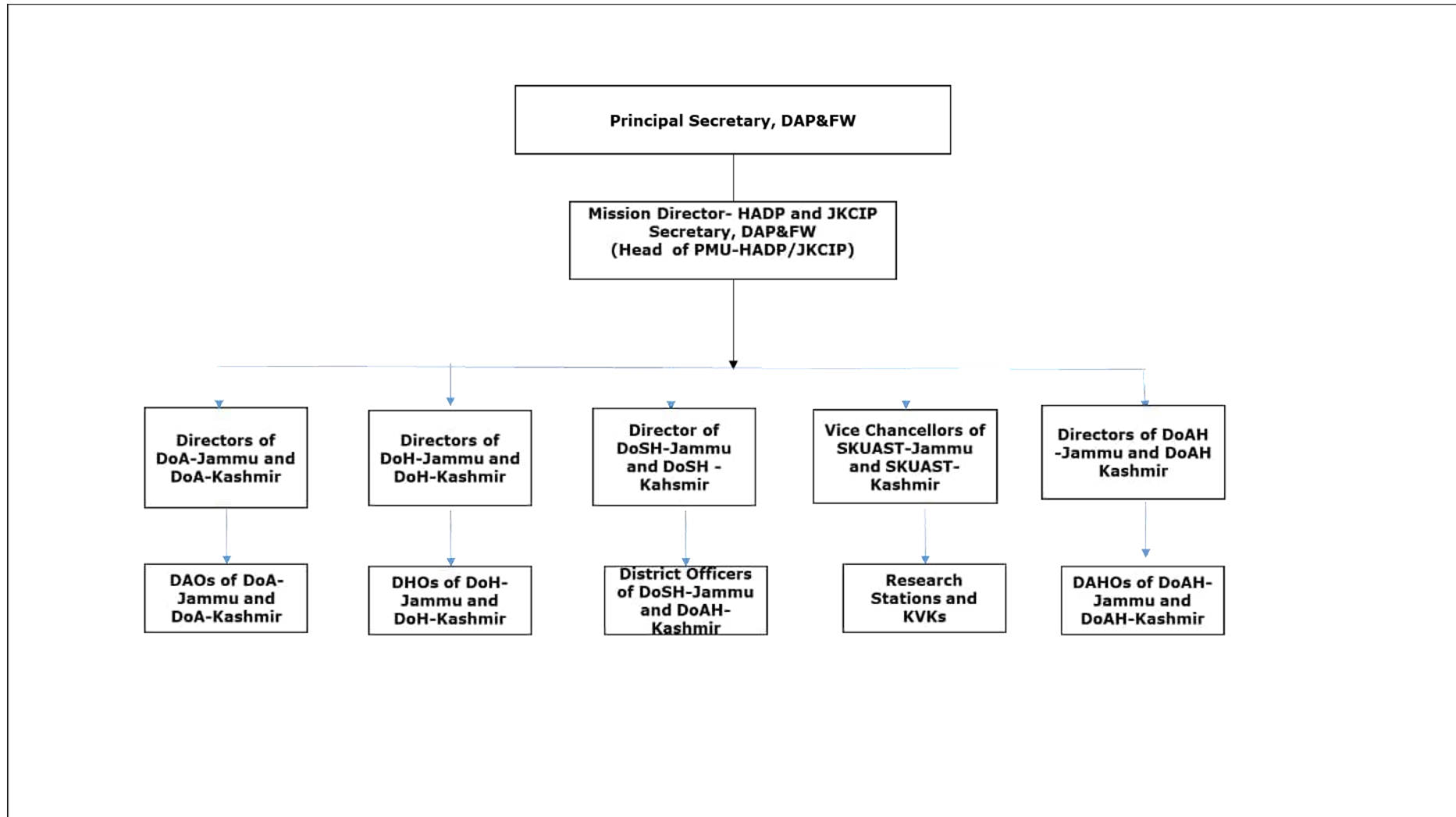
- Submit half-yearly and annual progress reports to IFAD within 45 days of the end of the reporting period.
- Submit half-yearly financial statements to IFAD within 45 days of the end of the reporting period.
- Submit ORMS report to IFAD by the end of March every year.
- Conduct a midterm survey to track the progress towards achieving outcome targets prior to midterm review.
- Submit an audited annual report with financial statements and management letter along with comments on the audit observations to IFAD by 30 September every year.

i. Project Closing

- Conduct a project completion end-line survey prior to the project completion date.
- Prepare a Project Completion Report and submit it to IFAD within two months from the date of project completion.
- Make only committed expenditure during the period between project completion date and loan closing date.

- Reconcile and submit all withdrawal applications.

Appendix C3A1: Project Management Structure



Appendix C3A2: Terms of Reference – Project Management

Mission Director

The Secretary, APD&FW shall be the Mission Director. Functions of Mission Director include:

- Implementing all the policies laid down by the Executive Committee.
- Ensuring that all project activities are being implemented in a timely manner.
- Exercising powers related to financial approvals, procurement and staff engagement as approved by the Executive Committee.
- Maintaining close coordination with the project parties comprising Directorates, Universities, and other partners.
- Ensuring compliance with the terms and conditions set out in the project financing agreement, project agreement, procurement arrangement letter and general condition of IFAD.
- Taking necessary actions to implement recommendations for resolving issues reported in the internal audit report and external auditor's management letter.
- Undertaking day-to-day management of the Project Management Unit.
- Planning and executing project activities in collaboration with the project parties.
- Supervising AWPB and procurement plan preparation at the level of project parties and also preparation and submission of the J&K-level AWPB.
- Supervising all project activities and ensuring that all project activities are being implemented in a timely manner.
- Undertaking regular PMU and project party staff meetings to review the progress and mitigate implementation challenges.
- Establishing an internal committee for receiving complaints of sexual harassment of women and completing inquiries in a sensitive and time-bound manner in accordance with the Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013.
- Incorporate gender-sensitive approaches to recruitment of staff and create a gender-sensitive working environment.
- Reviewing complaints related to fraud and Corruption, and taking necessary steps in consultation with the appropriate authorities of GoJ&K
- Functioning as the member secretary of the committees established for governing JKCIP.
- Performing such functions as may be delegated by the Principal Secretary, APD&FW from time to time.

Head of the Departments /Vice Chancellors – Project Parties (Directorates and Universities)

The Heads of the Departments/Vice Chancellors of the project parties will be responsible for field-level implementation of the project. Their functions related to JKCIP include:

- Supervising preparation and submission of consolidated AWPB and procurement plan for their activities.
- Exercising powers related to the financial approvals, procurement and staff engagement as approved by the Mission Director.

- Incorporating their project budget into the budget of APD, receiving budget allocations and releasing funds for implementation.
- Supervising the implementation of project activities as planned in the AWPB including allocation of tasks and supervising implementation of project activities by the district and block-level staff.
- Timely submission of proper progress reports, and financial reports as required by the PMU.
- Assist the Mission Director in complying with statutes enshrined in the Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013 and in gender-sensitive recruitment and in the creation of a gender-sensitive work environment.
- Maintaining close coordination with the J&K-level partners.
- Incorporate gender-sensitive approaches to recruitment of staff and create a gender-sensitive working environment.
- Reviewing complaints related to fraud and Corruption, and taking necessary steps in consultation with the appropriate authorities of GoJ&K
- Performing such functions as may be delegated by the Mission Director.

Agriculture Specialist

Qualifications:

- Bachelor's degree in Agriculture with a postgraduate degree in Agriculture or postgraduation in Management/Rural Management

Experience:

- Minimum 20-25 years of experience working in a senior position at the level of Director/Additional Director/Special Secretary.
- Should possess strong knowledge of the agricultural sector covering production, marketing and value addition with experience in working with Government Departments, Cooperatives and FPOs.
- Excellent communication and interpersonal skills, with the ability to work effectively with diverse stakeholders.

Job description

- Analyse technical and policy issues, strategies and programmes to support the development, competitiveness and inclusiveness of the agriculture sector.
- Conduct sector and supply chain analysis of major agricultural sub-sectors/niche markets that have potential in the region.
- Analyse the climate impacts in production and processing sectors and assess and implement suitable climate adaptation and/or mitigation measures. Conduct climate risk assessments where required.
- Capacitate FPOs, and staffs on climate change, its impact, and adaption and/or mitigation measures. Facilitate FPOs to access new and improved climate smart practices, tools, and technologies.
- Carry out comparative advantage assessment/other appropriate market-based analyses.
- Prepare guidelines for the implementation of activities related to FPO support, niche crop expansion, research and development requirements of the agricultural sector and value addition and marketing requirements of JKCIP.

- Supervise the implementation of agriculture and niche crop-related activities of the project through the Directorates of Agriculture and Universities of Agricultural Sciences and Technology.
- Support the Directorates in conducting value chain studies covering niche crops and organize multi-stakeholder workshops to identify value chain facilitators and market players.
- Prepare strategies for value addition including processing and assist the project in expanding the agri-processing businesses.
- Prepare guidelines for sub-project preparation by FIGs/FPOs to undertake agriculture/ Niche crop-related activities and implement the sub-project modality to converge with the existing schemes of the GOJK.
- Coordinate activities of the project related to vulnerable groups including SC and ST and youth.
- Provide the FIGs/FPOs with technical and financial advice related to production and productivity enhancement and in establishment of agriculture enterprises.
- Provide technical advice to project management on agribusiness-related topics.
- Any other task assigned by the Mission Director.

Horticulture Specialist

Qualifications:

- Bachelor's degree in Agriculture/Horticulture Sciences with a postgraduate degree in Agriculture/Horticulture or postgraduation in Management/Rural Management.

Experience:

- Minimum 10-15 years of experience working in a senior management position either in the private sector or public sector.
- Should possess strong knowledge of the horticultural sector covering production, marketing and value addition with experience in working with Government Departments, Cooperatives and FPOs.
- Excellent communication and interpersonal skills, with the ability to work effectively with diverse stakeholders.

Job description

- Analyse technical and policy issues, strategies and programmes to support the development, competitiveness and inclusiveness of the horticultural sector.
- Conduct sector and supply chain analysis of major horticultural crops that have potential in the region.
- Carry out comparative advantage assessment/other appropriate market-based analyses.
- Analyse the climate impacts in production and processing sectors and assess and implement suitable climate adaptation and/or mitigation measures. Conduct climate risk assessments where required.
- Capacitate FPOs, and staffs on climate change, its impact, and adaption and/or mitigation measures. Facilitate FPOs to access new and improved climate smart practices, tools, and technologies.
- Prepare guidelines for the implementation of activities related to FPO support, horticultural crop expansion, research and development requirements of the horticultural sector and value addition and marketing requirements of JKCIP.

- Supervise the implementation of horticultural crop-related activities of the project through the Directorates of Horticulture and Universities of Agricultural Sciences and Technology.
- Support the Directorates in conducting value chain studies covering horticultural crops and organize multi-stakeholder workshops to identify value chain facilitators and market players.
- Prepare strategies for value addition including processing and assist the project in expanding the horti-processing businesses.
- Prepare guidelines for sub-project preparation by FIGs/FPOs to undertake horticultural crop related activities and implement the sub-project modality to converge with the existing schemes of the GOJK.
- Provide the FIGs/FPOs with technical and financial advice related to production and productivity enhancement and in establishment of horticultural enterprises.
- Provide technical advice to project management on horticulture topics.
- Any other task assigned by the Mission Director.

Sr. Procurement Specialist

Qualification:

Graduate in commerce, business, finance, engineering or management

Desirable Qualification:

- Certification in Purchasing management and procurement systems:
- Post Graduate Diploma in Material/Supply Management Thorough knowledge of procurement procedures of International Financial Institution financed projects.
- Completion of Procurement training from a national-level institute
- MBA from any recognised university or institute

Experience:

- Post qualification, minimum ten (10) years of demonstrated managerial experience in managing procurement in the organization with complete understanding and experience on national procurement procedure, especially preparation of Expression of Interest, Notice Inviting Tender, Terms of Reference, Request for Proposal and bidding document for procurement of consultant services, goods and works.
- Preference will be given for experience in handling procurement funded by external agencies like World Bank, ADB, IFAD etc.
- Excellent communication and interpersonal skills, with the ability to work effectively with diverse stakeholders.

Job description:

The responsibilities of the Senior Procurement Specialist will be as follows:

- With reference to the project design document, IFAD procurement guidelines and Procurement Handbook, draw up draft project procurement manual for the project for approval by PMC and IFAD.
- Prepare and include relevant Community Procurement Guidelines and formats, if required and include in the PIM.
- Update the initial 18-month Procurement Plan prepared during design and ensure that the subsequent annual Procurement Plans are continuously updated in accordance with the procedure and procurement plan agreed with IFAD.
- Liaise with IFAD procurement staff.

- Co-ordinate with concerned subject matter specialist on procurement matters, especially preparation of TOR, technical specification etc.
- Lead preparation of bidding documents, evaluation, letters of awards, draft contracts etc. in the procurement of good/works and services including consultancies, in compliance with IFAD Procurement Guidelines and Procurement Handbook.
- Submit necessary documents as per the Project Procurement Arrangements Letter, to IFAD for those items subject to prior review.
- Facilitate/assist in getting NOC from IFAD wherever required.
- Co-ordinate with project team, organize and support evaluation committees for prompt evaluation.
- Make necessary arrangement for contract signatures.
- Supervise update of Contract Management details in IFAD ICP-CMT and prepare amendment letters to the contracts. As part of the contract management, in coordination with the concerned officials monitor the contractual provisions for compliance.
- Lead on providing capacity building and mentoring support to other PMU Procurement Staff and Implementing Parties Procurement staff.
- Monitor and provide technical guidance to Implementing Parties' procurement staff.
- Keep progress of procurement activities against procurement timetables, highlight variations in progress, record reasons and identify remedial actions, if any.
- Assist the Mission Director for placement of various documents/papers before Project Management Committee for review and approval, all types of audits of procurement activities, post review of IFAD, contracts exception reporting, etc.
- Ensure SECAP compliances are fully addressed.
- Liaise with any other appropriate authority for any dispute among the parties relating to procurement.
- Provide documentations and data to IFAD fielded Supervision Mission and Implementation Support Missions.
- Perform any other relevant work related to the project procurement assigned by the Mission Director.

Climate, Social, and Environmental Safeguards Specialist

Qualifications:

- A master's degree or higher in environmental science, social sciences, climate change, sustainable development, or a related field.

Experience:

- At least 5 years of professional experience in supporting safeguards implementation, with a focus on climate change adaptation and mitigation, in rural development projects
- Strong understanding and implementation capacity of climate resilience, environmental and impact assessment (ESIA) and climate vulnerability assessments.
- Familiarity with Government of India's safeguards policies; and IFAD and other international environmental and social safeguard standards and their practical application in development projects.

- Demonstrated ability to develop and implement social and environmental management plans and monitoring frameworks.
- Experience in mentoring, providing on-the-job training, and professional support.
- Excellent communication and interpersonal skills, with the ability to work effectively with diverse stakeholders.

Job Description:

- Provide technical support to the PMU and lead in all aspects of social, climate, and environmental Safeguards and risk management, including guidance to PMU team on Safeguards issues, documentation and quality assurance.
- Overall lead on timely and quality implementation and monitoring of ESCMP and all SECAP requirements.
- Assess Environmental, Social, and Climate Management Plan (ESCMP) implantation effectiveness, and recommend improvements where necessary to regularly update the ESCMP.
- Lead to implement Free, Prior, and Informed Consent (FPIC) where necessary following FPIC implementation plan, and ensure all the necessary documentation.
- Update and simplify FPIC implementation Plan as necessary.
- Support M&E specialist to include ESCMP related indicators to M&E framework; technically support to design data collection tool and methods; and analyse and interpret data to include in periodic reports.
- Conduct thorough assessments and screenings of project proposals to identify potential social and environmental risks and opportunities for climate resilience enhancement.
- Engage with project teams, partner organizations, and local communities to ensure their meaningful participation in the assessment process.
- Facilitate knowledge-sharing and capacity-building activities to enhance the understanding of social, environmental, and climate assessment procedures among project teams and partners.
- Ensure alignment with international best practices and standards related to climate resilience, environmental and Social impact assessment (ESIA), and climate vulnerability assessments.
- Ensure meaningful stakeholder engagement and support PMU to document the process.
- Lead to ensure grievance redress mechanism. Ensure documentation and reporting of all the complaints.
- Monitor the implementation of Safeguards Related Technical Assistance and studies including social baselines, application of simple and practical implementation tools such as checklists, standard operating procedures, codes of practice; and others.
- Support the preparation and implementation of the Social and Environmental Safeguard Training Program for the Project as needed.
- Be responsible for the social and environmental safeguards aspects of the reports and provide inputs to the Environmental and Social Monitoring reports, including timely information on the implementation of relevant social and environmental safeguard instruments, and status of analytical work; Coordinate with the M&E staff and consultants in the respective member on monitoring the specific gender commitments under the Project;
- Ensure that considerations must be given to compliance with local and national labor laws and relevant core labor standards where different populations are inducted into the workforce by civil works contractors, and subcontractors.
- Support IFAD missions in related themes and ensure that the mission suggestions are well implemented.

- Prepare high-quality reports, documentation, and knowledge products on climate adaptation and social, environmental safeguards implementation for internal and external stakeholders

Rural Finance Specialist

Qualifications:

- Post graduate degree in economics, business administration, finance, accounting, and agribusiness.

Experience:

- Work experience in banking for 15 years out of which at least 7 years in rural banking, agri banking and small farmer and agribusiness credit, and MSME financing.
- Experience in the implementation of internationally financed projects would be an added advantage.
- Good knowledge of the different national banking and financial institutions in the area, insurance companies, concerned with rural/agriculture finance and insurance, strong communicator, capacitate and work with them.
- Experience in agribusiness or in agriculture is a plus.
- Experience in creative and/or innovative finance is a major plus.
- This role is the key link between financial service providers and the project clients/beneficiaries.

Job Description:

- Development of a rural finance strategy for the project, including assessment of the market needs, the supply of finance, barriers to access finance and a strategy for engagement of financial institutions with the outreach and interest in serving the high value horticulture, agriculture, etc market.
- Conduct climate risk assessment for the production or enterprises/business support.
- Plan, implement and monitor Rural Financial Services related activities by taking overall responsibility and leadership for the strategy, relationships with financial institutions and oversee the creation of linkages between the finance sector and project beneficiaries/clients.
- Establish linkages (not necessarily under pilots) with financial institutions, carry out due diligence (as necessary), prepare the ToRs and develop partnerships with banking and financial institutions and insurance companies. Throughout the project manage these relationships.
- In conjunction with project implementers and service providers, develop modalities for enabling the FPOs, individual farmers, and entrepreneurs to access loans for agri-horti enterprise development. In particular work with project staff and service providers to improve the bank readiness of the potential borrowers, by a) assisting in the financial literacy curriculum development b) provision of inputs in the business literacy elements of the project c) provision of inputs in the preparation of the formats for business plans and financial proposals d) provision of inputs into the development of cash flows (cash flow tool) for smallholders, FPOs, entrepreneurs and SME beneficiaries of the project.
- Design the structure for the envisaged pilots for rural finance by working with financial institutions, project implementers and service providers to develop concept notes for the pilots which include the criteria for the pilot, the roles and responsibilities, the budget and the product concept for approval to enhance access to commercial or quasi commercial finance.
- As part of the pilots, work to modify or develop new products, including design and delivery, modify policies and procedures as required/agreed, set up pilot monitoring

and evaluation targets and indicators, monitor loan application sanction, disbursement and repayments and suggest modifications for pilot scaling up.

- As part of the pilots, utilise any tools or facilities available in the project or under the control of the financial institution which might be created or combined to drive sustainable investment/finance to project clients.
- Contribute to the planning and overall supervision of the training on business and advanced financial literacy, proposal development technical assistance, where required.
- Develop ToR, and selection criteria for contracting national and international consultants and providing them support as required.
- Ensure an assessment of annual credit requirement plans for the FPOs, individual beneficiaries/clients and private sector and facilitate integration of plans in financial institutions /bankers' credit plans and monitor flow of credit.
- Maintain close coordination with implementation partners (banking and financial institutions, insurance companies, private service providers, and other stakeholders) and ensure satisfactory reporting and results.
- Preparation and monitoring of Annual Work Plans and Budgets (AWPB), progress reports and analytical reports.
- Manage the rural finance activities in accordance with the approved annual work plans, relevant budget lines and coordinate and ensure complementarities with Value Chain Development activities of production, marketing and value addition.
- Study financial innovations such as peer to peer lending, fintech solutions and forge appropriate partnerships where feasible and where possible integrate into the potential pilots.
- Ensure policy studies and policy workshops are conducted and develop action plans for policy changes.
- Provide support and guidance for the gathering of data and information needed to undertake an effective monitoring and evaluation of the rural finance activities, inclusive of reporting by the project, the financial institutions on loans, and where needed, database management.
- Oversee the design and establishment of channels for regular information dissemination, sharing, and networking among stakeholders.

Manager - Finance (PMU)

Qualification:

- Chartered Accountant (Member of the ICAI)/Post-graduate Degree in Commerce and accountancy

Experience:

- About 10-15 years of experience in the financial accounting of a project/ company for candidates with post-graduation in commerce and accountancy. A minimum of 3 years experience for qualified Chartered Accountants.
- Computer literacy and proficiency in Tally or other accounting software and use of spreadsheets.
- Good knowledge of accounting.

Job description:

- Undertake budgeting and accounting of the project.
- Expedite the release of funds for the timely implementation of different activities by the project parties.
- Consolidate accounts of the project parties.

- Monitor fund utilization at the PMU and project parties.
- Maintain records of all financial matters related to the project.
- Prepare periodical financial statements and submission of quarterly, half-yearly and annual financial statements to IFAD.
- Prepare requests for release of funds from GoJ&K and preparation and submission of withdrawal application to CAAA for submission to IFAD.
- Review, supervise and inspect the finance section of the project parties and providing the required guidance to them.
- Ensure that the expenditure is within approved budgets and seeking amendments to the AWPB and preparing supplementary budgets, if needed.
- Ensure internal and statutory audit and preparation of financial statements for the purpose.
- Provide response on the internal audit report and external auditor's management letter.
- Ensure timely settlement of advances.
- Ensure compliance with legal and statutory requirements such as filing of TDS and income tax returns and filing of annual audited accounts, etc.
- Provide training to the project finance and accounts staff on the accounting and reporting requirements of the project.
- Provide financial data required by the IFAD fielded Missions.
- Any other task assigned by the Director-Finance of APD and the Mission Director.

Manager - Planning and M&E - PMU

Qualification:

- Postgraduate degree in Agriculture Economics/Statistics/Economics

Experience:

- About 10-15 years of experience in rural development projects specifically in developing M&E frameworks, data analysis and report preparation.
- Experience in establishing systems for the preparation of AWPB.
- Experience in undertaking research/studies related to impact assessment to evaluate project performance.
- Prior experience working in and/or familiarity with development issues in Jammu and Kashmir will be an advantage.

Job Description:

- Guide the project parties in preparation of AWPBs.
- Consolidate and finalize the AWPB for all project parties.
- Support the Manager-MIS in establishing a computerised management information system with GIS links including developing formats and procedures for data collection taking into account the disaggregation of data by gender, youth and SC/ST.
- Collate and analyse data from the project parties, providing inputs to the Mission Director on project performance and preparing semi-annual and annual progress reports for submission to IFAD.
- Consolidate Environmental, Social, and Environmental Management Plan (ESCMPs) into the M&E framework. Collect data for the ESCMP indicators and regularly assess and report the progress,

- Prepare and submit quantitative and qualitative monthly reports to the Mission Director on the project progress against AWPBN targets.
- Prepare terms of reference for engagement of agencies and supervising the work of agencies engaged in conducting baseline survey, mid-line survey and endline survey to assess the impact of the project and supporting the agencies engaged in conducting these surveys.
- Collate data and analyse data for submission of information related to ORMS (RIMS) reporting of IFAD.
- Collate data required for preparation of a Project Completion Report.
- Ensure mainstreaming of gender in M&E work.
- Coordinate with the Manager – Institutions. Manager - Gender and Youth to ensure all activities follow the principles of the Gender Strategy.
- Ensure capture of knowledge related to M&E in coordination with the Manager - Knowledge Management.
- Any other task assigned by the Mission Director.

Manager – MIS

Qualification:

- Bachelor's degree in computer engineering, Electronics and Communication Engineering or a related field from a recognized University/College.

Experience:

- 2-3 years experience in software development.
- Should have a sound knowledge of RDBMS and software development life cycle.
- Knowledge of ASP.Net, Windows applications, CSS, HTML, C+, .net, Database (Oracle), restful web service for developing service layer.
- Designing skills of CSS3, HTML 5.0 and knowledge of other design frameworks will add advantage.
- Strong inter-personal and communication skills.
- Experience in working with team and team building spirit.
- Knowledge of Test-driven development and unit testing.
- Ability to learn business processes quickly and provides technical solutions.
- At least 3 years of professional work experience in computer programming using ASP.Net, ASP.Net MVC, C#.net, Oracle database.
- Must have working experience in working with Government web-based software.

Job Description:

- Design, build, and maintain efficient, reusable, and reliable code in MVC, ASP.NET with C# and Oracle.
- Review existing system, optimize code, update MIS, and make user interface more user friendly.
- Design oracle database tables, packages, procedures, and triggers.
- Laise with M&E and SECAP specialist to ensure all ESMPC indicators are included in MIS systems. Prepare data collection tools and record them.
- Develop tools for data sharing between government organizations.

- Develop MIS technical documentation (such as system design document, configuration manual etc.) and maintain version control of such documents to make it most up to-date technical documents for future reference.
- Implement appropriate security measures and standards during MIS development and enhancement.
- Maintain and modify programs; make approved changes by amending flow charts, develop detailed programming logic, and coding changes.
- Test and troubleshoot programs utilizing the appropriate hardware, database, and programming technology.
- Recommend technical changes for implementing system developed during project.
- Train, develop and support local level staffs, service unit staff to operate the online MIS, GPS handheld devices, mobile applications, etc.
- Ensure Timely fixation of errors/bugs encountered in the MIS by PMU, MPA staff.
- Ensure the effective delivery and performance of MIS System according to the agreed work plan.
- Develop documentation throughout the software development life cycle (SDLC) and provide report to MIS Team Leader monthly basis.
- Assist in other IT related activities as assigned by the Mission Director.
- Work with development teams and product managers to ideate software solutions.
- Design client-side and server-side architecture
- Build the front-end of applications through appealing visual design.
- Develop and manage well-functioning databases and applications.
- Write effective APIs.
- Test software to ensure responsiveness and efficiency.
- Troubleshoot, debug and upgrade software.
- Create security and data protection settings.
- Build features and applications with a mobile responsive design.
- Any other task assigned by the Mission Director.

Manager - Institutions

Qualification:

- Postgraduate degree in social work

Experience

- 10 years of relevant experience in the promotion of community institutions and at least 5 years of experience in promoting FPOs.
- Hands-on experience in designing & implementing capacity-building and livelihood-based interventions with community-based institutions.
- Extensive experience in targeting the poor and vulnerable and working on gender equality, youth and women empowerment and social inclusion.
- Experience in community mobilization process, empowerment tools, and working knowledge of national, J&Kand local level policies and policies of ministries, implementing institutions and financing agencies, including IFAD will be highly desirable.

- Excellent understanding and demonstrated experience of working on gender, youth, rural poverty reduction and inclusion of marginalized groups Preferred Skills.
- Ability to plan capacity-building interventions for community institutions and monitor their progress periodically.
- Excellent written and verbal communication skills.
- Ability to coordinate with SRLM and to build strong business-oriented FPOs.

Job Description:

- Prepare guidelines for mobilization of FPOs and training the district and block staff of KVs and Directorates to mobilize and support these community institutions.
- Develop curriculum for conducting training programmes for capacity building of FPO Development Officers by SKUASTs.
- Coordinate all capacity-building training for FPO staff and members in collaboration with the Universities and KVKs that will be working as FPO-promoting organisations.
- Coordinate to enhance FPOs understanding on climate change and capacity to identify and implement climate adaptation and mitigation measures.
- Develop guidelines for providing management support, and matching equity support to FPOs and operationalize the same.
- Ensure the development of business plans of the FPOs and their implementation in collaboration with the Universities.
- Ensure sound governance systems and legal compliances by FPOs.
- Coordinate with the financial institutions to ensure financial linkages for FPOs.
- Establish grading and rating guidelines and ensuring that FPOs are graded/rated on a regular basis and take follow-up actions for improving the quality.
- Undertake field visits and preparing a Fact Sheet on project implementation performance and submitting the same to the Mission Director for corrective action.
- Undertake specific studies/surveys/case studies related to community institutions.
- Any other task assigned by the Mission Director.

Manager – Business Development

Qualification

Postgraduate degree in Business Administration/ Rural Management/Agricultural Management

Experience

- 10 years of total experience covering business development, enterprise creation, operations, and supply chain in agriculture or allied areas.
- Ability to conduct Market Analysis.
- Experience in policy and regulatory matters related to agriculture, industry, banking and different Govt. schemes.
- Hands-on experience in designing & implementing enterprise and market promotion in the agriculture and horticulture sectors.
- Excellent understanding and demonstrated experience of working on gender, youth, rural poverty reduction and inclusion of marginalized groups
- Excellent written and verbal communication skills.

Job Description

- Anchor the activities related to Agri-business ecosystem development component of the project.
Develop an agribusiness and enterprise promotion strategy in collaboration with line departments, private sector and partner agencies.
- Develop an enterprise support modality/scheme for the project with the Sector and Rural Finance Specialists.
- Work with the Rural Finance Specialist in developing pilots to improve access to finance by entrepreneurs and products to reduce reliance on matching grants.
- Identify the market players and organize Multi-stakeholder platforms and Buyer seller meets.
- Develop a market development and promotion strategy for key products of Jammu and Kashmir with product development, brand development and brand promotion.
- Assess the climate change risk in business planning and development. Capacitate enterprises to understand and assess climate risk in their business and implement adequate adaptation and/or mitigation measures.

- Coordinate the activities related to developing strategies for setting up and operationalization of Incubation centres.
- Interact with industry to understand the current trends and engage with farmers and educated youth to showcase opportunities and possible support through incubation/enterprise support scheme.
- Explore scope of partnerships and collaborations with larger players and find ways to connect FPOs with them for business purposes.
- Coordination with the different Government Departments within J&K and outside to facilitate and steer the entrepreneurs /start-ups towards success by facilitating regulatory matters, dovetailing with different schemes and facilitating collaboration with market players.

Manager - Gender and youth

Qualification:

- Postgraduate degree in social science/ social work, gender studies, development management, NRM or relevant field.

Experience

- 10 years of relevant experience in implementing gender and youth-related interventions.
- Experience in community mobilisation process, empowerment tools, and working knowledge of national, J&K and local level policies and policies of ministries, implementing institutions and financing agencies, including IFAD will be highly desirable.
- Excellent understanding and demonstrated experience of working on gender, youth, rural poverty reduction and inclusion of marginalized groups

Job Description:

- Design a gender and youth strategy and action plan for the project within the overall ambit of project activities in consultation with the relevant stakeholders.
- Ensure gender, youth, nutrition, targeting and inclusion objectives are met and the target groups benefit from project activities.

- Undertake specific studies/surveys/case studies related to gender and youth.
- Ensure gender and youth mainstreaming in all relevant project activities in close collaboration with the Manager-institutions.
- Regularly monitor and analyse the status of targeting, gender equality and women empowerment, youth in coordination with M&E Manager, and address gaps in a coordinated way.
- Ensure gender and youth responsiveness in the capacity-building programmes organized by the projects.
- Ensure the development of a gender and youth-responsive M&E and MIS.
- Ensure that targeted youth are identified, their skills/competencies mapped and are provided adequate training and mentorship to establish enterprises.
- Ensure that activities targeted to women and youth are incorporated in AWPB, adequately budgeted, implemented properly and captured in the annual progress report and M&E reports.
- Ensure that all the project and partner staff are sensitized on targeting, gender and youth inclusion performance targets and achievements.
- Ensure gender and youth mainstreaming and social inclusion are integrated into all relevant project activities in close collaboration with other technical professional staff.
- Prepare appropriate guidelines and ToRs for any surveys and studies to ensure that gender, youth and social inclusion requirements are incorporated properly.
- Work with each technical manager in the PMU to critically review project design to establish how each component or sub-component addresses gender and youth issues, and identify opportunities for strengthening implementation from GESI perspective.
- Work with M&E manager to develop the age, sex, poverty status and other categories defined in the targeting strategy and ensure that these data are collected properly and maintained in the MIS system and measured through the project logframe.
- Build capacities of the PMU staff and ensure effective implementation arrangements to ensure tracking and reporting on results on gender, targeting youth and social inclusion.
- Serve as a channel of communication between the project and others working on gender issues in government, implementing agencies, other development projects and IFAD.
- Contribute in knowledge management in coordination with the Manager -KM on gender, youth and social inclusion themes.
- Any other task assigned by the Mission Director.

Manager - Knowledge Management

Qualification:

- Degree in Agriculture/ Horticulture with post-graduation in Agriculture/ Horticulture/ Rural Development/Journalism/Business Management

Experience:

- 7-10 years of experience in implementing rural development projects with relevant experience in knowledge management.
- Proficiency in written English is essential and knowledge of a local language is desirable.

- Proven experience in documenting and publishing case studies and/or research papers.

Job Description:

- Develop and operationalize a project-level Knowledge Management strategy tailored to the needs of the project in line with IFAD's corporate Knowledge Management Policy.
- Establish sustainable KM systems at different Project levels to generate, analyse, document, share and disseminate Project field experiences for improved learning.
- Provide technical support on KM to the project parties and project staff and prepare the KM component of the annual work plan and budget for the project.
- Capture and document learning, innovations and changes as these occur in the project life cycle during the Annual Reviews as well as from studies commissioned by the project.
- Preparing case studies containing best practices emerging in the implementation of project activities and undertaking dissemination of the best practices for replication within the project area.
- Prepare stories and newsletters for sharing and disseminating lessons learnt and good practices and share information on innovations across Jammu and Kashmir in agriculture horticulture and allied sectors.
- Set up a project website with IT support and publishing regular news and updates as well as case studies and articles on the website.
- Prepare project brochures and supporting the M&E team in preparing six monthly and annual progress reports with inputs from concerned professional staff.
- Provide support to professional staff in identifying areas requiring preparation of implementation manual, training manual, training material preparation and preparation of required guidelines, manuals and materials.
- Identify and documenting learning sites from the project.
- Organise learning events, exchange visits and exposure programmes for the communities.
- Liaise with the project parties to generate and disseminate knowledge from project implementation experience.
- Prepare policy studies and advocacy for policy reform within the agriculture, horticulture and allied sectors.
- Organize learning exchange programs on climate change, environmental sustainability, and SECAP.
- Act as a focal point for all knowledge management activities with inputs from other professional staff related to knowledge generation, knowledge dissemination and tracking uptake of relevant knowledge.
- Any other task assigned by the Mission Director.

Incubation Manager

Qualification

- MTech/ MBA/ PGDM/Equivalent Master degree in Agri-Business/Finance/Marketing/ Agri Marketing/ Agri Economics/ Economics/ Technology Commercialization/Entrepreneurship from recognised institute

Experience

- 5 years in technology commercialization, incubation, or any other relevant experience in the startup ecosystem.

Job Description:

- The candidate will be required to work as a multi-disciplinary resource, including but not limited to - preparing policy documents, making training calendar, interacting with start-ups, faculty and staff; searching appropriate resource-persons, making start-up advertisements, organizing events, digital marketing, and content design.
- The candidate will be required to take complete charge of the operations of incubation processes, and work towards crafting a long-term strategy for the incubation centre.
- This is a multi-disciplinary role demanding the candidate to look after the strategic, operational, sustenance, and growth-related aspects of incubation.
- Ensure climate change adaptation and/or mitigation, and environmental sustainability are well assessed and incorporated.
- The candidate will be responsible for relationship management and collaboration with other colleges or corporates.
- The candidate should have good communication skills, excellent writing and proofreading skills.

Procurement Officer (PMU)

Qualification

- Graduate in commerce, business, finance or management

Relevant Training: Purchasing management and procurement systems.

Desirable Qualification:

- Post Graduate Diploma in Material/Supply Management
- Completion of Procurement training from a national-level institute or completion of procurement training conducted by an IFI.

Experience

- Post qualification, minimum 5 years of demonstrated managerial experience in procurement in the organization with complete understanding and experience on national procurement procedure.
- Minimum of one year of experience in handling project procurement in an externally aided project.

Job description

- Coordinate with concerned subject matter specialists on procurement

matters, especially preparation of TOR, technical specification etc.

- Assist in preparation of bidding documents, and other documentation.
- Manage the receipt and safe storage of quotations/bids/proposals.
- Coordinate with project team, organize and support evaluation committees for prompt evaluation.
- Update of Contract Management details in IFAD ICP-CMT and prepare amendment letters to the contracts. As part of the contract management, in coordination with the concerned officials monitor the contractual provisions for compliance.
- Monitor the MPA Procurement progress and inform Senior Procurement Specialist on the challenges and delays.
- Review the compliance of the community institutions to the Community Participation Procurement Guidelines and ensure all required documents are correctly maintained.
- Keep progress of procurement activities against procurement timetables, highlight variations in progress, record reasons and identify remedial actions, if any.
- Ensure correct maintenance of procurement correspondence and documentation required in hard copy files or electronic copy.
- Provide documentations and data to IFAD fielded Supervision Mission and Implementation Support Missions.
- Perform any other relevant work related to the project procurement assigned by the Procurement Specialist or the Mission Director.

Procurement Officer (Directorates and Universities)

Qualifications

- Graduate in commerce, business, finance or management

Desirable qualification/Training:

- Purchasing management and procurement systems
- Post Graduate Diploma in Material/Supply Management
- Completion of Procurement training from a national-level institute or completion of procurement training conducted by an IFI.

Experience

- Post qualification, minimum 5 years of demonstrated managerial experience in procurement in the organization with complete understanding and experience on national procurement procedure.
- Minimum of one year of experience in handling project procurement in an externally aided project.

Job description

- Coordinate with concerned subject matter specialists on procurement matters, especially preparation of TOR, technical specification etc.
- Assist in preparation of bidding documents, and other documentation.
- Manage the receipt and safe storage of quotations/bids/proposals.
- Coordinate with project team, organize and support evaluation committees

for prompt evaluation.

- Update of Contract Management details in IFAD ICP-CMT and prepare amendment letters to the contracts. As part of the contract management, in coordination with the concerned officials monitor the contractual provisions for compliance.
- Monitor the MPA Procurement progress and inform Senior Procurement Specialist on the challenges and delays.
- Review the compliance of the community institutions to the Community Participation Procurement Guidelines and ensure all required documents are correctly maintained.
- Keep progress of procurement activities against procurement timetables, highlight variations in progress, record reasons and identify remedial actions, if any.
- Ensure correct maintenance of procurement correspondence and documentation required in hard copy files or electronic copy.
- Provide documentation and data to IFAD fielded Supervision Mission and Implementation Support Missions.
- Perform any other relevant work related to the project procurement assigned by the Procurement Specialist or the Head of the Department of the project party.

Finance Officer

Qualification:

- Post-graduate Degree in Commerce and Accounting/Bachelor's degree in Commerce and Accounting.

Experience:

- 3-5 years of experience in financial accounting of projects/ company for candidates with post-graduation in commerce and accounting and 5-7 years experience for candidates with graduation in commerce and accounting.
- Computer literacy and proficiency in Tally or other accounting software and use of spreadsheets
- Good knowledge of accounting
- Working knowledge of audit requirements for financial compliance.

Job Description:

- Maintain the project accounts of the project party.
- Prepare Bank Reconciliation Statements of the project party every month.
- Prepare monthly progress reports with the actual and budgeted figures for each activity and the variance thereof.
- Facilitate timely disbursement of project funds for project activities.
- Follow up with the implementation partners and project staff to ensure that they submit their monthly statements within the stipulated time.
- Prepare the financial statements and the withdrawal application for submission to PMU.
- Provide accounts, statements and other documents as may be required by the Statutory/ Internal Auditor to ensure the timely completion of their assignment.

- Provide response on the internal audit report and external auditor's management letter.
- Perform such functions as may be delegated to Head of the Department.

Gender and Youth Officer

Qualification:

- Postgraduate degree in social work/Gender

Experience

- 3-5 years of relevant experience in implementing gender and youth-related interventions.
- Experience in community mobilization process, empowerment tools, and working knowledge of J&K-level policies.
- Good understanding and experience of working on gender, youth, rural poverty reduction and inclusion of marginalized groups.

Job Description:

- Ensure gender, youth, nutrition, targeting and inclusion objectives in line with the gender and youth strategies of the project.
- Provide support for conducting specific studies/surveys/case studies related to gender and youth.
- Ensure gender mainstreaming in all relevant project activities in close collaboration with the Manager-Gender and Youth.
- Regularly monitor and analyse the status of targeting, gender equality and women empowerment, youth in coordination with M&E and MIS Officer and flag the gaps to the Manager-Gender and Youth.
- Ensure gender and youth responsiveness in the capacity-building programmes organized by the project.
- Identify activities targeted to women and youth in the AWPB of the project partner.
- Ensure implementation of the planned activities and capture the results in the annual progress report and M&E reports.
- Ensure gender mainstreaming and social inclusion are integrated into all relevant project activities in close collaboration with other technical professional staff.
- Any other task assigned by the HoD/Manager-Gender and Youth.

Planning and M&E Officer

Qualification:

- Post Graduate degree/Bachelor's in Agriculture Economics/Statistics/Economics.

Experience:

- About 3-5 years of experience in rural development undertaking research/studies related to impact assessment, evaluating project performance and establishing systems for preparation of AWPB and monitoring results. 5-7 years experience for the Bachelor's degree holder.

Job Description:

- Consolidate and finalize the AWPB of the project party.
- Collate and analyse data, entering into computerised MIS and submission data analysis reports to the Head of the Department.

- Prepare monthly reports on achievement against targets in the AWPB for submission to the HoD.
- Provide input to prepare semi-annual and annual progress reports of the project party for submission to the PMU.
- Support the agencies engaged for conducting baseline survey, mid-line survey end-line survey to assess the impact of the project.
- Assist the Manager-KM to identify success stories and facilitate dissemination of best practices from field level implementation.
- Any other task assigned by the Director/HoD.

Procurement Assistant (PMU)

Qualifications

- Graduate in any discipline

Experience

- Post qualification, at least 3 years of handling administrative issues in an organization.

Job description

- Assist in preparation of bidding documents, and other documentation.
- Manage the receipt and safe storage of quotations/bids/proposals.
- Update of Contract Management details in IFAD ICP-CMT.
- Maintain and update list of registered vendors for different procurement categories.
- Maintain the procurement documentation in appropriate filing procedures.
- Maintain all the reference documents related to Procurement.
- Ensure the advertisements/notices are published in newspapers/project website and Government of JK e-procurement portal.
- Update project website on award of contracts
- Perform any other relevant work related to the project procurement assigned by the Procurement Specialist or the Mission Director.

PMU Finance Manager

(to be assumed by the Director of Finance Department of the APD)

General Description of task(s) and objectives to be achieved

I. Background

II. Overall objective

The Finance Manager, under the direct supervision of the Mission Director, and within the framework of projects appraisal reports and loan/grant agreements, is responsible for the financial and administrative management of the PMU, including supervision of FM consultants, Accounting, Budgeting, financial reporting, internal controls, auditing arrangement, flow of funds and the efficient management of projects resources.

III. Roles and responsibilities

- Prepare together with the Mission Director the Annual work plan and budget and the budget and financing plan.
- Oversee the process of recruitment of FM consultants required for the JKCIP.

- Master IFAD key documents such as, the disbursement handbook, procurement guidelines and handbook, IFAD guidelines for project audits, the Financing Agreement (FA) and the FMFCL.
- Develop and maintain an efficient accounting system and reliable internal control procedures and guidelines for financial reporting and recordkeeping.
- Ensure adequate maintenance of accounting software for the project accounting record-keeping and financial reporting.
- Ensure bank accounts and accounts with implementing partners are reconciled monthly.
- Ensure all supporting documents are adequately maintained for all project financial transactions.
- Ensure external and internal audit reports are sent on time.
- Ensure external and internal audit report recommendations are timely implemented.
- Ensure IFRs are timely prepared and sent to CAAA and IFAD
- Ensure IFAD Supervision report recommendations are timely implemented.
- Responsible for the preparation, review and monitoring of projects budgets including financing plan, procurement plan (together with the Procurement Officer), and staff development plan (together with the training focal point)
- Prepare/verify all withdrawal applications for submission to CAAA/IFAD and ensure the availability of funds for all planned activities. Manage the projects bank accounts, approve and co-signs all payments.
- Prepare and provide financial reports including the sources and uses of funds statement, incurred expenditures by component, expenditure category and financier, designated account reconciliation statement, fixed asset list and cash flow forecast etc. for submission to the Project steering committee, LPA and IFAD on a quarterly basis, and maintain all records in a form appropriate for audit.
- Lead the process of assigning an external audit (CAG) to conduct an independent audit of the annual project accounts, ensuring that annual audits are carried out within the specified timeframe.
- Develop and maintain a system of financial control over all expenditure incurred by implementing partners.
- Responsible for developing and managing an effective and performance based human resources management system.
- Supervise and coordinate the work of staff placed under his/her direct authority.
- Review and regularly update the Financial and Administrative Manual of the PMU.
- Responsible for the organization and supervision of the PMU office, assets, logistics, and all administrative matters.
- Undertake any other activities assigned by the Mission Director.

IV. Required qualifications and experience

- Accounting or Finance, undergraduate degree
- At least 5 years of experience in a similar position
- Chartered Accountant of India
- Excellent knowledge of Indian Accounting and Audit standards

FM Consultant (two positions)

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

I. Background

FM consultant is part of JKCIP PMU FM team and primarily responsible for maintaining Tally accounting software for JKCIP.

II. Overall objective

FM consultant will be responsible for maintaining accounting records in the accounting software for JKCIP PMU, reconciliation of accounts and consolidation of financial reports for all implementing partners.

III. Roles and responsibilities

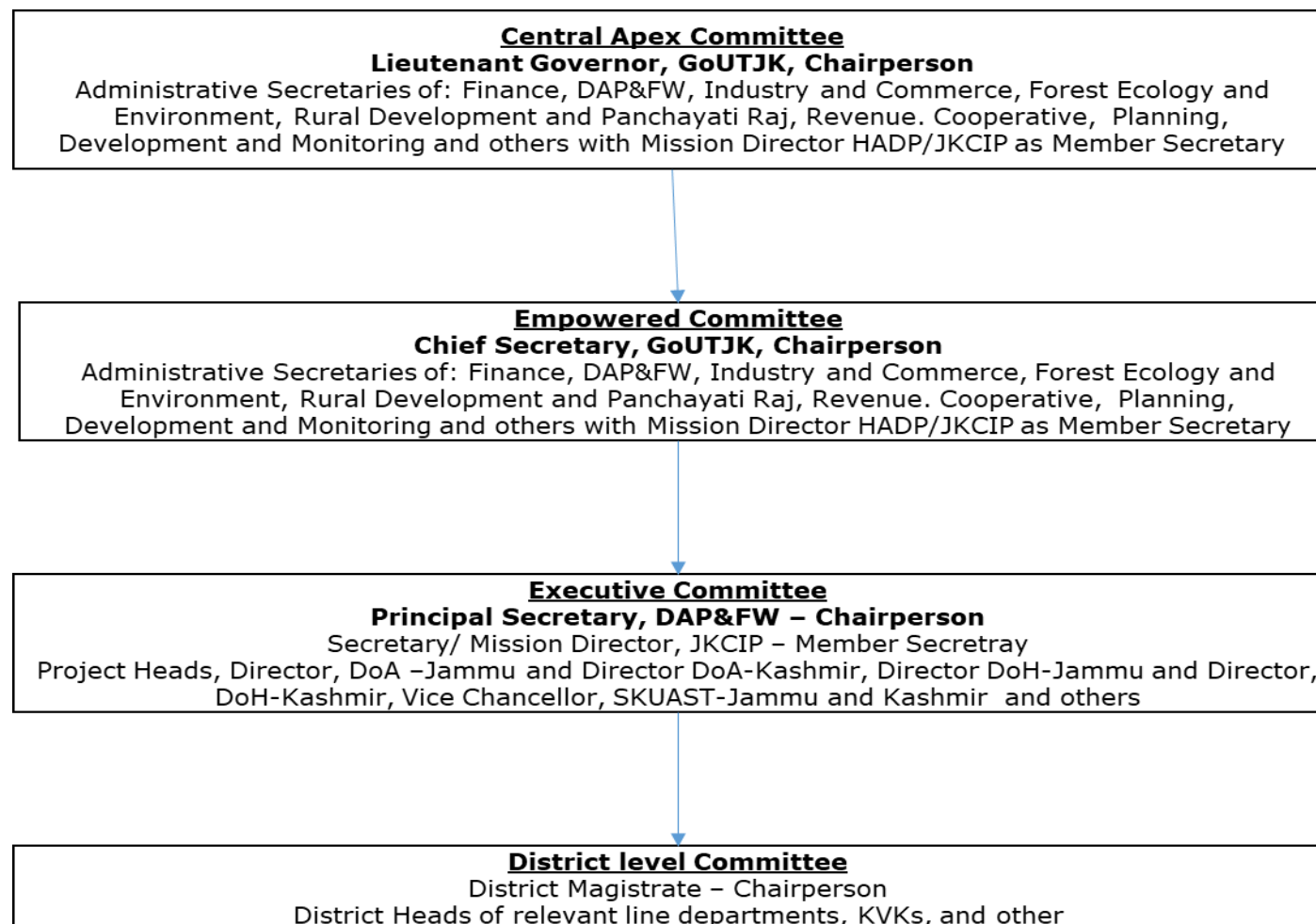
Under the direct supervision of the Finance Manager (PMU); specific duties include:

- Assist the Finance Manager (PMU) in the implementation of a sound financial management system.
- Prepare financial reports, including monthly funds reconciliation, and monthly, quarterly, semi-annual and annual expenditure statements;
- Prepare transaction vouchers, and input all transactions into the PMU accounting system before submission to the Finance Manager (PMU) for approval;
- Process all payments, ensuring that PMU procedures are strictly adhered to;
- Process monthly payroll, payment of salaries to staff and project contributions;
- Assist the Finance Manager (PMU) in the preparation of withdrawal applications and IFRs;
- Prepare cash flow forecasts as required;
- Monitor financial reports and supporting documents from Implementing Partners, including periodic visits to their offices;
- Assist in the preparation and monitoring of annual operational budgets.
- Functional supervision and training of Accounts of Implementing partners.
- Maintenance of a well-organized and up-to-date filing system for accounting and financial records as well as a fixed asset tagging system;
- Perform physical inventory of project assets each year;
- Assist the Finance Manager (PMU) in the preparation of internal financial instructions and guidelines.
- Provide assistance to the external auditors as required;
- Undertake any other activities assigned by PMU management and Finance Manager.

IV. Required qualifications and experience

- Accounting or Finance, undergraduate degree
- At least 2 years of experience in a similar position
- Good understanding of Indian Accounting and Audit standards

Appendix C3A3: Project Coordination Structure



Chapter 4: Monitoring and Evaluation and Knowledge Management

A. Monitoring and Evaluation

1) Purpose of an M&E System

1. The main purpose of setting up an M&E system in any IFAD-funded project is to provide comprehensive, frequent, periodic and reliable data and information for sound result-based management and decision-making by the project management. The M&E system is designed to inform project management of whether implementation is going as planned and what corrective actions are needed in planning, target setting, budget allocation, etc. M&E system will generate relevant knowledge based on analysis and disseminate lessons learned in a targeted and strategic manner to comprehend achievements in the development objectives of the project. The M&E system is expected to perform and achieve four essential objectives: (i) to monitor and manage project progress; (ii) assess project outcomes and impact; (iii) capture and disseminate lessons learned and good practices; and (iv) build local/community capacities for participatory M&E.

2) M&E in IFAD funded projects

2. M&E systems are crucial components of IFAD projects, as they help ensure that projects are implemented effectively and achieve their intended outcomes. An overview of the M&E system in IFAD projects is provided below:

3. **Project Design Phase:** M&E begins during the project design phase. During this stage, project planners and stakeholders define the project's objectives, outcomes and output indicators that will be used to measure progress and success. During the first year of project implementation, a baseline is established to compare against the results during project implementation.

4. **Data Collection and Reporting:** Once the project is underway, data collection and reporting mechanisms are put in place. This involves collecting data on various project activities, outputs, and outcomes. Data can be collected through surveys, interviews, focus group discussions, and other methods.

5. **Indicators:** IFAD projects typically use a set of performance indicators to assess progress and impact. These indicators can be categorized into inputs, outputs, outcomes, and impact indicators. Examples include the number of households reached, crop yields, income levels, and changes in poverty rates.

6. **Frequency of Data Collection:** The frequency of data collection varies depending on the indicator and project timeline. Some indicators may be monitored on a monthly or quarterly basis, while others are assessed annually or at specific project milestones.

7. **Data Quality:** Ensuring data quality is essential. Data should be accurate, reliable, and consistent over time. Quality control mechanisms are often put in place to validate data collected from the field.

8. **Data Analysis:** Collected data is analysed to track progress and assess the effectiveness of project interventions. Data analysis may involve statistical methods, trend analysis, and comparisons against baseline data.

9. **Reporting:** Regular reporting is a key element of the M&E system. Project Managers and teams prepare reports that summarize project progress, challenges, and achievements and submit to the project management. These reports are often shared with IFAD, project partners, and other stakeholders.

10. **Feedback and Learning:** The M&E system allows for continuous feedback and learning. If issues or challenges arise during project implementation, adjustments can be made to address them. Lessons learned from M&E activities are used to improve future project designs and implementations.

11. **Evaluation:** In addition to ongoing monitoring, IFAD projects typically undergo periodic evaluations. These evaluations are conducted by independent experts and assess the project's overall performance, impact, and sustainability. Evaluation findings inform IFAD's decision-making processes, including the allocation of resources to different projects.

12. **Knowledge Management:** IFAD emphasizes the importance of knowledge management in its projects. Lessons learned, best practices, and successful strategies are documented and shared across projects to improve overall effectiveness.

13. **Capacity Building:** IFAD invests in building the capacity of project staff and partners in M&E techniques and tools to ensure that M&E activities are carried out effectively.

14. In summary, the M&E system in IFAD projects is a comprehensive framework that involves planning, data collection, analysis, reporting, and learning to ensure the successful implementation and impact of rural development and poverty reduction projects in developing countries. It helps IFAD and its partners make informed decisions and continually improve their interventions.

3) Objectives of M&E

15. The M&E and KM system of this project will be developed with three main objectives:

a. Steer project implementation: To provide project stakeholders with information and analysis required to measure programme outputs and outcomes to support decision-making to improve project performance that include: (i) assessment of project effects on the livelihoods of participating farmers; (ii) assessment of the relevance of the project strategy, methodologies and implementation processes; and (iii) detection challenges and successes.

b. Support economic decisions and policy-making: To provide grassroots level stakeholders, and, in particular producer groups and organisations, with the information and analysis they need to assess the results to scale up profitable activities and to adapt their strategies accordingly, by monitoring both quantitative (production, productivity, costs and benefits) and qualitative results (members'/clients' satisfaction). Furthermore, it should provide stakeholders and government with the information needed to make policy decisions that can positively benefit economic activities within the value chains.

c. Share knowledge: to develop lessons learnt, capture good practices and successful innovation, and share knowledge under appropriate formats to support project performance and policy dialogue. Specific areas of interest in this respect comprise inclusive business models, export linkages, business incubation, public-private partnerships.

4) Strategic Principles

16. The system will be: (i) open and easily accessible, i.e. its use will not be restricted to project or government agencies' staff, but also provide information and learning for value chain stakeholders; (ii) participatory, i.e. associate project stakeholders, and specifically, producer groups and organisations in the definition of indicators, data collection, analysis and dissemination of results; (iii) growing, thus small initially and develop progressively as needs and capacities develop; (iv) focused on analysis and learning in support of decision-making and policy dialogue, and not merely on data production; (v) inclusive so that women, youth and marginalised groups participate in the system; and (vi) support accountability towards project stakeholders.

17. The M&E and MIS systems established at the PMU/project party level will provide a venue for discussing project achievements and innovations, identifying successes and problems as well as good practices, discussing possible solutions including non-project based solutions and identify policy issues. They will also contribute to the preparation of AWPBs.

5) M&E System

18. **Framework and implementation plans.** The M&E system will be setup and managed by the PMU and efforts would be made to link with all ongoing systems that are being used by the government. These systems should capture both monitoring inputs and outputs and will have to be developed to meet IFAD's requirements. These will include reporting forms starting output indicators disaggregated by gender, SC/ST and youth.

19. **Indicators:** Output and outcome indicators will be developed with the help of stakeholders. These will be coherent and SMART (specific, measurable, achievable, relevant, time-bound), easy to collect and gender, SC/ST and youth disaggregated. They will include relevant Core Outcome Indicators, required by IFAD at corporate level.

20. **Baseline, midline and endline surveys:** A baseline study measuring the status of the main indicators including the Core Outcome Indicators and Stakeholder Feedback Indicators will be carried out by the government by engaging a service provider immediately after the project gets in principle agreement. Terms of reference for the baseline study are provided in Appendix C4A1. A midterm survey and an end-line survey – which are the repetitions of the baseline survey – will be carried out at midterm and at the end of the project in order to measure the results of the project.

21. **Project planning:** The M&E/KM cycle will start with the preparation of the project AWPB, which will be a key instrument for implementation and operational control. It will cover detailed annual planning of activities and implementation responsibilities, physical results targeted, outputs expected, budget and procurement plan. Such plans are prepared at each district level aggregated separately at the PIU of each project party. These will be consolidated at J&K level by the PMU into a project AWPB. The project AWPB will be collated at the PMU by the Manager- M&E and Manager-MIS and the Manager-Finance under the supervision of the Project Director, The AWPB will be submitted to IFAD for obtaining no-objection and thereafter the AWPB will be submitted to PMC for approval. Once it is approved by the PMC, it will be incorporated into the budget of the DAP. A model AWPB is provided as Appendix C4A2 and this could be used as a model template.

22. **Data collection:** Data will be collected using adequately designed forms designed by the **PME&MIS Specialist** and organised along three levels:

a. *at village level*, information will relate to number of high value **agriculture, horticulture and livestock farmers** and their organisations, productivity, production and income, mortality of animals and herd size increase, and it will be provided by farmers' and their producer groups and channelled to the M&E system by the Producer Organizations supported by the project party's district teams – to avoid multiple counting of beneficiaries, activities will be recorded by household with unique identification number.

b. *at the value chain level*, information will be provided on the incomes, increase in farm gate price of value chain commodities, return on investment and this will be collected by the Producer Organizations and managed project party's district level offices.

c. *at project level*, information will encompass *overall* project performance and it will be the responsibility of the **PME&MIS Specialist**. All stakeholders will have an active and important role in identifying and reporting data, either formally or informally. The **PME&MIS Specialist** will make sure that women are adequately represented in this process.

23. **Analysis:** Data from different sources will be consolidated and analysed to provide information on the performance of the various components, identify problems, identify possible solutions and track good practices to share through the knowledge management system. Information will also be shared with and discussed by the project stakeholders with a view to assessing the overall progress in implementation and discussing measures to improve performance.

24. **MIS:** A computerised MIS system will be set up to facilitate the flow of data. The MIS will track *financial and technical data* on project outputs and outcomes, lessons learnt,

good practices, and other sectoral information to analyse the performance of the project including information regarding price and export statistics. The MIS will process information and present it in visual formats such as dashboards and charts linked to GIS for location identification with latitude and longitude coordinates where project investments will be made to avoid duplication. Where possible, the project will also link the MIS system with the Aadhar numbers of the households to ensure verifiable service delivery. The MIS will be set up by a service provider or technically qualified persons will be engaged by the project to develop a MIS software.

25. **Reporting:** Brief quarterly reports will be prepared by the project parties, mainly consisting of the record of activities, outputs and financial transactions. They will be channelled to PMU where these will be consolidated prior to submitting them to the project management and to PMC and PSC. Consolidated biannual and annual reports will be more comprehensive, cover both technical and financial information, and include an analysis of the project achievements and challenges. Annual reports will cover outputs and outcomes), lessons learnt, innovations and good practices, and knowledge gaps identified.

26. **M&E capacity development:** Capacity building for the M&E staff at all levels is required. The short-term *M&E/KM consultants* will design a capacity-building plan as part of the services to support the staff of PMU and project parties. Training programmes will be delivered to the management staff on the strategic issues of M&E, especially on how M&E data could be used for result-based management. With regard to the M&E staff, training courses will focus on both concepts and practical skills to manage the M&E system, especially data collection, data analysis and reporting.

6) M&E matrix

27. Often referred to as an M&E framework, is a tool used to systematically plan, organize, and manage the monitoring and evaluation activities of a project. It provides a structured framework for tracking progress, assessing performance, and measuring outcomes and impacts. The steps involved in developing and using a M&E matrix is provided below:

- a. Define Objectives and Outcomes: Begin by clearly defining the objectives and intended outcomes of the project. These should be specific, measurable, achievable, relevant, and time-bound.
- b. Identify Indicators: For each objective and outcome, identify the key performance indicators (KPIs) that will be used to measure progress and success. These indicators should be quantifiable and directly related to the objectives.
- c. Determine Data Sources: Specify where the data for each indicator will come from. This could include surveys, reports, interviews, observations, or existing databases. It's essential to identify who will be responsible for collecting this data.
- d. Set Baselines: Establish baseline values for each indicator. Baselines represent the starting point against which progress will be measured. They provide a reference for assessing changes over time.
- e. Define Targets: Set specific targets or goals for each indicator. These targets represent the desired level of achievement for each indicator by the end of the project.
- f. Develop a Monitoring and Evaluation Plan: Based on the indicators, data sources, baselines, and targets, create a detailed plan for how monitoring and evaluation activities will be conducted. This plan should specify the frequency of data collection, responsible parties, and data collection methods.
- g. Create the M&E Matrix: The M&E matrix is a tabular representation of the information gathered in the previous steps. It typically includes columns for objectives, indicators, data sources, baselines, targets, responsible parties, and the frequency of data collection.

- h. Use the M&E Matrix: The M&E matrix serves as a reference and guide throughout the life of the project. It is used in the following ways:
 - i. Monitoring: Regularly track progress by collecting data on the specified indicators. Compare the collected data to the baseline and targets to assess whether the project is on track to meet its objectives.
 - ii. Evaluation: When conducting periodic evaluations, use the M&E matrix as a basis for assessing the project's performance and outcome. Evaluate whether the project has achieved its intended outcomes and objectives.
 - iii. Decision-Making: The M&E matrix provides valuable information for decision-making. It helps project managers and stakeholders make informed decisions about resource allocation, adjustments to project activities, and the overall direction of the project.
 - iv. Accountability and Learning: The matrix helps ensure accountability by providing a clear record of progress and performance. It also supports organizational learning by highlighting what is working well and where improvements are needed.
 - v. Adapt and Revise: As the project progresses, or as new information becomes available, the M&E matrix should be periodically reviewed and updated. This allows for adjustments to indicators, targets, and data sources to reflect changing circumstances and learning from the M&E process.

28. In summary, an M&E matrix is a structured tool that plays a central role in the monitoring and evaluation of projects. It helps ensure that objectives are met, progress is tracked, and data-driven decisions are made to improve outcomes and impacts. It is a dynamic document that evolves over time to reflect the changing needs and priorities of the entity being monitored and evaluated.

7) Results monitoring

29. **Output monitoring** will measure the progress of activities and achievement of outputs against annual targets in the AWPB for each project component. AWPB outlines the inputs and activities to be undertaken and data on outputs would be collected or measured for each indicator at the end of each month/quarter/year. This can be linked to the financial expenditure on the concerned activities, and data will be stored and reported via a computerised MIS. The type of output data to be collected and monitored will be carefully dovetailed with the project logical framework indicators. The computerised MIS will also record village profiles for each village where the project is working, which will be drawn up before work starts to collect basic human, economic and natural resource information against which progress can be measured. The project will also implement a GIS based identification of support for value chains and infrastructure investments and also aadhar based identification for beneficiaries. Physical and financial progress data and reports for each component/sub-component in each village will be recorded in the computerised MIS. The output monitoring indicators are provided in Appendix C4A3.

30. Although output monitoring would appear to be a straightforward process, the experience of a number of IFAD projects in India and elsewhere have highlighted the need to pay adequate attention to the details of how data is collected (formats used, frequency of data collection, etc.) and reported. Overlapping components can mean households participate in more than one activity with the risk of double counting when calculating the number of households reached by project services. These problems can be overcome by training of staff responsible for progress reporting to use a common reporting format and carefully defining how participating households will be counted. The PMU will take the lead in harmonizing the different formats for data collection and reporting, and if at all possible, a list of all households in each village will be maintained in the MIS - referenced by village geocode numbers and the head of household's *Aadhar* card number.

31. **Outcome monitoring** measures the immediate changes coming about because of project interventions. A few core outcome indicators required for IFAD’s corporate reporting and other project specific outcome indicators are shown in the project logical framework, but others will need to be added to create a results chain of evidence of change linking project outputs to the objective and goal. However, it is difficult to collect information from all households on indicators such as productivity, fodder development, nutrition security, etc., the project will conduct baseline, mid-term and end-line surveys as per IFAD’s guidelines. The outcome monitoring indicators are provided in the logframe in Annex 1 of the Project Design Report.

32. Related to outcome monitoring is process monitoring, which involves monitoring the processes leading to outputs and outcomes. Examples of specific areas where progress monitoring will be useful in JKCIIP may include effectiveness in service delivery and their sustainability, effectiveness of producer organizations and their sustainability, effectiveness of business incubation and others. The project may undertake specific process monitoring studies related to major activities of the project.

B Knowledge Management System

33. In the first year the project will prepare a project level KM strategy in line with the IFAD policy on KM. The KM strategy will set out a plan to build a robust KM system for the project. This system will enable the project to generate, capture, share and disseminate relevant information and knowledge to various stakeholders in a timely manner. The project website will be used as a knowledge sharing tool and will be linked to the IFAD Asia website. The KM team will extensively document and share knowledge generated in the project. The quarterly review meetings will be used as potential knowledge sharing venues for capturing lessons learned and best practices leading to development of related knowledge products. Key information from M&E studies, reviews and exposure visits, lessons and best practices will be disseminated through knowledge products such as newsletters, project briefs, technical manuals, working papers and case studies.

- a. The project will nurture a culture of learning and sharing across project parties and across other project stakeholders.
- b. Reporting lines and channels of communication need to be established for each level of staff.
- c. The TORs of all professional staff will have KM as a cross cutting deliverable.

1) KM Strategy

34. The KM Specialist will develop a KM strategy based on the IFAD’s KM strategy in consultation with the project parties. The strategy will also include a needs assessment of the main stakeholders of the project namely the different project functionaries (field, district level, state level etc), the community people (producer groups producer organisations), the government stakeholders, IFAD and other donors.

35. The KM Needs Assessment Matrix (below) used in all IFAD projects, outlines the knowledge need and the possible ways to capture and disseminate it.

Knowledge Area	Who need this information/knowledge	Who will provide this information	What knowledge is needed	How will this knowledge get	How will this knowledge get	How will this knowledge be shared	Training needs at different level	Constraints	Possible Solutions
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36. The Needs Assessment will be done in collaboration with the other subject matter specialists of the project. It will look at each component and subcomponent of the project to make a comprehensive plan.

37. The project will also develop a plan of action as part of the strategy in order to plan for the entire period of the project looking at the different knowledge need stages of each stakeholder. The plan should have simple deliverables spread out over the period.

38. The strategy and plan should also include simple incentives for those who pursue KM as part of their work as KM is very individual oriented. These incentives will build a culture of knowledge sharing among the staff. It can be recognition and awards given to these individuals and can be given on an annual basis at the annual review meeting of the project.

2) Linking KM to M&E Systems

39. Relevant information should be extracted from the M&E database and validated and synthesized. Actual results should be then compared with previously defined objectives. Lessons should be drawn from successes and failures, and best practices and innovations. These should result in success stories, case studies, thematic technical papers and policy briefs.

3) Studies, documentation and knowledge products

40. Special studies will be undertaken within the project cycle to understand the impact of project interventions on women, climate change, environment and the poor. Learning notes on project implementation (good practices and lessons) in all sectors will be developed for use by the communities.

41. The project will publish a bi-annual newsletter based on good practices and human-interest stories that will be disseminated to all important stakeholders. The project will develop contextual specific IEC materials that are required by the non/semi-literate communities on good practices of value chains, health and nutrition as per the interventions. It must be taken into consideration that the IEC materials must be gender sensitive and must promote gender justice messages alongside.

42. Besides this, the project will also produce pamphlets, brochures, calendars, CDs, manuals, posters, videos which are effective ways/ methods of communications, especially at the community level.

43. Documenting of indigenous knowledge systems on high value agricultural crops, small livestock management, nutrition, and climate change will be an important part of the knowledge products that the project will take out. This will be systematically carried out every year of the project as one of its main publications.

4) Policy dialogue

44. The project will conduct conferences and workshops based on the knowledge gained by implementation of the project. Important studies carried out under the project will have a dissemination workshop and invite prominent decision makers to influence policy. The project will also promote networks of groups involving project parties through knowledge sharing events.

5) Website development

45. A website will be developed which will have facilities for online uploading of monitoring data from the districts. It will also contain GIS linked maps of the villages and infrastructure supported by the project. A section on reports and good practices and lessons learned will be included on the website.

46. **Webpage on IFAD Asia:** The M&E system will provide information on outputs, outcomes, impacts, lessons learnt, good practices, and other key sector information to analyse performance of the programme, including information regarding price and export statistics. In addition, this information will also be hosted on IFAD Asia webpage, which

makes available to the public key information about the project, its achievements, good practices, policy studies and other key documents. The webpage will be maintained by Manager-Knowledge Management. All KM focal points with the project parties will be linked to this website so that they can post their updates on a regular basis.

6) Special thematic/diagnostic studies

47. The project may carry out, or commission, a number of relevant thematic special studies. The project will allocate budget in its AWPB and some of the thematic studies could include, for example, Feasibility of cage culture, co-management of ox-bow lakes, etc.

7) Training and workshops

48. The KM Manager will carry out at least one training each year for the project staff on (orientation, documentation, knowledge sharing) and organise thematic workshops to build the capacity of the project staff and enhance knowledge sharing in the project. The topics for the training can include – good practices in production, processing/value addition and marketing of value chain commodities, how to monitor work effectively, how to plan work, how to conduct meetings, how to do gender analysis, etc. Involving producer groups/organizations in thematic workshops will be a way to ensure cross learning of good practices.

8) Transfer of knowledge

49. To ensure dissemination of the knowledge gained through external workshops and exposure visits, it will be made compulsory for every staff to write a report of the workshop and disseminate the same. In order to systematise the transfer of knowledge to the new staff, the project will ensure that the out-going staff record the history of all activities and list all pending actions to be done.

C. Inception and Reviews

50. **Inception:** An inception/start-up workshop will be organised with project stakeholders and implementing partners to: (i) ensure that all partners understand and agree on the scope and implementing modalities of the project; (ii) introduce key processes, tools, strategies and reporting needs; and (iii) act as a networking event to build relationships for future knowledge sharing.

51. **Quarterly Review meetings:** The implementation progress will be assessed by the senior management and the project team through centrally held quarterly reviews of project parties. These reviews will function as knowledge sharing events within the project. It will be documented and disseminated across all the districts and archived for further use. These events will not only assess physical and financial progress but also cross cutting issues like gender, M&E and KM. Reports will be generated of these meetings and disseminated and archived.

52. **Internal Reviews:** Internal reviews will be held by the project parties once in a quarter. The project party will submit minutes of the quarterly review meetings to the PMU. Review teams will be established by the PMU comprising officials from the project parties and consultants where required to identify the challenges and workout solutions in respect of poor performing districts in each project party. A report will be published on the findings of these teams and will be disseminated to all project parties and shared with the IFAD supervision missions.

53. **Supervision:** The project will be supervised directly by IFAD. Annual supervision missions, followed initially by short follow-up missions as required, will be organised jointly with the government and the project parties. Supervisions will be conducted not as a general inspection or evaluation, but rather as an opportunity to assess achievements and lessons jointly, to review innovations, and to reflect on improvement measures. These supervision missions will therefore be an integral part of the KM cycle, with mission members playing a supportive role. To ensure continuity in this process, missions will be

carried out by a core team of resource persons returning regularly, joined by specialists to address specific needs of a given year.

54. **Mid-Term Review (MTR):** A joint mid-term review will be organised by government and IFAD at the end of the third year of the project. The MTR will: (i) assess project achievements and results, the efficiency and effectiveness of the project management, and the continued validity of JKCI design; (ii) identify key lessons learnt and good practices; and (iii) provide recommendations for the remainder period of the project. However, specific TOR for the mission will be mutually discussed and agreed to between IFAD, GoI and the GoJ&K.

55. **Project Completion Review and Report.** At the end of the project, the PMU will draw up a Project Completion Report (PCR) based on IFAD’s guidelines¹ for project completion. IFAD will provide support to the project in this work. IFAD will carry out a PCR Validation based on the project PCR at least 3 months before the loan closing.

56. **Project results evaluation. This** is a process which will assess the contribution of project activities in achieving the overall goal of the project. The main tool for this evaluation will be baseline, midline and end-of-project surveys of project households. These surveys will be undertaken by engaging an external agency, with specific expertise in such assessments. The indicators on which data to be collected by these surveys include those shown at objective and goal levels in the project logframe and also in the monitoring indicators provide in Appendix C4A3 in order to show evidence of a results chain from project activities, through outputs and outcomes to objectives and goals.

D. Implementation Responsibilities of M&E

57. **M&E Staff:** The project will recruit staff experienced in M&E for the PMU and partners agencies. In the first year of the project, the M&E staff will focus on establishing a functional M&E system for the project. This would include reviewing the results framework and indicators with the project management and IFAD to ensure that they are relevant, refining the M&E plan and M&E matrix, assessing staff training needs on M&E, organising M&E training, coordinating and conducting the baseline survey, designing the various reporting formats, developing databases, and setting up a computerised MIS.

58. The PME&MIS Specialist will be responsible for coordinating project planning - such as consolidation of the AWPB. This person will also oversee the preparation and submission of project reports (such as Annual/Half Yearly Progress Report and ORMS) - with support from the KM Specialist. M&E staff in PMU and project parties will also provide support during IFAD supervision, implementation support, MTR and PCR missions, and will organise all data and information relating to the project for reference by the IFAD missions.

59. **Key M&E tasks and implementation arrangements during project implementation cycle.** The overall key M&E tasks and implementation steps during various cycles of project implementation are summarised in Table 1 below:

Table 1: Summary of key M&E tasks

Key stages of project cycle	Key M&E tasks ²
Project initiation (loan effectiveness) to project start-up workshop (usually PY 1)	<ul style="list-style-type: none"> • Recruitment of all M&E staff • Review the project design/detail project report in relation to M&E with key stakeholders. • Review the PIM in relation to the section on M&E and KM in particular. • Develop a detailed M&E plan and system including appreciation of project M&E culture and practices that would be emerging taking into consideration the various project results chain. • Review / develop various M&E formats (data collection and reporting formats).

¹ Guidelines for Project Completion, IFAD, January 2023.

²Should be read along with the overall KM tasks to have link between M&E and KM

Key stages of project cycle	Key M&E tasks ²
	<ul style="list-style-type: none"> • Undertake and complete the baseline surveys (outsource/procure an agency). • Develop project MIS (outsource the task / procure an agency). • Prepare the KM strategy and action plan; integrate M&E and KM. • Prepare the knowledge management strategy and link it up with • Put in place necessary conditions and capacities for M&E to be implemented.
Main implementation period	<ul style="list-style-type: none"> • Ensure all data and information needs for management and key stakeholders are regularly met. • Coordinate information gathering and analysis, as also data storage and data management. • Facilitate and support regular review meetings and processes with all implementers and stakeholders. • Prepare for and facilitate the project reviews/ review meetings (monthly/ quarterly/ half-yearly/yearly or annual). • Coordinate/prepare for supervision missions; implementation support missions, etc.; prepare the action taken report on recommendations of IFAD's missions. • Organise meeting of IFAD mission and government during supervision missions, etc. • Conduct focused studies on emerging questions including documentation of good practices and missed opportunities (those not working well; suggest alternatives). • Disseminate / communicate project results with various stakeholders. • Prepare/undertake and ensure timely submissions of various reports as per IFAD's norms and requirements including documentation of success case studies, half-yearly/annual progress report, Annual Outcome Survey, Annual ORMS/RIMS Report, etc. • Consolidate the various types of supervision mission and implementation support mission feedback.
Mid-term	<ul style="list-style-type: none"> • Collate information for the mid-term review (MTR). • Coordinate for conduct of the MTR. • Facilitate internal review processes to prepare the external review processes. • Adjust the M&E system as required. • Revise the draft exit strategy and post-project sustainability. • Organise project workshop to review, share and disseminate changes proposed at MTR with all project staffs and partners.
Phasing-out and completion	<ul style="list-style-type: none"> • Assess what the implementers and communities can do to sustain project interventions, impacts and M&E/KM activities could be sustained after closing down; implement these specific ideas; revise and update the project exit strategy and post-project sustainability strategy or action plan. • Undertake end-line surveys / impact studies (outsource/procure an agency) • Organise workshops to review the key elements of project exit and post-project sustainability strategy. • Organise workshops and field studies with key stakeholders to assess project impacts; identify lessons learned for next phase of the project and/or other projects to be designed in future. • Prepare the Project Completion Report (PCR) as per IFAD's guidelines. • Facilitate and coordinate IFAD's PCR validation mission. • Organise closure workshop to share and disseminate lessons learned with all key stakeholders.

60. **Annual M&E Activities Calendar.** The key M&E activities and reporting requirements to be performed by the project by date/month are illustrated below. This does not include the higher-level project coordination meeting such as Project Steering Committee (PSC) meeting.

Key activities	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Annual Progress Performance Review												

Key activities	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AWPB preparation and submission												
Annual Progress Report												
Half-yearly Progress Report												
Annual ORMS Report submission												
Annual Audit Report submission												
Quarterly Results Report Preparation (Outputs)												
Quarterly Review Meetings at PMU												
Monthly physical & financial data collection/ MIS entry												

61. **Management Information System (MIS).** The project will establish a computerised MIS system in the first year of project implementation. The MIS system will have separate modules for each project party and will be linked to GIS. The MIS would generate, monthly, quarterly and annual progress reports on physical and financial progress and on project outputs and outcomes - and will have a GIS interface so that key data can be shown on maps.

62. The staff of project parties at the district level will work with the Planning and MIS Officer at the respective project party who will in turn report to the PME&MIS Specialist at the PMU. The project will engage suitable software/computing company or technical experts to develop the MIS software (or adapt an existing package) and then train staff and provide continuing support. It is likely that the system will need to be modified in the light of practical experience and emerging needs.

J. Reporting and Communicating Project Results

63. As part of the MIS, the PMU will develop common reporting formats to be used by the project parties. All data would be gender disaggregated and the analytical reports are to be used for taking timely corrective actions and to learn from implementation experiences to further improve project management effectiveness and efficiency. As required, monthly, quarterly and annual reports may be produced at different levels within the project. For IFAD corporate reporting the following are needed: Half-yearly progress Report (only against the AWPB), Annual Progress Report, ORMS Annual Reports and COI mid-line survey results.

64. Monthly Progress Reports (MPR) will be prepared from the project MIS developed to generate information at the block levels for reporting to the DLIT and FIT and onward to the LIT and FIT and PMU. Information in the report will contain component/sub-component wise physical and financial progress against annual targets. This report will form the basis for monthly progress reviews at all levels and subsequently feed to the quarterly progress report.

65. Quarterly Progress Reports (QPR) will have physical and financial progress with information on challenges encountered in implementation and corrective actions and solutions to address constraints as well as communities' response to project initiated activities. QPR would also be useful for consolidating ORMS/RIMS Annual Report each year.

66. Half yearly and Annual Progress Reports (HR/APR) will be prepared from information compiled by the PMU on component/sub-component wise physical and financial progress, and loan category wise financial progress. The information will be generated via the project MIS and could contain summarised information and data from blocks and findings from PME and annual outcome surveys, showing progress towards development objectives, usefulness of training, benefits from component/sub-component interventions, gender issues and knowledge management. The reports could be dovetailed with case studies of successful interventions. The PMU will prepare the half-yearly progress report by the end of October (primarily progress against the AWPB) and a more detailed annual progress report by April end to mid-May every year and send to IFAD India Country Office and other stakeholders.

67. ORMS/RIMS Annual Report. The key ORMS/RIMS indicators corresponding to the project outputs and outcomes by components are included in the project's Logical

Framework and will be reported annually by the end of January every year. In the first year the project information on RIMS first level indicators (list of indicators included in RIMS Handbook) associated with outputs would be reported. After mid-term review the report will include 2nd level indicators.

68. Mid-Term Review Report (MTR): IFAD in cooperation with the GoJ&K would undertake a mid-term review by the third year of the project lifecycle (or as would be specified in financing agreement).

69. Project Completion Report (PCR): As the project reaches completion point, the PMU would prepare a draft Project Completion Report based on IFAD's Guidelines for Project Completion. IFAD and the Government will then carry out a Project Completion Review and validation based on the information in the Project Completion Report and other data. This review is usually done during the intervening period of project completion date and loan closing date.

70. Case studies on project innovations and success stories³: The project will undertake case studies of project innovations and success stories on regular basis and report them through Annual Progress Report and in the India Country Newsletters. The project will also report them and communicate through its IFAD Asia webpage managed by IFAD and on the project's own webpage.

K. Learning and Knowledge Management (KM)

71. **KM Staffing**: In line with IFAD's policy, learning and knowledge management would be key element in JKCIP with integrated approach in which M&E will feed to generating learning for the project and from the project. While the KM functions in the project would be cross-cutting and would be responsibility of every sector head or manager, the project will have KM Manager in PMU. Knowledge services would be important element in JKCIP management systems. The M&E and KM units of the project at PMU will function in tandem as M&E will provide the building blocks for KM in the project.

72. **Knowledge Management in JKCIP**. The project will prepare a Knowledge Management Strategy building on IFAD's Knowledge Management Strategy in the first year of project implementation. This will be the responsibility of the KM Manager and Training, Institutions and Gender Managers. Staff responsible for KM activities at the district level would undergo training on KM.

73. The project **learning system** would comprise of various activities relating to M&E and KM functions. Some of these would include monthly, quarterly and annual review meetings; capturing information on progress, lessons and finding solutions for implementation constraints. KM and lesson learning would be used as a tool for internal learning by project stakeholders such as staff of various implementing agencies, participating villagers and farmers, both women and men. This will involve a series of regular meetings at village/cluster, block (where useful), district and state levels. At these meetings, progress of project activities will be reviewed and learning from success and reasons for failure identified. Participatory tools such as "most significant change", "story telling" and "participatory monitoring and evaluation" (PME) may be used at these meetings.

74. **Knowledge Products, Dissemination and Communication**. JKCIP will generate various knowledge products such as publications, documented case stories, photo documentation, videos, charts, manuals, posters, etc. However, for meaningful learning and knowledge sharing, knowledge products should be of quality with clearly identified audience and purpose. The characteristics of good knowledge products⁴ have the following elements:

³IFAD's Communication Division has brought out a guideline for preparing case studies in the field. This will be provided at the time of start-up workshop.

⁴Adopted from the "Handbook on Planning, Monitoring and Evaluating for Development Results", UNDP, 2009

- a. Based on an assessment of needs and demand for the product among targeted users to ensure relevance, effectiveness, usefulness and value of the knowledge product.
- b. Designed for a specific audience, taking into consideration functional needs and technical levels.
- c. Relevant for decision-making needs.
- d. Knowledge products brought out timely.
- e. Written in clear and easily understandable language.
- f. Data is presented in a clear and coherent manner; all data and information being from project M&E without any bias, both successful and failure cases.
- g. Knowledge products developed through participatory process and validated through quality assurance processes with relevant stakeholders or peer reviewed appropriately.
- h. The knowledge products should be easily accessible to the target audience through most effective and efficient means, and timely.
- i. Consistency in presentation of products to enhance visibility and learning.

75. Practical tips for developing knowledge products from project M&E and dissemination of the products could include the following steps:

- a. Identify the target audiences and their information needs.
- b. Collect and keep at hand the contact information of all key stakeholders.
- c. Identify and determine the types of knowledge products to be developed (keep in mind the availability of project resources for this purpose as also the capacity of the project to develop the knowledge products, directly or through outsourced).
- d. Select and determine types of knowledge products that meet the target audience's information needs.
- e. Identify language requirements per product and audience.
- f. Determine most likely efficient forms and dissemination methods for each knowledge product.
- g. Monitor feedback and measure results of dissemination efforts as also quality of knowledge products.

76. **Knowledge Sharing and Learning Culture.** The project will endeavour to capture and disseminate lessons learned, successful case studies and document good practices. The project will adopt various knowledge sharing methods and tools including designing and facilitating knowledge events such as meetings and workshops. JKCIP will adopt some of the best practices in knowledge sharing and learning culture of IFAD funded projects in India around the followings:

- a. Building strong network by conducting periodic workshops/seminars/conferences on key thematic issues relevant to the project.
- b. Conduct monthly/quarterly/half-yearly/yearly review meetings of key stakeholders.
- c. Developing skills and competencies of project staffs to improve human resources in the areas of knowledge management.
- d. Tailoring knowledge management activities closely to the needs of project staff and stakeholders.
- e. Developing and actively using project website, newsletter, etc. and contributing in the IFAD Asia website. Adoption of specific knowledge sharing methodologies and

tools⁵ with capacity building components, such as: Tools treasure hunt, Video storytelling, Speed sharing, Chat show, Jumpstart storytelling, World Café, Peer Assist, etc.

Attachments

Appendix C4A1: Terms of reference of the baseline study

Appendix C4A2: Model outline of AWPB

Appendix C4A3: Monitoring Indicators

⁵Details are available at “*Introducing Knowledge Sharing Methods and Tools: A Facilitator’s Guide*” by Allison Hewlitt and Lucie Lamoureux. IDRC-IFAD, 2010

Attachment ME 1: Baseline survey ToR

Term of Reference (TOR) for Engagement of agency for Baseline survey under Competitiveness Improvement Project of Jammu and Kashmir (JKCIP) funded by IFAD

Objective of the Consultancy

APD plans to engage a Service Provider to conduct a baseline survey for Competitiveness Improvement Project of Jammu and Kashmir (JKCIP) using a rigorous quantitative method including sample design, data analysis and report writing etc and a qualitative method will be used wherever required to supplement data collected through quantitative methods by gathering insights from partners and beneficiaries. Baseline data will be collected from the households expected to benefit from the project residing in the project villages. Considering the limitation of identifying a pure counterfactual and the possibility of contamination in the future, it is proposed to use one of the three designs: (i) a panel design; (ii) quasi-experimental design with support for ensuring low/no contamination in sampled comparison block; and (iii) quasi-experimental design with key assumptions for sample loss/contamination. Final selection of the design will be finalized in consultation with APD and IFAD. The baseline survey will take place before project investments are being rolled out in the field.

The selection of the Service Providers will be based on the **Quality and Cost Based Selection** procurement method.

Scope of Services

The scope of the services required under this Terms of Reference include sample size calculation on final consultation with the JKCIP PMU, the collection of data for the baseline survey (at the appropriate level of analysis, namely, the household and CBOs level) and conduct rigorous data analysis that evaluate the outcome and impact of JKCIP, measured through measurable outcomes of success. The impact and outcomes measured will be consistent with the project's theory of change and logical framework.

The **required services include** the following parts:

- a. Develop the survey methodology. The Service Provider will define sample size in consultation with the PMU and provide feedback on the sample size, and develop the sample frame, the questionnaires for the household and the CBOs. Specifically, the Service Provider is expected to assist devising tailored, context-specific questions that must reflect the logic of the project and provide context-specific inputs on developing survey tools.
- b. Based on the sampling frame, prepare a list of primary and secondary sampling units (such as households, CBOs) for both project and control areas identified. Specifically, the Service Provider must prepare a household and village/CBO enumeration plan.
- c. Organize and deliver the training of the supervisors and enumerators on the survey methodology and survey questionnaire. Carry out the pre-testing of the questionnaire in project areas that are not selected for sampling.
- d. Administer the household and CBO level surveys including appropriate geo-coordinates for the households and communities surveyed. The survey must be implemented using a Computer Adaptive Personal Interviewing (CAPI) technique.
- e. Deliver cleaned datasets in SPSS or Stata format with a detailed variable library.
- f. Conduct the statistical analysis and prepare the descriptive statistics of the relevant indicators following the project's theory of change and logical framework.

- g. Prepare a baseline report using collected dataset to report on the data collection strategy, the sample distribution, and the summary statistics of the relevant indicators.

Specifically, the **services required include:**

- a. Prepare survey questionnaire and the sampling design and incorporate the specific comments/recommendations of JKCIP and finalise accordingly.
- b. Translate the questionnaire initially developed in English into local language (Hindi).
- c. Organize the training of the field staff (supervisors and enumerators) on the survey methodology and the data collection requirements; the training will include a module on using the Survey Solutions software and tablets for data collection.
- d. Administer and analyse pre-tested and piloted surveys of the adapted questionnaire in the field.
- e. Develop interview manuals and instructions for field staff (supervisors and enumerators). The interview manual should include a section on unit conversion factors, including but not limited to conversion factors for local units for weights, volumes, area etc.
- f. Develop an appropriate data management system with adequate quality controls. The data management system should be finalized before the data collection team moves to the field.
- g. Organize and conduct the field activities including all logistic arrangements.
- h. Deliver partial datasets on a regular basis to JKCIP according to the agreed quality standards and adhere to the agreed format. As per the Survey Solutions structure, the Service Provider and JKCIP will have access to the real time collected data from the field as soon as they are uploaded to the system by the enumerators.
- i. Implement the survey supervision program.
- j. Produce consolidated datasets according to the agreed quality standards and adhering to the agreed format.
- k. Develop a variable library with appropriate labels to all the variables generated in the data collection.
- l. Conduct the statistical analysis to construct indicators relevant to the project's theory of change and logframe using the statistical software Stata and prepare all the necessary processing "do files".
- m. Prepare a baseline report on data collection strategy, sampling distribution, summary statistics of relevant indicators.

Baseline survey Approach and methodology

The approach of the study will be to carry out household sample survey baseline of the project. The survey will be supported by the collection of qualitative information on project impact for households joining the project.

The sample will be designed in such a way as to produce estimates for indicators of JKCIP households. The sample design should allow for before and after project, and with and without project comparisons. The survey is not designed to cover households who participated in ULIPH and who will continue to be supported by ILSP via the Federations formed under ULIPH.

The sample should be both stratified and clustered. Stratification would ensure that the selected sample is spread over the project area and represents JKCIP's key target groups (i.e. 60% of women, 30% of youth, ultra-poor, landless, etc.) as well as different

agro-ecological zones. Clustering would reduce logistical and data collection costs by first selecting a sample of project groups or villages and then selecting a sample of households in the selected groups/villages.

The total size of the sample, allowing for the effect of clustering (the "design effect"), should be of sufficient size so as to produce reliable (at least 90% confidence interval) and precise (no more than +/- 10%) measurements of indicators for each domain of Investigation.

Impact domains: The baseline survey will collect baseline information on five impact assessment domains which are detailed below.

Household income and net assets: Household income provides a means of assessing the flow of economic benefits accruing to an individual or group, whereas assets relate to a stock of accumulated items of economic value. The analysis must include an assessment of trends over time. The assessment should also estimate the income level of households compared to the official poverty line in J&K.

Enterprise development: Given the JKIP focus on expansion of existing farm and non/off nano, Small and micro- enterprises, the survey will also cover areas related to the enterprise financial viability, and sustainability, employment effect, adoption of environmental and climate resilient practices, access to business development services, finance and marketing, as well as level of satisfaction support provided in this regard by the CBOs (SHGs/PGs/VO/LC/CLFs/FPOs) to the women and young entrepreneurs. The survey will also collect relevant information to assess targeted enterprises' resilience to changing climate conditions and to measure improvement at project completion.

Human and social capital and empowerment: Human and social capital and empowerment includes an assessment of the changes that have occurred in the empowerment of individuals with particular reference to women and youth, the quality of grass-roots organizations and institutions, the poor's individual and collective capacity, and in particular, the extent to which specific groups such as youth and women are included or excluded from the development process using both quantitative and qualitative indicators.

Financial Linkage, Institutions and policies: The criterion relating to financial linkage, institutions and policies is designed to assess changes in the quality and performance of institutions, their creditability, access to finance, policies and the regulatory framework and enterprise ecosystem that influence the lives of the poor.

In addition, the Service Provider will need to ensure that all goal/objective/ outcome level indicators listed in the project's log frame are adequately covered in the baseline survey.

Methods: The baseline survey will use a mix of both quantitative and qualitative methods. A table outlining the choice of method to assess the four impact domains is provided in Table 1.

Table 1: Choice of methods for analysis of selected variables under the impact domains

Impact Domain	Type of Method	
	Quantitative	Qualitative
Household demography	No. of Family Members Children of school age attending school Income Source Livestock numbers	Gender, age, education, literacy, occupation of household members, Socio-economic status Land ownership and land tenure Land use (area cultivated, homestead etc)

	Land	Area of irrigated land, area actually irrigated, type of irrigation system, source of water Ownership of farm equipment
Household income and net assets	Household incomes/ expenditures. Resilience (diversified sources of income). Household assets, productivity and others. Use of income. Access to savings and credit	Effects of shocks and disasters Diversification of income sources Coping strategies post disasters/ extreme climate events
Environmental Sustainability and Climate Resilience	Adoption of Environmentally/Climate resilient technologies or practices Reduction of time spent for water/fuel collection.	Number of beneficiaries gaining increased secure access to land Number of groups supported to sustainably manage natural resources and climate-related risk Number of persons provided with climate information services Number of hectares of land brought under climate resilient management (Number) Percentage of persons/households reporting adoption of environmentally sustainable and climate-resilient technologies and practices (Number) Percentage of persons/households reporting a significant reduction in the time spent for collecting water or fuel
Youth	No. of youth in the project area (age-wise segregation) Returnee migrants Youth engaged in enterprises No. of youth earning Income No of youth engaged in value chain based activity No. of youth have Knowledge of CSA practices/precision farming/innovative technology Use of income. Access to savings and credit	Gender, age (15-29 as per PIM), education, Literacy. Status of employment Nature/Type of employment Type of skill training if received earlier Type of enterprises Type of value chain Source of microfinance linkage Type of Knowledge of CSA practices/precision farming/innovative technology- elementary/expertise Familiarization with digital/social media platforms.
Rural Enterprise development	Sales/business Turnover of the enterprise No of people employed (from family members and non-family members) Average Wages per month Selling Price Profitability i.e. Rate of Return Amount of finance mobilized for the enterprise on CBOs (SHGs/PGs/VO/LC/CLFs/FPOs) and source of this finance Loan repayment	Type of enterprise (Value Chain based etc.) On Farm Enterprise Off Farm Enterprise Adoption of environmental safeguards (safety of workspace, hygiene, food safety, waste disposal, integrated pest control etc.) Adoption of climate resilient practices (renewable energy, irrigation, drought, earthquake, land slide, tolerant varieties, etc.) Source, and type of finance (loan, savings, insurance) Type and source of business development services Marketing channels Level of satisfaction with services provided by the enterprise
Human and social capital and empowerment	Women's control over resources and participation in household level decision.	Gender relations (decision making: intra- and inter household and workload distribution), Community relations, acquisition of new skills and knowledge and violence against women.

		Social capital (e.g. relations with SHGs, Village Organizations, Federations, service providers, etc.) Access to social security schemes.
Institutions and policies		List major policies that affect the sector and assess women' knowledge of these and their perception of the impact of policies on the viability of the enterprise Influence on policies/practices of the government
Producer Organization/ Community Based Organization (CBOs)	Job created No. CBO's engaged in partnership/agreement/contract No. of POs/CBos with increased sales	CBO's engaged in partnership/agreement/contract New improved Services from POs/CBOs POs/CBos with increased sales

The assignment will include data collection and submission using tablets. The Service Provider should include in the financial proposal, the cost of using tablets, the provision of tablets (including spare tables) and charging devices.

Computer Assisted Personal Interviewing (CAPI)

The Service Provider is required to use the CAPI software. If the Service Provider chooses to use other CAPI platforms, this should be clearly specified in the technical proposal.

Surveys must be administered using tablets suitable for collecting proper geo-reference of household dwelling and of CBOs office and social enterprises. If tablets are not suitable for geo-referencing it is the Service Provider 's responsibility to ensure proper GPS devices are used.

It is the Service Provider's responsibility to make arrangements for appropriate tablet devices compatible with the latest version of the *Survey Solutions* software. The recommended specification of the tablets is provided below⁶:

Survey Solutions software works with Android tablets with the following specifications:

Version of Android: OS Android 10 or better is required; Android 8.0+ is strongly recommended.

RAM Minimum 1.5GB

Memory : 8GB of flash memory storage. At least 1GB of available space must be available for Survey Solutions' use. The Survey Solutions software installation package (.apk) is close to 30MB, but more space will be required during the operation of the software. The ultimate requirements for space depend on the kind of survey (questionnaire) and the mode of use of the tablet (number of assignments, simultaneously started assignments, rejections, etc.

WiFi module, which can be used for software setup, upgrades, and synchronization while in the office.

3G/4G connectivity module is required for synchronization from the field.

Please note that better technical characteristics will improve responsiveness of the program

Staffing

⁶ Compatible tablet models are listed on this webpage. should-i-buy-
<http://support.mysurvey.solutions/customer/en/portal/articles/2505822-what-tablets-should-i-buy->

The Service Provider will hire the following core staff for the Consultancy services as follows:

One Team Leader: The Team Leader will be in charge of coordinating the planning, implementation of the JKCI baseline survey and ensuring that the work is conducted following the highest professional standards. The individual will be in charge of ensuring that the quality control and supervision mechanism in place for the survey is effective, manage the Consultancy team and ensure that each member performs their specific scope of work. The individual must hold at least a Master's degree in Agriculture, Agronomy, Natural Resource Management (NRM), Sociology, Economics, Agricultural Economics or related field, and must have at least ten years of relevant experience in carrying out quantitative and qualitative surveys in rural areas and on livelihoods enterprises, and at least five years as team leader/ coordinator for such surveys using *Survey Solutions* software and CAPI.

One Programmer/ IT specialist The Programmer will be in charge of adapting the questionnaire to the CAPI using Survey solutions or other CAPI platforms. The Programmer will develop appropriate data management system with adequate quality controls, and finalize the data management system before the data collection team moves to the field. The data management system would also be organized in such a way as to deliver partial datasets on a regular basis to JKCI and provide real time access to Service Provider and JKCI. S/He will hold a Bachelor degree in computer sciences or equivalent. Should have at least 7 years of experience of relevant experience in programming surveys and undertook at least 5 surveys requiring programming and data management of CAPI administered surveys. Programmer who is a full time employee of the service provider will be preferred.

One Consultant- Statistics /Data Analyst for sample design and questionnaire design : The **Consultant** will be in charge of adapting the designing of sample for the survey and questionnaire S/He must hold advanced degree in Statistics, Economics or related field. Strong background in statistics and econometrics is required. At least five years experience in the design of samples for household surveys required.

One Socio economic researcher with advanced degree in Economics, Agricultural Economics or related field, at least five years experience in analyzing survey data using STATA or equivalent software. Strong background and experience in statistics and econometrics is required.

Five (5) Junior Consultant/ Supervisors: Supervisors will work under the supervision of the Field Coordinator and will participate in the pre-testing, enumerator training, and pilot of the survey questionnaire. They will be in charge of the supervision of the enumerators, quality control of the data collected, and submission of the data on a daily basis. They must hold at least a Bachelor's or Master's degree in Agriculture, Agronomy, and Natural Resource Management (NRM), Sociology, Economics, Agricultural Economics or related field. They must have at least five years of relevant experience in carrying out quantitative and qualitative survey implementation in rural areas, quality control of data collected. They must have experience in the use of tablets in at least three quantitative and qualitative agricultural surveys. Fluency in the local language spoken is required.

Enumerators: The numbers would depend upon strategy and methodology developed and finalized. For evaluation purpose 4 resumes would be evaluated. The enumerators will be Hindi reading and speaking and this is a mandatory criteria. Enumerators will work under the supervision of Supervisors and will be in charge of conducting quantitative and qualitative interviews to collect data. Bachelor's degree would be preferred for enumerators. Preference given to degree in Agriculture, Agronomy, Natural Resource Management (NRM), Sociology, Economics, Agricultural Economics or

related field. They must have at least three years of relevant experience in carrying out quantitative and qualitative agricultural surveys. Prior experience for data collection using tablets in at least one agricultural survey is preferred.

Two Data Checkers: Data checkers will be stationed in the Service Provider's office and periodically check the quality of the data uploaded to the CAPI platform from the field. Data checkers are responsible for checking the data potential errors and re-sending the survey back to enumerators if further justification is needed. Surveys uploaded by the enumerators but not checked by the data checkers are deemed incomplete. Data checkers will have a Bachelor's degree in computer science or IT and previous experience in survey data management. Data checkers are required to sit in the in-class training of questionnaire and CAPI software.

Two Data analysts: Data analysts are responsible for conducting the statistical analysis to construct the relevant indicators that are specific to the project's theory of change and logframe. They are responsible for providing tables of summary statistics of the relevant indicators as per the survey methodology developed by the Service Provider. They must hold at least a Master's degree in Statistics, Economics, Agricultural Economics or related field, and must have previous experience using the statistical software Stata to analyze household surveys related to livelihoods and enterprise development.

Pre-testing, enumerator training, and pilot

The Service Provider is responsible for arranging the pre-testing, the enumerator training as well the pilot phase of the survey tools. The pre-testing has the function of: (i) verifying the accuracy of translation; (ii) identifying questions that are difficult to understand for respondents; and (iii) identifying where improvements can be made in the general questionnaire design and flow.⁷ The pre-testing team should include all the supervisors and a few local experts (i.e. business development experts for example).

During the pre-testing, JKCIP will work in conjunction with the pre-testing team to refine and finalize the survey tools prior to the enumerator training and the pilot phase and make sure it is very well-tailored to the country and project context as well as a cultural point of view. The pre-testing should take 2-3 days in total. It is required that the pre-testing is conducted in the field with respondents from households that resemble but are not part of the final sample area. Each supervisor should conduct at least two complete surveys in the field.

Once the pre-testing is completed and the survey tools are finalized and translated, the Service Provider is responsible for arranging the equipment for the enumerator training as well as the pre-testing of the survey tools, including testing the survey in the field. This implies organizing the pre-testing and pilot location, accommodation, and equipment required.

The Service Provider is also fully responsible for arranging the pilot, during which each enumerator must complete at least three questionnaires and upload at least the third interview to the server. Note that during the pilot phase, it is expected that each questionnaire will take around double the time that it will take during the live data collection.⁸

The enumerator training and the pilot should be conducted concurrently. The Service Provider is responsible for devising the training schedule given the specific needs of the project (i.e. sample size, logistics, type and level of complexity of the intervention, etc.) and the training schedule should be as rigorous as the following proposed example, but cannot be less than 9 full days (including pre-testing, training and pilot), as follows:

⁷ Pre-testing of the survey tool might entail major changes to the questionnaire

⁸ Minor changes to the survey tool are expected during training and pilot

Days 1 – 3: Pre-testing of questionnaire in Survey Solutions

Days 4 – 5: Revision and finalization of the questionnaire in Survey Solutions including translation into local language(s)

Days 6 – 8: Classroom training on Survey Solutions questionnaire

Day 9: Mock interviews of Survey Solutions questionnaire including addressing minor translation and/or wording issues

Day 10: First pilot of Survey Solutions questionnaire

Day 11: Debriefing on first pilot and addressing issues that arose Day 12

(morning): Second pilot of Survey Solutions questionnaire

Day 12 (afternoon): Final debriefing and final recommendations for data collection

It is required that the enumerator training is undertaken in the same location for the entire team, and that all enumerators, supervisors and managers are present. The Service Provider is required to ensure enumerator's capability to collect high quality data within the average amount of time indicated for household survey. To this purpose the Service Provider must elaborate a plan to verify and test the quality and capability of enumerators and must be prepared to substitute enumerators as needed. This may require higher number of enumerators attending the enumerator training and pilot, after which, the Service Provider will screen out enumerators based on their performance during training and pilot.

Data analysis

Data analysts will be responsible for conducting the statistical analysis to provide summary statistics on the relevant indicators as inputs to the baseline report. Specific activities for the data analysis include the following tasks:

- a. Finalize the final data quality checks on the clean and finalized dataset delivered by the Service Provider;
- b. Construct the relevant outcome and impact indicators to be reported in the baseline report using the processing "do files" in the statistical software Stata;
- c. Prepare the tables of summary statistics for relevant outcome and impact indicators as inputs to the baseline report of JKCIP
- d. Prepare the draft baseline report of JKCIP; and
- e. Revise the draft ex-post impact assessment report of JKCIP based on the feedback and comments received from the project team, and other stakeholders.

Timeframe of services

The total duration of the assignment is approximate 4 months including the review and feedback on the survey methodology, the training of the field staff, the pre-testing of the questionnaire, the data collection and submission, data codebook, and the submission of the final report with a variable library, the sample distribution, and the summary statistics.

Reporting

Institutional and organization arrangements

Review Committee: The Project Director of JKCIP and sector specific managers backed up by the Manager-M&E and Manager KM of Client will constitute the review committee, which is responsible for overseeing the work of the Consultant and ensuring effective implementation of the baseline survey.

The Consultant shall interact with the review committee during the implementation of the survey, by providing regular feedback, and submitting the critical reports.

Key deliverables and Deadlines

Contractually, the Consultant will report directly to the Manager-M&E, PMU-JKCIP, who is coordinating the baseline survey of behalf of the Client.

Proposal for specific meeting to discuss any issue related to the Baseline survey will remain at the discretion of the Review Committee of the Study that is described above.

The Service Provider will be required to submit the following:

- a. The survey methodology is submitted along with the questionnaire for households and CBOs, the sample frame and the sample size within 14 days from receiving the work order.
- b. The report on the training of the field staff and pre-testing of the questionnaire within four weeks of the work order.
- c. Finalized data sets and codebook after quality verification and responses to queries within 8-10 weeks of the work order.
- d. A final report with sample distribution, variable library, and summary statistics of major indicators within 12-14 weeks of work order.
- e. List and details of HHs surveyed under baseline survey along with the final report.
- f. Household/FGDs Raw data sheets.

Services provided by the Client

JKCIP will provide the following assistance to the Service Provider:

- a. Official documents required for conducting the survey and authorization from State authorities.
- b. Documents related to project components and sub components.
- c. Documents related to the CBOs, the household members, villages/GP/blocks where they are located and list of social enterprises and turnover of all CBOs, as well as the classification of household members based on consideration of poverty and entrepreneurship.
- d. **District Management Units** would assist the survey team with information on project working areas and project activities. They would also provide lists of project groups and names of group members, and would help in locating sample households. However, all logistical arrangements (except local transport within the project districts) would be the responsibility of the survey agency.

Intellectual Property Rights.

All information gathered under the contract is the property of JKCIIP. The selected Service Provider must deliver all data, documents, background information and other relevant information gathered during the course of the activities carried out while under contract to JKCIIP in their entirety. No data or other information from this survey will be released to third parties without the written approval of the Client.

Location

The assignment will be carried out at all blocks of with project beneficiary meeting project mandates and previous project covered population and to the offices of the Consortium whenever required or as per the baseline survey's implementation plan.

Appendix C4A2: Model outline of AWPB

Part A: Narrative Template

COUNTRY: India

NAME OF PROJECT: JKCIP

ANNUAL WORK PLAN AND BUDGET: PART-A

PERIOD from April 2020 to March 2021

Font sizes

Text 10 Verdana; Tables within Text, Verdana 9

Spacing 1

Table of Contents (Modify, if required)

Fiscal Year

Currency Exchange Rates, historical trends

Weights and measures

Abbreviations and acronyms

Project Area Map

Executive Summary

- I. CONCEPT OF AWPB
- II. CONTEXT
- III. ACHIEVEMENTS
- IV. SUMMARY PRESENTATION AWPB
- V. DESCRIPTION OF AWPB BY COMPONENTS
- VI. AWPB COSTS AND FINANCING PLAN
- VII. STRATEGIC FRAMEWORK
- VIII. PROJECT MANAGEMENT
- IX. ANNEXURES: AWPB TABLES

I. CONCEPTS (Maximum 2 paragraphs)

Previous period: In this Section, some of the basic planning parameters should be defined and explained. Preparation of AWPB begins, usually between October and November⁹. To put the proposed AWPB in perspective, results obtained in the previous year should be highlighted.

Currency: The AWPB should use INR as the unit for costs and values. The current exchange rate at the time of writing the AWPB should be indicated and compared with the rate(s) used in Costab tables. Its evolution since the previous AWPB has to be analysed and the effect of devaluations or appreciations on required external financing should be stated.

Prices: The current 12-months inflation or deflation rate for goods and services similar to project inputs should be stated and compared to the rate used in Costab tables for local inflation and the impact on project cost and financing analysed.

II. CONTEXT (Maximum 2 paragraphs)

This Section provides briefly the most important developments in the previous period in the project implementation environment and the expected evolution for the planning period. The following elements may be discussed.

- a. Government policies: Indicate any change or new policies and their effect on project implementation;

⁹ In countries where the fiscal year runs from March to April such as in India

- b. Institutional framework: Discuss any constraints, changes in the organization and/or staffing in the Implementing Agencies and the project management units. Evaluate the impact on implementation capacities.
- c. Any other major determining factor of the implementation environment

III. ACHIEVEMENTS (Maximum 2 pages)

The Section presents the main achievements, issues and constraints of the previous period, including the main recommendations of supervision missions, as well as an appreciation of the impact of the project on the poverty and gender situation. Discussions should include:

- a. Physical results: Highlight the implementation strategy and describe the main physical results obtained so far, indicate positive results as well as implementation problems and the reasons for them, and the latter's impact on next year's plan and implementation. Refer to detailed and summary AWPB tables.
- b. Financial results: Analyse the level of expenditures of the year to date for the main components, compare with the previous budget and indicate any reasons for higher or lower expenditures than expected. Indicate whether these issues will have an impact on the plan for the next year; refer to the detailed and summary AWPB tables.
- c. Supervision issues: Highlight the main recommendations of the previous supervision mission and the manner they are being implemented, discuss any other supervision issue.
- d. Poverty situation Provide a qualitative appreciation of the implementation to date on the poverty situation in the project villages and households. Use some information from the Baseline survey and any other available indicators to underline the statements. Also review any new Government and/or donor initiatives.
- e. Gender Discuss the role of women in project planning and implementation and the project impact on their situation, results and constraints. Analyse both the economic and the social aspects (income generation, agriculture, credit, literacy, education, health, etc...)

IV. SUMMARY PRESENTATION AWPB (maximum one page)

This section, presents the main characteristics of the Annual Work Plan and Budget, in terms of programming and implementation strategy, physical and financial objectives and expected outputs and impact. Indicate if there are any major changes compared to last year's AWPB.

V. DETAILED PRESENTATION OF AWPB (maximum 4 pages)

In this Section, a detailed discussion of the programming and implementation strategy of each component of the JKCIP is presented as well as a discussion of the expected results and how the implementation modalities eventually differ from the previous year(s)' practices. For each component, present the following:

- a. Objectives and targets. Indicate the component objective and physical targets for the AWPB period and compare with the whole project duration, discuss any trends;
- b. Implementation strategy: Indicate how the activities of the component will be programmed and implemented, discuss participatory approaches and any institutional problems and their required solutions;
- c. Results: Indicate the expected results in terms of quantitative indicators and in terms of qualitative aspects. Indicate the expected number of beneficiaries (women, men) and households. Compare with the overall target of the project and with last year's results;

- d. Changes: Discuss and justify any changes compared to the initial design and previous experiences, in targets, implementation strategy or expected results. Indicate reasons.

VI. COSTS AND FINANCING (maximum one page)

In this Section discuss issues relating to costs and financing of AWPB.

- a. Unit Costs: Any major changes in unit costs due to inflation/deflation and to changes in design compared to previous years and to the Appraisal Report should be discussed and the manner how these changes will be tacked and by whom should be indicated.
- b. Financing: Issues relating to the flow of funds, the timeliness of funds availability, of approval and disbursement procedures for all financiers will be highlighted, and ways to improve or overcome constraints indicated.

VII. STRATEGIC FRAMEWORK (maximum 2 or 3 paragraphs)

This Section deals with how the AWPB objectives and expected results and impact correspond to Government and IFAD objectives. It will be based on concrete experiences and examples and avoid non-committal broad statements. Issues to be included are:

- a. Government objectives: State which project activities contribute to Government's rural development and/or poverty alleviation objectives and indicate the project's incidence in the project area.
- b. IFAD Strategic framework: Discuss if and how AWPB results and impact contribute to:
- c. empowerment and strengthening of beneficiary organisations, including gender and participation aspects;
- d. access to productive natural resources and technology;
- e. Access to financial services and markets.
- f. Co-financier: If the project is co-financed, indicate the expected impact of the AWPB on the Co-financier's objectives and strategy.

VIII. PROJECT MANAGEMENT (maximum 3 or 4 paragraphs)

This Section deals with the PMU status, staff positions, staff vacancies, key issues in staff deployment and ways to handle them. Highlight staff training and orientation and exposure visits. Provide a list of current staff as against original plan.

IX. ANNEXURES (AWPB TABLES)

The outline of AWPB Tables consists of two parts: a) the annual budget and b) indicators for achievements so far and cumulative achievements. The latter are required to put the annual budget in perspective and to help justify it.

Summary table: This table aggregates all financial values by component from the individual AWPB tables. The outline has been so designed that the individual rows in the summary table is linked to the different "Total" bottom lines of in each individual AWPB table. In this manner, corrections and adjustments in the data in the individual tables are automatically re-calculated in the summary table.

Appendix C4A3: Monitoring Indicators

Component 1: Climate smart and market led production

Sub-component 1.1: Upscaling collectivization

- 1) No. of existing FPOs supported.
- 2) No. of new FPOs promoted.
- 3) No. of FPO Development Officers recruited.
- 4) No. of Directorate/University/KVK staff trained in FPO mobilization.
- 5) No. of FPO staff trained in FPO mobilization.
- 6) No. of FPO leaders trained.
- 7) No. of FPOs with business plans.
- 8) No. of FPOs with at least one business activity.
- 9) No. of FPOs with at least two business activities.

Sub-component 1.2: Niche Agricultural Crop Support

- 1) No. of Directorate/University/KVK staff trained in Climate smart Agriculture and Good Agriculture Practices of niche agricultural crops.
- 2) No. of farmers trained in Climate smart Agriculture and Good Agriculture Practices of niche agricultural crops.
- 3) No. of seed villages developed.
- 4) No. of vegetable seed businesses established.
- 5) No. of water management systems established.
- 6) No. of protected cultivation systems established.
- 7) Area expansion of saffron in kanals.
- 8) Area expansion in Black Jeera in kanals.
- 9) Area expansion in Off-season vegetables in kanals.
- 10) Area expansion in other crops in Kanals
- 11) Amount of Bank loan facilitated.
- 12) On-time repayment rate of bank loans provided to entrepreneurs.

Sub-component 1.3: Horticultural Crop Support

- 1) No. of Directorate/University/KVK staff trained in Climate smart Agriculture and Good Agriculture Practices of horticultural crops.
- 2) No. of farmers trained in Climate smart Agriculture and Good Agriculture Practices of horticultural crops.
- 3) No. of nurseries supported.
- 4) No. of water management systems established.
- 5) Area covered under solar fencing.
- 6) Area expansion under apple in kanals.
- 7) Area expansion in cherry in kanals.
- 8) Area expansion in walnut kanals.
- 9) Area expansion in Almond in kanals.
- 10) Area expansion in other horticultural crops in Kanals.
- 11) Amount of Bank loan facilitated.
- 12) On-time repayment rate of bank loans provided to entrepreneurs.

Component 2: Agribusiness ecosystem development

Sub-component 2.1: Enterprise support

- 1) No. of business led enterprises supported.
- 2) No. of enterprises supported.
- 3) Amount of Bank loan facilitated.
- 4) On-time repayment rate of bank loans provided to entrepreneurs.

Sub-component 2.2: Enterprise support

- 1) No. of MSP conducted.

- 2) No. of buyer and seller meets conducted.
- 3) No. of market linkages established.
- 4) No. of marketing outlets established.
- 5) No. of brand campaigns conducted.

Sub-component 2.3: Incubation and start-up

- 1) No. of Incubation hubs established.
- 2) No. of bootcamps conducted.
- 3) No. of challenges conducted.
- 4) No. of start-ups provided with seed funds.
- 5) No. of start-ups with scaling up support.

Component 3: Support to vulnerable communities

Sub-component 3.1: Support to pastoralists

- 1) No. of consultations held for the wool sector study.
- 2) Amount invested in wool sector support.
- 3) Amount invested in equine breed improvement.
- 4) No. of good quality goat breeds provided to pastoralists.

Sub-component 3.2: Support to other vulnerable groups

- 1) No. of goat/sheep units provided.
- 2) No. of milk collection centres established.
- 3) No. of ice boxes supplied.
- 4) No. of enterprises established.

Sub-component 3.3: Integration of youth

- 1) No. of youth clubs supported.

Chapter 5: Financial management

Financial Management Manual (FMM) in Appendix C5A1 has detailed financial management policies and procedures. The following are key financial management arrangements that the project will follow during the implementation:

IFAD's FM policies and procedures and Government regulations for accounting and budgeting will be mandatory to follow during the implementation of the project.

The project will be pre-financed by the state government and will use a reimbursement disbursement method to reimburse IDAD's share of project expenditures.

The project team and CAAA will use ICP to request funds from IFAD. The latest IFRs will be linked to each WA and submitted via the Finance Execution Model of ICP. The IFAD Client Portal (ICP) with a new module, called the Financial Execution module (FE module), is used to direct upload of certain project financial reports into the IFAD Client Portal (ICP). The APD PMU (Role of 'Financial Data Uploader' in ICP) will upload the IFR into the system. CAAA will link the WA to the IFR before submitting it to the Borrower/Recipient for approval in ICP and final submission to IFAD.

IFAD's anti-corruption guidelines will be mandatory during the project implementation.

FM staff will include APD Finance Directorate management and two consultants at the PMU level. Two consultants will maintain Tally accounting records for all implementing partners. The responsibilities of the finance staff of implementing partners will be limited to collecting supporting documents, their submission to HODs, and the release of final payments to project contractors and beneficiaries. Roles and responsibilities for key FM staff are included in the FMM.

Budgeting will follow internal government budgeting regulations, and a draft AWPB will be submitted to IFAD 60 days before the start of the relevant FY. Detailed budgeting guidelines are provided in FMM.

Internal controls: The project will employ necessary FM resources to carry out monthly reconciliation of bank accounts. The online banking system of a commercial bank will help to allocate timely and necessary funds to implementing partners. Consultants will be hired to prepare internal audit reports each semester.

Indian National Accounting Standards will be applied to prepare project financial statements. Tally accounting software will be used for accounting record-keeping and financial reporting. The software will automatically generate quarterly IFRs.

All payments will be processed using the online banking system of a commercial bank where PA will be maintained.

The project will submit quarterly IFRs within 30 days of the end of each quarter. Sample IFRs formats are attached to FMM.

The Comptroller and Auditor General (CAG) office will audit project annual financial statements to expand the use of country systems. CAG office will issue audit reports within six months of the end of the financial year.

Records and Fixed Asset management policies are included in the FMM. Refer to Financial Management Manual for more detailed Financial Management arrangements.

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu
and Kashmir (JKCIIP), India,
Financial Management section of PIM
November 2023

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Glossary of terms

Term	Description
JKCIP	Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir
APD JK	Department Agriculture Production and Farmers Welfare of Jammu and Kashmir
J&K	Jammu and Kashmir
Borrower	Government of the Republic of India
DSA	Daily Subsistence Allowance
FM	Financial Management
FC	Finance Consultant
FMFCH	Financial Management and Financial Control Handbook
GoI	Government of India
IPs	Implementing partners
ICP	IFAD Client Portal
INR	Indian Rupee
IFAD	International Fund for Agricultural Development
INASs	Indian National Accounting Standards
JK CAG	Jammu and Kashmir Comptroller and Auditor General
MoF	Ministry of Finance
APD PMU	APD JK Project Management Unit
PIM	Project Implementation Manual
IFRs	Interim Financial Reports
SOE	Statement of Expenditure
TOR	Terms of reference
WA	Withdrawal Application

1.Introduction

The Project is implemented by Agriculture Production Department of Jammu and Kashmir Project Management Unit (APD PMU or PMU) under the terms and conditions of the financing agreement signed between the Republic of India and IFAD. APD PMU will have the responsibility to implement sound financial management practices. This financial manual outlines the financial management processes and procedures to be implemented by PMU and implementing partners during the duration of the Project.

PMU will use Jammu and Kashmir district level municipalities and APD directorates to implement the project. PMU will enter into MOUs with these Implementing partners which will outline the financial management roles and responsibilities of each party. Refer to [21.12](#) for proposed MOU terms.

Reference material

This document should be read together with the:

- ✓ Project financing agreement entered into between the Borrower and IFAD
- ✓ Financial Management and Financial Control Arrangements Letter
- ✓ IFAD General Conditions for Agricultural Development Financing
- ✓ IFAD FMFCH
- ✓ IFAD Handbook on Financial Reporting and Auditing of IFAD-funded projects

Click [here](#) for links to documents.

Updates and changes to financial management arrangements

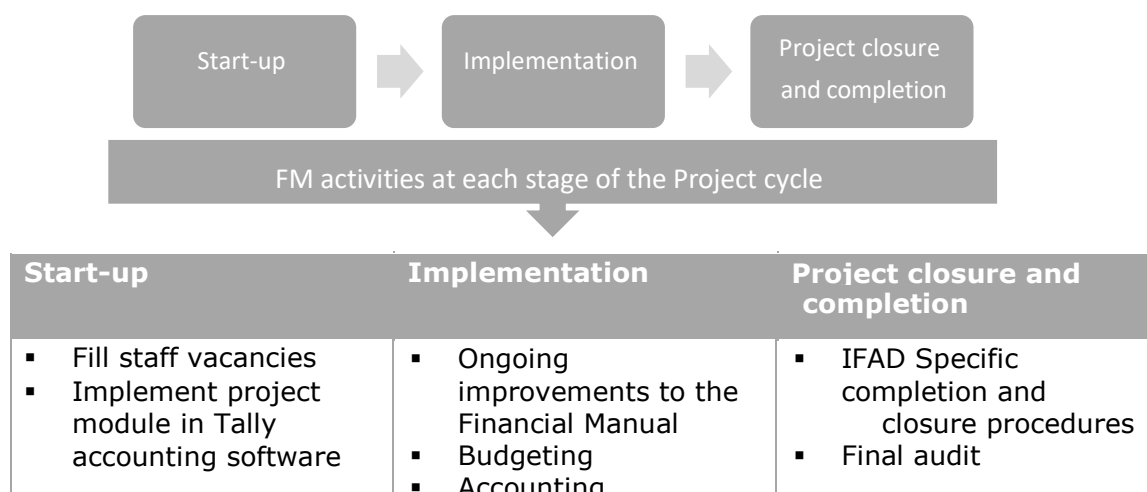
JKCIP is an IFAD-funded Project, therefore, in line with IFAD’s efforts to capacitate and support projects, this section was developed during the project design process. It is envisaged that ongoing improvements and updates to financial management arrangements be updated in this section of the PIM under supervision of the Financial Manager and subject to IFAD no objection.

Project summary

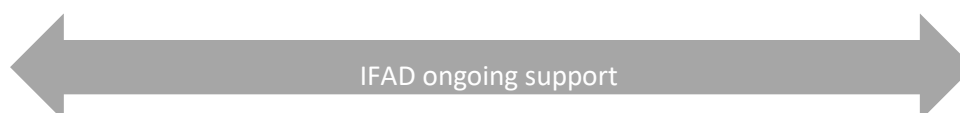
Project name	Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)
Financiers	<ul style="list-style-type: none"> • IFAD – PBAS - US\$ 100.2 million • Gov Counterpart – US\$ 26.4 million • Beneficiaries – US\$ 45.8 million • Convergence funds and private sector (GoJ&K and GoI) – US\$ 45.0 million • Total financing – US\$ 217.4 million
Implementation period	7 years

2. Project cycle and financial management activities

The Financial Manager of the APD PMU will have final responsibility for the execution of the activities at each stage of the Project cycle as outlined below:



<ul style="list-style-type: none"> ▪ Identify possible Tally customizations and implement (related to financial reporting) ▪ Preparation of first annual work plan and budget ▪ Opening of bank accounts ▪ Start-up training ▪ Attend anticorruption workshop hosted by IFAD. ▪ PMU: conclude MOUs with implementing partners 	<ul style="list-style-type: none"> ▪ Disbursements and withdrawals ▪ Record keeping ▪ Internal controls ▪ Cashflow forecasting ▪ Auditing ▪ On-going training ▪ Implement performance evaluation¹ ▪ Financial reporting to IFAD 	<ul style="list-style-type: none"> ▪ Asset and inventory handover ▪ Budget wrap up ▪ Submit final WA for justification ▪ Refund of unspent balance
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NB: The APD PMU Financial Manager will have the final responsibility to prepare consolidated financial reports for submission to IFAD. Refer to [13.](#) for more detail.

3.Pre-implementation activities

During the start-up of the Project it is recommended that Project staff undertake the following activities. These activities are recommended to ensure that Project staff are well informed and knowledgeable with regards to the financial management aspects of the Project once implementation commences:

Activity	Overview
<i>Financial management staff appointment</i>	<ul style="list-style-type: none"> • Fill vacancies within APD PMU to ensure that PMU is capacitated to manage the Project⁽¹⁾. Refer to 4. for the proposed organogram.
<i>Accounting software</i>	<ul style="list-style-type: none"> ▪ PMU to procure and customize Tally accounting software and ensure that new staff are trained how to use Tally software. ▪ Incorporate correct chart of accounts (categories and components) in line with the detail in Annexure 2 of the Financing agreement with IFAD. ▪ Upload the Cost Table to the accounting software for the purposes of budgeting / monitoring.

- ¹ **Develop (in consultation with the Project Coordinator) a performance evaluation process for FM staff within 1 year of project commencement and document process in the PIM. This process should identify skills gaps and assist with identifying appropriate training interventions.**

<i>Open bank accounts</i>	<ul style="list-style-type: none"> ▪ The Financial Manager, with the assistance from the MoF, will be responsible for the opening of the Project bank accounts. Refer 8.1 for overview of required bank accounts.
<i>Preparation of first annual work plan and budget</i>	<ul style="list-style-type: none"> ▪ PMU Financial Manager will be responsible for the compilation of the first Annual Workplan and Budget, as directed by the Project Director, subject to IFAD no-objection. This budget will be a consolidation of the budgets obtained from PMU and other Implementing partners, following the process as outlined in 6.
<i>Staff training and capacity building</i>	<ul style="list-style-type: none"> ▪ Newly appointed PMU financial Management staff will be required to complete the IFAD FM e-learning and submit completion certificates to IFAD within 1 month of date of appointment. Refer 20 for link to training. ▪ Existing PMU financial management staff will be required to complete the IFAD FM e-learning within 1 month of project start-up (if not yet completed) and submit the completion certificate to IFAD. ▪ All staff are required to study the project related documents at project start-up.

4. IFAD Anticorruption policy

The management of Project funds shall be sufficiently rigorous to safeguard against Fraud and Corruption. Fraud and corruption include, but are not limited to (as defined in the IFAD anticorruption policy):

- Corrupt practice - offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party.
- Fraudulent practice - any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
- Collusive practice - an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.
- Coercive practice - impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.

IFAD applies a zero-tolerance policy towards fraudulent, corrupt, collusive or coercive actions in Projects financed through its loans and grants. 'Zero tolerance' means that IFAD will pursue all allegations falling under the scope of this policy and that appropriate sanctions will be applied to parties or entities involved where the allegations are substantiated. IFAD takes all possible actions to protect individuals who submit allegations of fraudulent or corrupt practices in its activities from reprisal. The primary responsibility for enforcing the Anticorruption Policy lies with the JKCI P, and the first defense for controls shall be exercised by Project staff and counterparts Pursuant to this, the JKCI P shall have the responsibility to incorporate pertinent provisions of the Anticorruption Policy in its contracts with Project staff, cooperating/implementing partners, and suppliers/consultants.

It is the Project Director and the Project Financial Manager's responsibility to make sure that all Project staff are aware of IFAD's and the National's anticorruption policies and whistle blowing procedures.

JKCI P can contact the IFAD Officer of Audit and Oversight to report events.

[How to contact the IFAD Office of Audit and Oversight](#)

All communications are treated with the utmost CONFIDENTIALITY.

By phone: +39 06 54592888

By fax: +39 06 54597888

By e-mail: anticorruption@ifad.org

Through the online complaint form:

www.ifad.org/governance/anticorruption/how.htm

In person or by mail to:

IFAD Office of Audit and Oversight, Investigation Section

Via Paolo di Dono, 44

00142 Rome, Italy

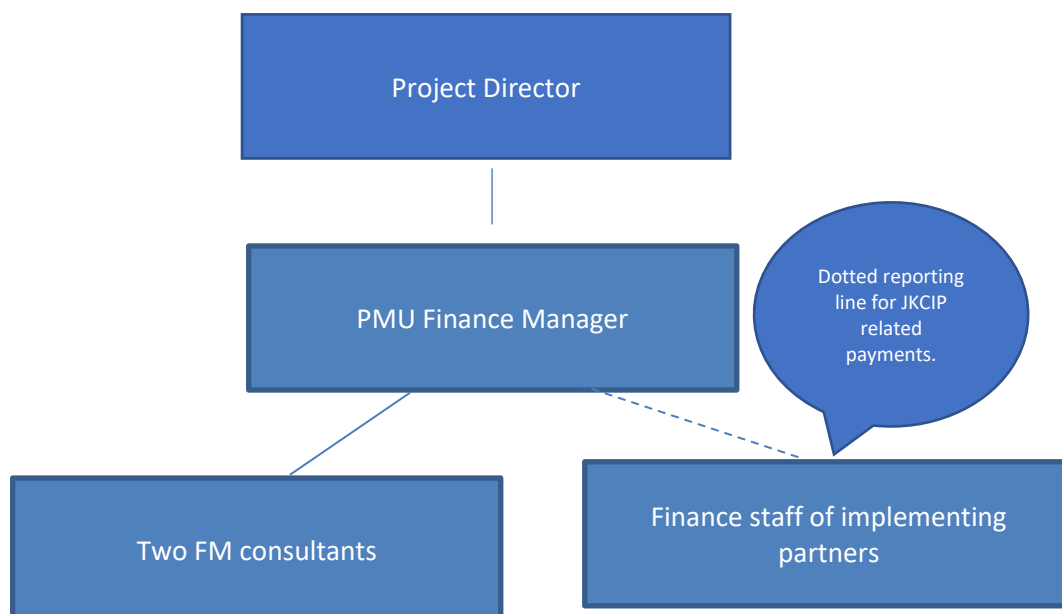
(Mark all mail "Personal and confidential")

Refer to [annexure 20](#) for useful links.

5.FM organizational structure, roles and responsibilities

5.1 Overview of FM organizational structure

APD PMU finance department is headed by a Financial Manager which reports to the Project Director. Within the Finance Department, two FM consultants are responsible for managing IFAD project.



5.2 FM staff - key roles and responsibilities

Detailed job descriptions for the Financial Manager, two consultants and finance staff of implementing partners are outlined in annex 21.3 & 21.4

6. Planning and budgeting

Project financing has been approved in line with the following expenditure components and categories which will be an important reference for preparation and monitoring of the AWPB and progress in line with the approved financing agreements:

Components	Expenditure categories
Component 1: Climate-smart and market-led production	<ul style="list-style-type: none"> - Training and Workshops - Consultancies - Goods, Services and Inputs - Equipment and Materials - Grants and Subsidies
Component 2: Agri-business ecosystem development	<ul style="list-style-type: none"> - Training and Workshops - Consultancies - Goods, Services and Inputs - Equipment and Materials - Grants and Subsidies
Component 3: Support to vulnerable communities	<ul style="list-style-type: none"> - Training and Workshops - Consultancies - Goods, Services and Inputs - Equipment and Materials - Grants and Subsidies
Component 4: Project Management	<ul style="list-style-type: none"> - Operating expenses, including Salaries and Allowances

The APD PMU Financial Manager, with the support of FM consultants, will be responsible for preparing a consolidated AWPB with input from the PMU technical team and by obtaining the individual budgets from both PMU and other implementing partners. PMU and the other implementing partners and partners are required to prepare a budget for the components/sub components for which they are responsible. The budget is prepared in Excel using the required format as outlined in [21.1](#). A bottom up approach is required, whereby budgets are compiled from the community level upwards. The Financial Manager shall start with the AWPB process with sufficient time to seek IFAD no objection as required as per the financing agreement.

Once the AWPB has been developed and approved, it must be inserted in the budget module of the accounting system of the APD PMU for the purposes of monitoring actual implementation in line with the budget. Each implementing partner should monitor budget to actual expenditure for their individual components/subcomponents at least once a month. APD PMU should monitor the consolidated budget to actual performance on a quarterly basis with input from PMU and the implementing partners.

The Financial Manager needs to ensure that consolidated expenditure per category is in line with the approved totals in the Financing Agreement. If the budget monitoring process indicates and expected over-expenditure on one or more of the cost categories, the Project will have to obtain a no objection from IFAD, allowing a reallocation amongst categories.

For information on how to prepare the AWBP (including the roles and responsibilities of various stakeholders and approval processes) refer to the PIM.

7. Internal controls

7.1 Overview of internal controls

It is recommended that the Financial Manager of PMU consider the guidance outlined in [Guidelines for internal controls for Public Sector Entities \(INTOSAI GOV 9100\)](#) when developing/improving the system of internal control (also see *COSO Integrated Framework – Internal Control*).

In terms of the Guidelines for Internal Control Standards for the Public Sector (INTOSAI GOV 9199):

Internal control is an integral process that is effected by an entity’s management and personnel and is designed to address risks and to provide reasonable assurance that in pursuit of the entity’s mission, the following general objectives are being achieved:

- ✓ *executing orderly, ethical, economical, efficient and effective operations;*
- ✓ *fulfilling accountability obligations;*
- ✓ *complying with applicable laws and regulations;*
- ✓ *safeguarding resources against loss, misuse and damage.*

Internal control is a dynamic integral process that is continuously adapting to the changes an organisation is facing. Management and personnel at all levels have to be involved in this process to address risks and to provide reasonable assurance of the achievement of the entity’s mission and general objectives.

At project start-up it is recommended that the Financial Manager of PMU use the general framework for considering the internal control environment with the intention of improving the existing control environment. In terms of the general framework:

- 1) Perform a risk assessment
- 2) Develop control activities which address identified risks (or improve existing control activities)
- 3) Implement control activities (by documenting controls, updating the information systems, communicating to relevant parties)
- 4) Develop a system for monitoring the effectiveness of controls implemented

Control activities should be developed with consideration of the following categories:

Control activities	Description
Authorisation and approval procedures	Authorisation controls require certification that a transaction or event is acceptable for further processing. The delegated authority of staff should ensure efficient implementation while mitigating related risks. Authorisation levels of Project staff should be in line with their underlying roles. For example, only the Project director may be authorised to approve payments.
Segregation of duties	An important element in any control system is the separation of duties For example, an FC might prepare a document, but it would then be reviewed and cleared by the Financial Manager, and then approved by the Project Director.

Control activities	Description
	duties are segregated, including authorising, processing, recording and reviewing.
<i>Access to resources and records</i>	All data, records and assets should be kept in a physically secure environment. Petty cash should be kept secure. Financial data and other records should also be protected by back up procedures and copy records should be stored securely off site.
<i>Verifications</i>	Transactions and significant events are verified before and after processing, e.g. when goods are delivered, the number of goods supplied is verified with the number of goods ordered. Afterwards, the number of goods invoiced is verified with the number of goods received.
<i>Reconciliations</i>	Reconciliations between independent, corresponding sources of data are a key control for identifying errors and discrepancies in balances. The reconciliations should be done on a monthly basis. Any reconciling or balancing amounts should be promptly cleared. Unusually long outstanding reconciling items should be investigated. Physical checks should also be performed on assets and petty cash.
<i>Reviews of operating performance</i>	Operating performance is reviewed against a set of standards on a regular basis, assessing effectiveness and efficiency. If performance reviews determine that actual accomplishments do not meet established objectives or standards, the processes and activities established to achieve the objectives should be reviewed to determine if improvements are needed.
<i>Reviews of operations, processes and activities;</i>	Operations, processes and activities should be periodically reviewed to ensure that they are in compliance with current regulations, policies, procedures, or other requirements.
<i>Supervision</i>	Competent supervision helps to ensure that internal control objectives are achieved. This includes assigning, reviewing, and approving an employee's work.
<i>Information and technology related controls</i>	Information and technology controls can be both general and related to applications. The major categories of general controls are (1) entity-wide security program planning and management, (2) access controls, (3) controls on the development, maintenance and change of the application software, (4) system software controls, (5) segregation of duties, and (6) service continuity. Application controls are the structure, policies, and procedures that apply to separate, individual application systems, and are directly related to individual computerized applications. These controls are generally designed to prevent, detect, and correct errors and irregularities as information flows through information systems.

Entities should reach an adequate balance between detective and preventive control activities. Corrective actions are a necessary complement to control activities in order to achieve the objectives.

The Financial Manual incorporates practical guidance on recommended control activities in the sections that follow which can be considered by the Financial Managers of PMU when developing/improving internal controls. **New/improved controls should be documented in detail in the Financial Manual. Controls should be considered at the central offices as applicable.**

7.2 Authorisation and approval

- ✓ Each payment to be uploaded to Tally based on an approved payment request
- ✓ Payments released on on-line banking platform by 2 authorised signatories (by using authorized log-in credentials)

7.3 Segregation of duties

- ✓ Payment requests prepared by FM consultants
- ✓ Payments reviewed/approved by Financial Manager / Project Director
- ✓ Payments recorded in Tally by FC
- ✓ Payments released by authorised signatories (Financial Manager/Project Director)

7.4 Access to resources and assets

- ✓ Financial Management Office to be locked after hours and key retained by the Financial Manager
- ✓ Other project offices locked after hours are when not in use

7.5 Verifications

- ✓ Semi-annual fixed asset verifications (register to floor and floor to register)
- ✓ Fixed assets are tagged with unique number or barcode

7.6 Reconciliations, reviews, supervision

The following reconciliations, checks, monitoring and review activities should be prepared on a monthly basis (PMU central office level):

Type	Description	Preparer	Reviewer (signed by)
<i>Designated account bank reconciliation</i>	Reconciliation of the bank balance of the designated accounts to the cash book balance. (IFAD format outlined in Appendix 21.9)	FM consultants	Financial Manager
<i>Transit accounts / interest accounts / tender accounts reconciliations (local currency)</i>	Reconciliation of the bank balance of the transit accounts to the cash book balance.	FM Consultants	Financial Manager
<i>Advance justifications</i>	Clear all outstanding advances within 2 days of each quarter	FM Consultants	Financial Manager

Type	Description	Preparer	Reviewer (signed by)
	(received and record approved expenditure) and follow up on long overdue items for which invoices/supporting documentation has not been received.		
<i>Review of monthly reports From Imp. Prt as per 21.13)</i>	Obtain monthly reports from implementing partners and confirm: <ul style="list-style-type: none"> ✓ Report was approved by Authorized official of IP. ✓ Bank balances agree to bank statement / bank reconciliation ✓ Listed expenses are supported by valid invoices and other supporting documentation (review original documentation) ✓ All advances from PMU are recorded in line with advances recorded in Tally ✓ Expenses have been incurred in line with the approved AWPB 	Implementing Agency FC	FM consultants
<i>Quarterly and Monthly internal report</i>	Prepare internal reports for the purposes of monitoring project progress and identifying issues. Refer section 13.7 .	Finance team	Project Director

In all instances, issues identified during the review/reconciliation process should be followed up and resolved in a timely manner.

7.6 Information and technology related controls

- ✓ Password is required to log into Tally
- ✓ Tally to require password change on a regular basis
- ✓ User rights are defined and documented and linked to log-in credentials
- ✓ Daily back-up of Tally data on server
- ✓ Sensitive information (e.g. payroll files) are password protected
- ✓ Regular software updates are undertaken to ensure that Tally version is supported by technical team at Tally vendor
- ✓ Offsite backup of data on a weekly basis
- ✓ Financial Management staff are not allowed to share Tally passwords or use login credentials of another
- ✓ Desktop access requires login with a password
- ✓ Operating system software updates are performed regularly
- ✓ Use authorised signatory to have log-in credentials for on-line banking

7.7 Internal control environment – implementing partners

The Financial Managers of PMU will be responsible for the assessment of the internal control environment of implementing partners which report to it. In terms of the MOUs, it will be required that implementing partners perform an annual self- assessment of their financial management arrangements are outlined in

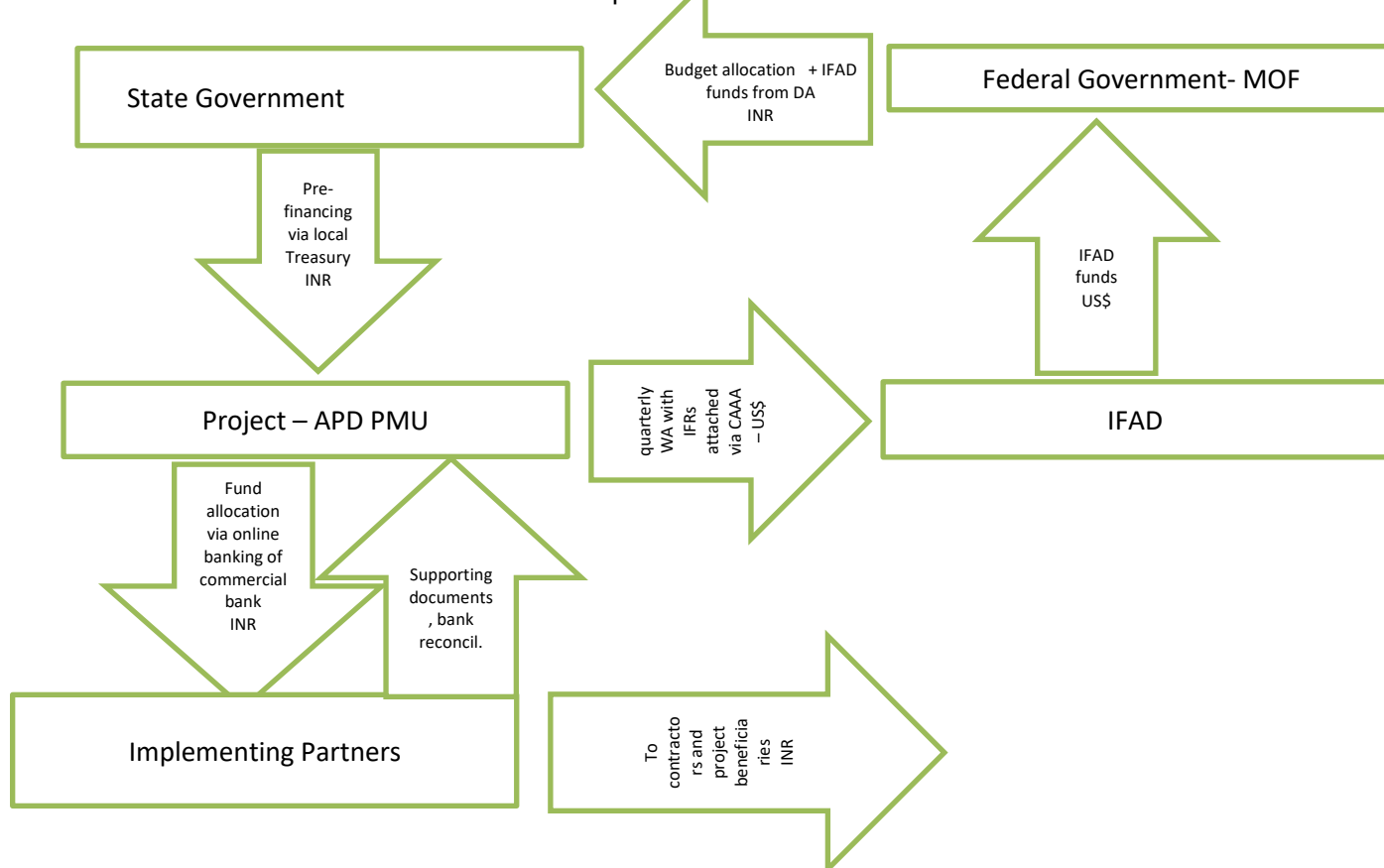
6. It is recommended that the Financial Managers use the information contained in this section to consider the soundness of the internal control environments and provide guidance on improving controls if weaknesses are identified.

8. Flow of funds

8.1 General flow of funds arrangements:

- ✓ J&K will pre-finance project expenditures and reimburse IFAD’s share quarterly.
- ✓ APD PMU will have the ability to request funds from IFAD via DEA/CAAA to reimburse
- ✓ IFAD funds will be disbursed in USD to designated accounts maintained by DEA/CAAA
- ✓ A dedicated tender account will be opened in INR for the purposes of receiving tender related payments (purchase of bids documents)
- ✓ Implementing partners reporting to PMU to submit written requests for funds. Funds advanced to implementing agency bank accounts and recorded as advances until justified.
- ✓ Each Implementing Partner (IP) will have a sub-account opened by APD PMU (PMU). The sub-account will belong to the Project Account maintained by PMU. PMU will release funds to the sub-account of a relevant implementing partner once all supporting documents have been sent to and cleared by the respective HOD. PMU will not release advance funds to Implementing partners. Therefore, sub-accounts of implementing partners will usually have zero balance. IPs will appoint two signatories (usually the head of the IP and the Chief Accountant/Finance Director) to authorize payments from their respective sub-accounts. Payments will be made to only project contractors and beneficiaries based on approved relevant AWPB.

The flow of funds for APD PMU is depicted below:



8.3 Authorised bank signatories

All bank accounts will have 3 authorised signatories. All bank transfers will be required to be released by 2 authorised signatories.

9. Accounting

9.1 Accounting system

Most of the Project activities result in the receipt, commitment or expenditure of funds. The accounting system records, processes and organizes this data in order to produce useful financial information in the form of AWPB, Financial Reports, Withdrawal Applications, Financial Statements etc. needed by the financier and project management. The accounting system should reflect the Project's needs and be designed to provide the financial information required by all interested parties. It should also fulfil all the legal and regulatory requirements of JKCIP. In addition, the accounting system should incorporate the reporting requirement of the chosen accounting standard for JKCIP which is Indian National Accounting Standards issued by the Institute of Chartered FCs of India (ICAI).

9.2 Centralised accounting at PMU

The accounting function will be centralised at APD PMU and maintained under the supervision of the Financial Manager.

APD PMU will consolidate the accounting transactions from the various Implementing partners on a monthly basis by receiving each agency's transactions (in monthly report format) as outlined in [21.13](#). PMU will record the transactions on a manual basis in the Tally accounting software and clear related advances.

(NB: In case of Advances to Implementing partners, they must be recorded in Tally (indicating the relevant implementing agency only). Only once advances are cleared, expenses are recorded at the historical exchange rate / within the correct component and expenses category).

APD PMU will centrally manage the accounting of transactions.

9.3 Accounting software

Tally accounting software will be used for JKCIP. APD PMU will procure and customize it for the needs of JKCIP. At project start-up the Financial Manager should identify required customization to ensure that Tally can generate forms/reports in the formats required by IFAD and/or other financiers.

9.4 Chart of accounts

The accounting software should include the appropriate Chart of Accounts. The Chart of Accounts should be developed to cater for:

- All components and sub-components are incorporated in the AWPB (outlined in the financing in agreement).
- All categories as outlined in the financing agreements.
- Sources of finance (Government, IFAD, Beneficiaries, Convergence etc.)

The Chart of Accounts should mirror the cost tables (as presented in the Project design report) to enable comparison of actual Project costs during implementation with those estimated during the Project preparation.

9.5 Recording and processing of transactions

Whenever a transaction takes place under the Project, it should be recorded and processed using the accounting software. Transactions must be recorded in accordance with the INASSs.

Each transaction should be recorded in the accounting software based on the following:

- Use double entry accounting (debit and credit).
- Capture the transaction using the correct account code (as determined by the chart of accounts) – for all transaction, to be confirmed the Financial Manager.
- Capture transactions which has the required supporting documentation.
- Capture information accurately and completely.

For detailed instructions on how to record the expenditures in the accounting software, please refer to the accounting user manual.

9.7 Accounting for in-kind contributions

In terms of the IFAD Handbook for Financial Reporting and Auditing for IFAD-financed Projects, JKCIP is required to account for and disclose in-kind contributions. In order to meet this requirement, the Project is required to measure contributions as outlined below and record in the accounting system.

It is expected that the following in-kind contributions will be received by JKCIP as outlined in the PIM.

From Beneficiaries:

- PMU to provide more details on the nature of the contribution

The following process is followed to account for in-kind contributions received from Community Groups/beneficiaries: (to be identified by PMU based on nature of the in-kind contribution provided)

Measure	XXXX
Review	XXXX
Approve	XXXX
Record	XXXX

Type	Measurement calculation	Supporting documentation to be retained
<i>Labour hours</i>	Value = total hours worked X applicable wage rate (in most cases the applicable minimum wage rate for uneducated labour in the country)	Copies of acts of work completed.
<i>Maintenance costs</i>	Value = actual cost of materials purchased	Copies of invoices.
<i>Construction material – gravel</i>	Value = cubic meters of gravel	Bill of lading prepared by the consulting engineer which indicated the estimation of gravel volume. The sheet should be duly signed by the community representative and Project technical/M&E staff
<i>Construction material – other</i>	Value = actual cost of materials purchased	Copies of invoices.

When recording the in-kind contributions, it is important that the in-kind contributions are classified according to the same principles as regular Project expenditures; that is, every contribution must be by linked to an activity/component, by category and by financing source (government and/or beneficiaries) to ensure that consolidated financial reports can be produced without any extra effort.

In-kind contributions should be disclosed separately in the financial statements. The notes of the financial statements should also briefly explain the methodology of how it was calculated. On the other hand, when in-kind contributions cannot be reliably measured, for example the use of office space, then these should also be discussed in the notes to the Project financial statements.

NB: Government will pay for project related taxes. This is not considered in-kind unless Government provides and exemption instead of transferring the tax portion to the JKCI P.

9.9 Accounting for exchange rate matters

Expenditures should be recorded on the First in First Out basis when applicable.

9.10 Accounting for advances

The Project may make advances (travel related, advances to implementing partners etc.) in the form of bank transfer.

In terms of accounting for advances:

- Advances are recorded in the accounting system at the date that the advance is made, subject to the required approval process.
- The transaction is not recorded as an expenditure (in terms of categories, components) on this date.
- All advances should be cleared in a timely manner by the submission of original invoices.
- All outstanding advances should be cleared by no later than 10 days after the end of the fiscal year-end.

10. Cash flow forecasting

The APD PMU will prepare cash flow forecasts when needed. However, under reimbursement method, cash flow forecasts are not prepared.

11. Disbursements

11.1 Eligibility of expenditures

In accordance with the IFAD disbursement procedures, between the date of entry into force of the Financing Agreement and the Financing Closing Date, JKCIP may request withdrawals from the IFAD Loan for eligible expenditures.

Eligible expenditures are defined in the IFAD General Conditions Section 4.08 as follows:

The Financing shall be used exclusively to finance expenditures meeting each of the following eligibility requirements:

- *The expenditure shall meet the reasonable cost of goods, works and services required for the Project and covered by the relevant AWPB and procured in conformity with the Fund's Procurement Guidelines.*
- *The expenditure shall be incurred during the Project Implementation Period, except that expenditures to meet the costs of winding up the Project may be incurred after the Project Completion Date and before the Financing Closing Date.*
- *The expenditure shall be incurred by a Project Party.*
- *If the Agreement allocates the amount of the Financing to categories of Eligible Expenditures and specifies the percentages of such Eligible Expenditures to be financed by the Financing, the expenditure must relate to a category whose allocation has not been depleted and shall be eligible only up to the percentage applicable to such category.*
- *The expenditure shall be otherwise eligible in accordance with the terms of the Financing Agreement.*
- *The Fund may from time to time exclude certain types of expenditure from eligibility.*

- *Any payment prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, shall not be eligible for financing by the Financing.*
- *Any payments to a person or an entity, or for any goods, works or services, if making or receiving such payment constitutes a coercive, collusive, corrupt or fraudulent practice by any representative of the Borrower/Recipient or any Project Party, shall not be eligible for financing by the Financing.*
- *All expenditures must be supported by sufficient supporting documentation as stated in the FMFCL and the IFAD disbursement handbook (please see section below on supporting documentation).*
- *The proceeds of the financing shall not be used to pay taxes. However, taxes paid by the ultimate recipient of an expenditure (e.g. withholding tax, income taxes paid by a Project employee or taxes on the profits of a contractor) are not considered to be taxes paid by the Project.*

The IFAD disbursement procedures as outlined below are governed by the FMFCL and the IFAD FMFCH. The handbook is also available on the IFAD website and JKCI PIM should ensure that they refer to the most recent version as published at the website.

11.2 Disbursement procedures

The following disbursement procedures may be used for withdrawal from the IFAD Loan:

Type	Description
<i>Advance withdrawal</i>	<p>The advance withdrawal modality for JKCI PIM is based on revolving fund modality for which:</p> <ul style="list-style-type: none"> ▪ The first advance withdrawal cannot exceed the period of six months' forecast amount of IFAD financed expenditure approved in the Annual Work Plan and Budget (AWPB) for the six months planned activities. ▪ Further advances to the Designated Account will be made for the next reporting period based on the AWPB and other supporting documents.
<i>Reimbursement</i>	Reimbursement is applicable when eligible Project expenditures are pre-financed by the Borrower.

Request for disbursement from Government should be submitted on a **quarterly basis**, in the format required by DEA/CAAA.

11.3 Evidence of Authority to sign Withdrawal Applications

IFAD requires JKCIP representative, as designated in the financing agreement, to furnish satisfactory evidence of the authority and authenticated specimen signatures of the individuals who will sign WAs on behalf of JKCIP. This evidence must reach IFAD before the first WA is presented by JKCIP and should be the original (photocopies, facsimiles or other means of transmission are not acceptable). A sample template is provided in FMFCL. Each WA should be signed by such duly authorized individuals, and the Fund must be notified of any change in the signatories authorized to withdraw funds from the loan account.

IFAD must also be notified of the designated signatories for operating any designated and/or Project or other accounts, including changes thereto, whether or not these authorized signatories are included in the financing agreement. Such changes, as effected during the life of the Project, must be communicated promptly to the IFAD. JKCIP, guided by FMFCL, should provide the names and specimen signatures of the newly appointed signatories and include the date when such change is to take effect. The original of such changed documentary evidence is to be provided to IFAD.

11.4 The Designated Account

The flow of funds for JKCIP starts with the opening of the Project Designated Accounts (DAs) in India, in accordance with IFAD's requirements identified in the Financing Agreement and FMFCL. The CAAA is responsible for opening and managing the Designated Account.

11.5 Withdrawal of Financing Proceeds using withdrawal applications

The Financial Manager is required to ensure that WAs are prepared and submitted to IFAD via CAAA with consideration of the following requirements:

Requirement	Guidance
<i>Timeliness</i>	Under the reimbursement method, withdrawal applications should be prepared and submitted after each quarter end. WA must be sent within 30 days from the end of each quarter.
<i>Completeness and accuracy of supporting documentation</i>	Prepare and submit the required Interim Financial Reports (IFRs) package as requested in the FMFCL/R, refer to 21.14 . Prepare and submit to IFAD expenditures supporting documents upon request. Ensure that information is complete and accurate.
<i>Account reconciliation</i>	JKCIP should submit Funds reconciliation statement as per IFRs formats.

Requirement	Guidance
	for all these accounts correspond to the balances at the end of the same reporting period as indicated in the WA period.
<i>Duly authorised</i>	Ensure that WAs are duly authorised in terms of JKCIP authorisation procedures and signed by the duly authorised representatives.
<i>Document retention</i>	Submit copies of supporting documentation upon request. Retain original documentation for inspection by IFAD upon request.

11.6 Initial advance

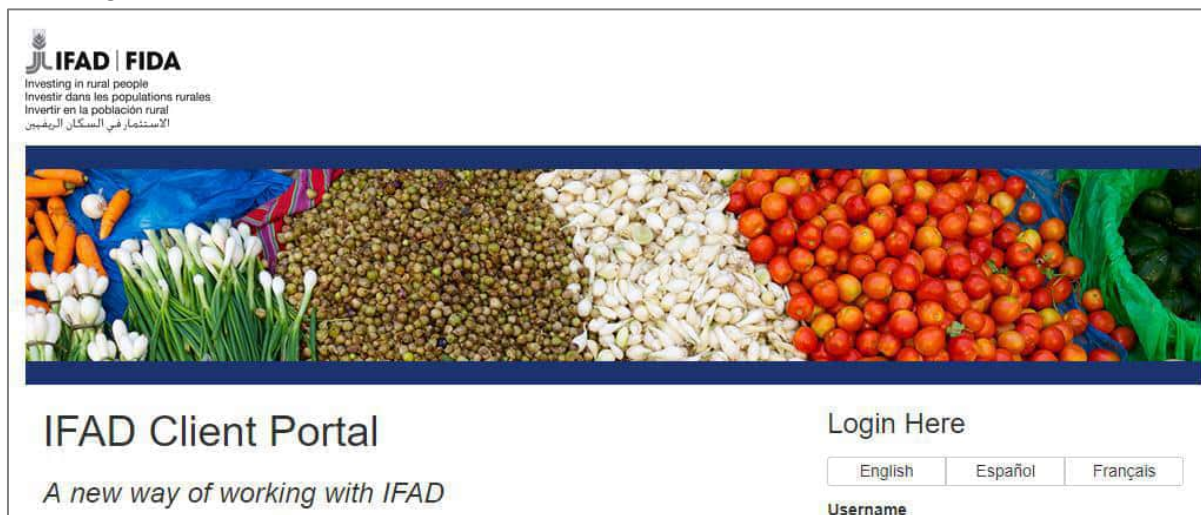
Ensure the disbursement conditions as per the financing agreement and the FMFCL have been met which includes provision of the following:

- Evidence that a designated account has been opened and the names/titles of the persons authorised to operate this account.
- A letter from the Borrower, designating the name(s) of official(s) authorised to sign withdrawal applications including their specimen signature(s).

Complete and submit to IFAD:

- The duly filled forms constituting the project's IFRs, as outlined in the FMFC (refer to [21.14](#)); the main reports to be included in the package:
 1. Sources and Uses of Funds
 2. Summary of Expenditures by Project Categories and by Financiers (to include budget versus actual figures and variances)
 3. Summary of Expenditures by Project Components and by Financiers
 4. Funds Reconciliation Statement

11.11 ICP



The IFAD client portal (ICP) enables PMU to:

- access real-time financing information on country portfolios as well as operational and financial information related to Projects
- submit Withdrawal Applications directly and obtain electronic approvals required both from concerned ministries and IFAD
- manage banking instructions electronically
- create and download relevant reports
- Contract Monitoring Tool (CMT) Module

The Project may submit electronic copies of its withdrawal applications and maintain hardcopies for audit purposes.

11.12 Refund of withdrawals

If the IFAD determines that any amount withdrawn from the Loan Account was not used for the purposes indicated or will not be needed thereafter to finance Eligible Expenditures, the Borrower shall promptly refund such amount to the IFAD upon instruction by the Fund.

12. Processing of payments

IFAD funds may not be used for payment of taxes, customs or duties unless otherwise agreed.

Procedures for payments is outlined as follows:

1. General payments (12.2)
2. International travel (12.4.1)
3. Local travel (12.4.2)
4. Civil works, equipment (12.5)
5. Consulting services (12.6)
6. Funds transfers to Implementing partners (12.7)
7. Other

12.1 Supporting documentation

The processing of all payments are subject to JKCIP retaining the following original supporting documentation after processing:

Expenditure type	
All	<ul style="list-style-type: none"> ▪ Signed contract or confirmed purchase order – showing the specific amount that is due to be paid ▪ The bank guarantee for: <ul style="list-style-type: none"> ○ advance payment, as specified in the contract documents; ○ performance, as specified in the contract documents; ▪ Copies of communications sent by the IFAD country Project manager to the JKCIP providing the 'no objection' to the contract award; and ▪ Evidence of payment made by JKCIP.
Goods	<ul style="list-style-type: none"> ▪ Items listed above under "all" ▪ Supplier's invoice, duly certified for payment by the Project Director– specifying the goods, their quantities, and prices; ▪ Bills of lading or similar documents; and <ul style="list-style-type: none"> ▪ As appropriate, the certificate of delivery (to include condition of goods on delivery).
Civils works	<ul style="list-style-type: none"> ▪ Items listed above under "all" ▪ The claim of the contractor, including a financial progress report, stating the work performed and the amount due; ▪ A certificate – signed by the Project consultants or owner's representative, if any, or by the borrower's chief engineering officer or resident supervising engineer assigned to the Project, to the effect that the work performed is satisfactory and the payment claimed is due in accordance with the terms of the contract; and

Expenditure type	Supporting documentation
	<ul style="list-style-type: none"> ▪ A copy of the contract payment monitoring form signed in original by the certifying officer.
<i>Services (including consultants)</i>	<ul style="list-style-type: none"> ▪ Items listed above under "all" ▪ The supplier's or consultant's claim duly certified for payment by the Project director and showing sufficient detail. ▪ As appropriate, a certificate of delivery of satisfactory services.
<i>For payment of Trips, fuel, stationary and other expenses</i>	<ul style="list-style-type: none"> ▪ Items listed above under "all" ▪ Supplier invoices; ▪ Evidence of payment; ▪ Back to office report; ▪ Training certificate, ▪ Travel authorization; and/or ▪ Expense reports by the traveller (including invoices) ▪ Boarding passes

Pro forma invoices are not acceptable replacements for invoices. In all instances, supporting documentation need to include final invoices.

12.2 General guidelines for processing of payments

For invoice related payments, the following general process is applicable:

Activity	Procedures
<i>Request and approve activity in line with AWPB</i>	Generally, ensure that expenses are in line with the AWPB/Procurement Plan and that IFAD no objection has been obtained if required.
<i>Service delivered, or goods received</i>	Obtain evidence that the goods were delivered / services received to the satisfaction of the Project. Evidence to be retained for the purposes of providing supporting evidence for processing of invoice. (delivery notes, completion reports etc.)
<i>Prepare payment request</i>	<ul style="list-style-type: none"> ▪ Once invoices are received, Finance Consultant prepares a payment request which includes supporting documentation and indicates accounting codes, category of payment, component of payment and source of finance. ▪ The Financial Manager reviews the payment request for accuracy and validity. ▪ The Financial Manager adds the correct account codes for the purposes of recording the transaction in the accounting software. ▪ The Finance Consultant (FC) forwards the payment request with supporting documentation to the relevant Technical Officer /Component Head for review and sign off.
<i>Review of payment request</i>	<p>The Project Director shall review and sign the payment request, checking/confirming:</p> <ul style="list-style-type: none"> ▪ The expenditure is included in the approved AWPB ▪ IFAD no objection was obtained (if applicable).

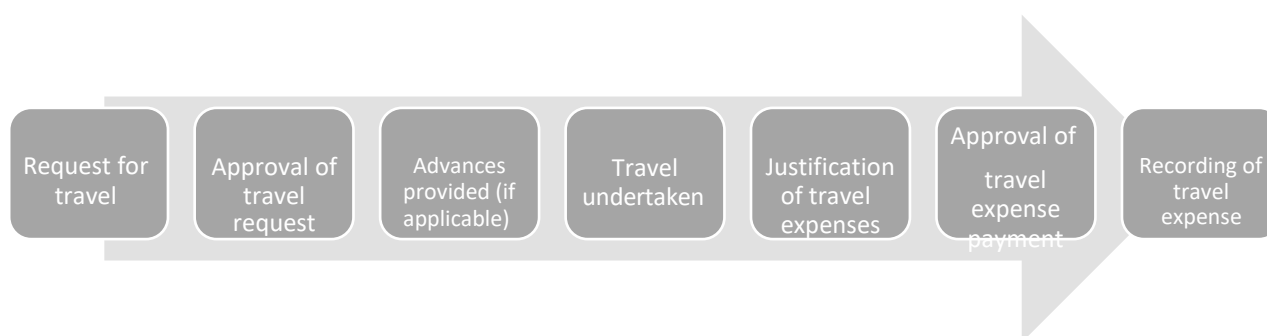
Activity	Procedures
	<ul style="list-style-type: none"> All expenditures are eligible in line with the financing agreement and has been incurred before/completed before Project completion date. Payment was cleared by the relevant component technical officer/head. All supporting documentation is attached (refer 12.1)
<i>Approve payment request</i>	<p>The Project director shall review and sign payment request, checking/confirming:</p> <ul style="list-style-type: none"> The expenditure is included in the approved AWPB All expenditures are eligible in line with the financing agreement and has been incurred before/completed before Project completion date Payment was cleared by the relevant component technical officer/head. All supporting documentation is attached (refer 12.1) The payment request was reviewed and approved by the Financial Manager.
<i>Process payment</i>	<ul style="list-style-type: none"> The approved payment request with related documents shall be sent to the FC for processing and uploading on the online banking platform. The FC shall confirm that the bank details provided by the supplier corresponds to the signed legal agreement / original bank letter provided. Once loaded on the banking platform, the payment to be released by 2 authorised signatories (using unique digital signatures) <p><u>(NB: Cheques are not used for general payments)</u></p>
<i>Record payment</i>	<ul style="list-style-type: none"> FC records the transaction in the accounting software, using the correct codes as captured on the payment request. File supporting documentation, include proof of payment (bank statement/bank confirmation of payment)

12.4 Travel related payments

The following type of travel may take place by Project staff or Project beneficiaries:

- International travel – 12.4.1
- Local travel – 12.4.2

All types of travel payments follow the general process:



The processes for each type of travel is outlined

below: 12.4.1 International travel

International travel	
<i>Type of travel</i>	<ul style="list-style-type: none"> ▪ Training which is conducted for Project staff or beneficiaries at an international location. ▪ Business trips
<i>Overview of entitlement</i>	<ul style="list-style-type: none"> ▪ Individuals are entitled to DSA, paid based on the number of days of travel for training purposes. ▪ The per diem should be used to pay for the cost of accommodation, meals and travel as per government regulations. ▪ Taxi trips to/from airport and visa is paid for separately based on actual cost estimates. ▪ Unused per diem is not returned to the Project. ▪ The per diem amount is determined in line Government decree. ▪ The per diem is reduced in the event that meals or accommodations is provided to the individual. ▪ 100% of the DSA is advanced before commencement of the travel. ▪ The number of travel days are calculated from date of departure from home until last day of the training. ▪ Air travel is booked by the project and paid for by the Project directly.
<i>Request for travel</i>	<p>The relevant department will prepare a request for travel which includes:</p> <ul style="list-style-type: none"> ▪ List of individuals to attend external training ▪ Dates of training ▪ Invitation to training / training registration confirmation ▪ Overview of training (agenda, location noted) – brochure / email correspondence or other suitable evidence ▪ Related AWPB classification (category, component) ▪ Calculation of total per diem due (100%) ▪ Estimated cost of air travel ▪ Estimated cost of visas <p><i>(Air travel is paid directly by the Project)</i></p>
<i>Approval of travel request</i>	<ul style="list-style-type: none"> ▪ The travel request is reviewed by the FC for: <ul style="list-style-type: none"> ○ Accuracy and compliance with the Government decree in terms of the per diem rate applied. ○ Alignment with the approved ABPB ▪ The travel request is submitted to the Project Director for approval. ▪ IFAD and MoF no-objection should be obtained for travel request after approval by the Project Director.
<i>Advance provide</i>	<ul style="list-style-type: none"> ▪ Upon approval of the travel request by the Project Director, the Project FC will advance 100% of the total per diem to individuals or the team leader as appropriate. (prepare cheque for signing by the Project Director) ▪ The Project FC will record the advance in the accounting system, indicating the amount, date of advance, to who advanced and related budget line item. (advance is not recorded as an expense at this stage)

International travel	
<i>Justification of travel expenses</i>	<ul style="list-style-type: none"> ▪ Within 10 business days after the travel, the team leader / individual is required to prepare a travel expense report which includes: <ul style="list-style-type: none"> ○ Advance report (refer 21.8) ○ Boarding passes for air travel ○ Attendance register completed at the training event ○ Back to the office report ○ Confirmation of IFAD/Ministry no objection (email correspondence) ▪ The travel expense claim is submitted to the FC who confirms the accuracy and validity of the travel expense claim. ▪ The Financial Manager reviews the travel expense claim for accuracy and validity and captures the correct account codes on the request (in line with AWPB line items). (sign as evidence of review)
<i>Approval of travel payment</i>	<ul style="list-style-type: none"> ▪ The travel expense is approved by the Project Director by way of signing the travel expense report.
<i>Recording of expense</i>	<ul style="list-style-type: none"> ▪ The total travel expense is recorded as training expenditure/business trip, by clearing the travel advance, in terms of the correct category and component, in line with the account codes which are captured on the travel expense report.

In all instances, unjustified travel advances will need to be reimbursed to the Project by the traveller within three months after the travel date or the amount will be deducted from the payroll.

12.4.2 Local travel

Local travel	
<i>Type</i>	Training / field visits
<i>Overview of entitlement</i>	<ul style="list-style-type: none"> ▪ The number of travel days used for the calculation of per diem is calculated from date of departure from home until last day of the training. ▪ If Project vehicles are used, the driver is responsible for ensuring the vehicle is refueled in terms of the process outlined in 12.9 ▪ If private vehicles are used, staff are reimbursed in line with the allowable rate per kilometre as specified in the staff by laws, based on actual distance travelled.
<i>Request for travel</i>	<p>The relevant department will prepare a request for travel which includes:</p> <p>Training:</p> <ul style="list-style-type: none"> ▪ List of individuals to attend training ▪ Dates of training ▪ Overview of training (agenda, location noted) – brochure / email correspondence or other suitable evidence ▪ Related AWPB classification (category, component)

Local travel	
	<ul style="list-style-type: none"> ▪ Confirmation from the Officer Manager that a Project vehicle(s) is available for the travel dates should this be the mode of transportation ▪ Calculation of per diem in line with Government decree. <p>Field visits:</p> <ul style="list-style-type: none"> ▪ Request for field trip from technical department
<i>Approval of travel request</i>	<ul style="list-style-type: none"> ▪ The travel request is reviewed by the FC for: <ul style="list-style-type: none"> ○ Accuracy and compliance with the staff bylaws in terms of the pocket money allowance / estimation for fuel costs ○ Alignment with the approved ABPB ▪ The travel request is submitted to the Project Director for approval. ▪ Once approved, the team leader or individual should submit a request for vehicle use.
<i>Advance provide</i>	<ul style="list-style-type: none"> ▪ No fuel advances are provided in cash (driver will use fuel card to refuel) ▪ Applicable per diem is advanced in cash.
<i>Justification of travel expenses / return of unused fuel advance</i>	<ul style="list-style-type: none"> ▪ Within 5 business days after the travel, the team leader / individual is required to prepare a travel expense report which includes: <ul style="list-style-type: none"> ○ Attendance register completed at the training event ○ If a private vehicle was used, indication of total distance travelled in kilometres with payment due to vehicle owner, based on the approved rate in the bylaws. ○ If a Project vehicle was used, invoiced for fuel which was paid from fuel advance. ○ Back to the office report (in case of field visits) ▪ The travel expense claim is submitted to the FC with the fuel advance which was not used. ▪ The FC confirms the accuracy and validity of the travel expense claim and determines the per diem which is due. ▪ The Project FC reviews the travel expense claim for accuracy and validity and captures the correct account codes on the request (in line with AWPB line items). (sign as evidence of review)
<i>Approval of travel payment</i>	<ul style="list-style-type: none"> ▪ The travel expense is approved by the Project Director by way of signing the travel expense report.
<i>Recording of expense</i>	<ul style="list-style-type: none"> ▪ The total travel expense is recorded as expenditure in terms of the correct category and component, in line with the account codes which are captured on the travel expense report. (advance cleared at this stage) ▪ Only fuel expenses may be charged to the training budget code. If other vehicle maintenance was incurred, this expense is recorded as maintenance.

12.5 Civil works, equipment and tools

Activity	Procedures
<i>Request and approve</i>	<ul style="list-style-type: none"> ▪ Civils works, equipment and tools are defined and outlined in both the AWPB and the Procurement Plan.

Activity	Procedures
<i>activity in line with AWPB</i>	<ul style="list-style-type: none"> ▪ Civil works, equipment and tools is contracted via a procurement process as outlined in the Project Operations Manual. ▪ IFAD no objection is required on the bidding document, recommendation of award and contract outline before the final bid award is made. (refer to Letter to the Borrower)
<i>Prepare payment request</i>	<ul style="list-style-type: none"> ▪ The procurement officer will request payment of invoices, subject to providing the following supporting documentation: <ul style="list-style-type: none"> - Copy of civils contract with award letter (for civils only) - Contract amendment letter (if applicable) - Bid analysis and evaluation report - Evidence of IFAD no objection related to the contract award - Purchase order / Invoice - Progress report prepared by consulting engineer ▪ The FC prepares a payment request which includes the supporting documentation. ▪ The FC reviews the payment request for accuracy and validity. ▪ The Financial Manager adds the correct account codes for the purposes of recording the transaction in the accounting software. ▪ The FC forwards the payment request with supporting documentation to the relevant Technical Officer /Component Head for review and sign off.
<i>Review and approval of payment request</i>	<p>The Financial Manager reviews and signs the payment request before submission to the Project Director. The Project Director shall review and sign the payment request, checking/confirming:</p> <ul style="list-style-type: none"> ▪ The expenditure is included in the approved AWPB ▪ IFAD no objection was obtained related to procurement as applicable ▪ All expenditures are eligible in line with the financing agreement and has been incurred before/completed before Project completion date. ▪ Payment was cleared by the relevant component technical officer/head. ▪ All supporting documentation is attached (refer 12.1). ▪ <u>Where stipulated in the contract, the required bank guarantees are valid and is retained in the project's safe.</u>
<i>Process payment</i>	<ul style="list-style-type: none"> ▪ The approved payment request with related documents shall be sent to the FC for processing and uploading on the online banking platform. ▪ The FC shall confirm that the bank details provided by the supplier corresponds to the signed legal agreement / original bank letter provided. ▪ Once loaded on the banking platform, the payment to be released by 2 authorised signatories (using unique digital signatures) <p><u>(NB: Cheques are not used for these payments)</u></p>
<i>Record payment</i>	<ul style="list-style-type: none"> ▪ FC records the transaction in the accounting software, using the correct codes as captured on the payment request. ▪ File supporting documentation, include proof of payment (bank statement/bank confirmation of payment)

12.6 Payments for consultant services

Activity	Procedures
<i>Request and approve activity in line with AWPB</i>	<ul style="list-style-type: none"> ▪ The process for requesting and approving consultants is outlined in the procurement section of the PIM and is dependent on whether the service is recruited internationally, nationally, locally or on a single source basis. ▪ In all instances the procurement of consulting services is subject to IFAD's no objection.
<i>Prepare payment request</i>	<ul style="list-style-type: none"> ▪ The procurement officer will request payment of consulting services subject to providing the following supporting documentation: <ul style="list-style-type: none"> - Copy of consulting contract and invoice requesting payment (invoice to specify bank details in line with contract) - Copy of output (report / study etc) - Copy of timesheets (if time-based payment is required) - Written recommendation for payment from the relevant technical department which confirms that the consultant(s) have delivered the key outputs as specified in the consulting contract. - Confirmation of IFAD no objection. ▪ The FC prepares a payment request which includes the supporting documentation. ▪ The FC reviews the payment request for accuracy and validity. ▪ The Financial Manager adds the correct account codes for the purposes of recording the transaction in the accounting software. ▪ The FC forwards the payment request with supporting documentation to the relevant Technical Officer /Component Head for review and sign off.
<i>Review and approval of payment request</i>	<p>The Financial Manager reviews and signs the payment request before submission to the Project Director. The Project Director shall review and sign the payment request, checking/confirming:</p> <ul style="list-style-type: none"> ▪ The expenditure is included in the approved AWPB ▪ IFAD no objection was obtained related to procurement as applicable ▪ All expenditures are eligible in line with the financing agreement and has been incurred before/completed before Project completion date. ▪ Payment was cleared by the relevant component technical officer/head. ▪ All supporting documentation is attached (refer 12.1). <p>The Financial Manager reviews and signs the payment request before submission to the Project Director. The Project Director shall review and sign the payment request, checking/confirming:</p> <ul style="list-style-type: none"> ▪ The expenditure is included in the approved AWPB ▪ IFAD no objection was obtained related to procurement as applicable ▪ All expenditures are eligible in line with the financing agreement and has been incurred before/completed before Project completion date. ▪ Payment was cleared by the relevant component technical officer/head.

Activity	Procedures
	<ul style="list-style-type: none"> All supporting documentation is attached (refer 12.1).
<i>Process payment</i>	<ul style="list-style-type: none"> The approved payment request with related documents shall be sent to the FC for processing and uploading on the online banking platform. The FC shall confirm that the bank details provided by the supplier corresponds to the signed legal agreement / original bank letter provided. Once loaded on the banking platform, the payment to be released by 2 authorised signatories (using unique digital signatures) <u>(NB: Cheques are not used for these payments)</u>
<i>Record payment</i>	<ul style="list-style-type: none"> FC records the transaction in the accounting software, using the correct codes as captured on the payment request. File supporting documentation, include proof of payment (bank statement/bank confirmation of payment)

12.7 Advances to Implementing partners

Implementing partners will request funds from PMU for the purposes of implementing activities. However, advances will need PD approval before processing.

12.8 Petty cash payments and replenishments

No cash is planned to be used in the project implementation.

12.9 Payments for fuel

Vehicles may be refueled at the local preferred fuel station, based on approved purchase orders issued to drivers by the Project FC. Drivers use payment cards to pay for fuel.

Each month drivers submit fuel usage report and it is approved by Office Manager.

13. Financial Reporting

The section on financial reporting deals with:

- Financial reports for submission to IFAD and other financiers
- IAs reporting to PMU
- Internal reporting within each IA

13.1 Financial reports for submission to IFAD and other financiers

APD PMU is responsible for submitting consolidated financial reports to IFAD. *The applicable financial reporting requirements applicable to IFAD-financed Projects are outlined in the IFAD Handbook for Financial Reporting and Auditing for IFAD-financed Projects* which may be updated from time to time. The Financial Manager should ensure adherence to the latest version of the Handbook.

APD PMU is required to prepare financial reports and submit to IFAD as outlined in the table below:

Type	Period / Frequency of submission
<i>Annual Financial Statements</i>	<ul style="list-style-type: none"> ▪ <u>Unaudited</u>: Prepare annual reports and submit to IFAD within 4 months of the end of the financial year-end. ▪ <u>Audited</u>: Submit audited financial statements within 6 months of the end of the financial reporting period. <p>The reports should be prepared in line with requirements outlined in 13.4. The annual financial statement should be signed by the Project Director for authorisation before submission to the auditor/IFAD.</p>
<i>Interim financial reports</i>	<p>Prepare quarterly reports and submit to IFAD within 30 days of the end of the quarter. The reports should be prepared in line with requirements as outlined in the FMFCL</p>

13.2 Financial reporting requirements

PMU is required to prepare financial reports in line with INASs. Should JKCI PIM propose to use a different accounting standard, this should be agreed with IFAD. In all instances, IFAD requires Projects to use internationally accepted accounting standard.

13.3 General principles for the preparation of financial reports

JKCIIP shall prepare financial reports with consideration of the following specific principles:

Principal	Guidance
<i>Completeness</i>	<ul style="list-style-type: none"> ▪ The financial reports shall be complete and include the activities of both PMU and other Implementing partners and present the results of a single entity. ▪ The sources and uses of all categories/components shall be included (including sources received in-kind). ▪ In the sources and uses form, all financiers shall be included, including: <ul style="list-style-type: none"> ○ IFAD Loan ○ Government Contributions ○ Convergence funds ○ Beneficiary Contributions ○ In-kind contribution from
<i>Accuracy</i>	<ul style="list-style-type: none"> ▪ Ensure that the various disclosures as outlined in 13.4 are reconcilable as appropriate
<i>Accountability</i>	<ul style="list-style-type: none"> ▪ The financial reports should promote the concept of accountability.

13.4 Minimum prescribed content for interim and annual financial reports

APD PMU is required to prepare financial reports (annual and interim) which includes the following minimum prescribed content (an illustrative interim financial reports is outlined in FMFCL.)

The IFRs package and documents mainly include, refer to [21.14](#):

- The duly filled forms constituting the project’s IFRs, as outlined in the FMFCL; The main reports to be included in the package:
 - A. Sources and Uses of Funds Statement
 - B. Summary of Expenditures by Project Categories and by Financiers (to include budget versus actual figures and variances)
 - C. Summary of Expenditures by Project Components and by Financiers
 - D. Funds Reconciliation Statement
 - E. Necessary Treasury Statements of transfers of funds to the Project Account.

For the annual financial statements, the project is required to prepare the following statements:

Content	Source of requirement	Guidance on preparation of content
<i>Statement of Cash Receipts and Payments</i>	INASs	<ul style="list-style-type: none"> ▪ Disclose cash receipts using an appropriate classification system (Contributions from external financiers, Contributions from Government, Contributions from Beneficiaries, Cash generated from Project activities) ▪ Disclose cash payments in line with the categories outlined in Schedule 2 of the IFAD financing agreement
<i>Budget to Actual Comparison</i>	INASs	<ul style="list-style-type: none"> ▪ Ensure that the Budget period corresponds to the Financial Reporting Period ▪ Derive the budget disclosure from the approved AWPB. Disclose both the original and final approved AWPB. ▪ Calculate the variance between budgeted and actual results for both receipts (sources) and uses (payments) ▪ Provide narrative on the reason for the variances observed.
<i>Accounting policies and explanatory notes</i>	INASs	<ul style="list-style-type: none"> ▪ Develop accounting policies with reference to the guidance provided in INASs ▪ Disclose the authorisation date ▪ Disclose the basis of presentation ▪ Disclose the presentation currency as INR
<i>Sources and Uses of Funds Statement</i>	Prescribed by the IFAD Handbook for Financial Reporting and Auditing for IFAD-financed Projects	<ul style="list-style-type: none"> ▪ Include both cash and in-kind contributions in the Sources of Funds ▪ Provide disclosure on uses of funds by financier/by category and financier/component

Content	Source of requirement	Guidance on preparation of content
<i>Funds account reconciliation</i>	Prescribed by the IFAD Handbook for Financial Reporting and Auditing for IFAD-financed Projects	<ul style="list-style-type: none"> ▪ Prepare reconciliation which provides spent amount and reimbursed by IFAD, the difference being to be reimbursed. ▪ Explain variances. ▪ The IFAD FMFCH provides detailed guidance on the preparation of the reconciliation.
<i>Summary of Withdrawal Applications</i>	Prescribed by the IFAD Handbook for Financial Reporting and Auditing for IFAD-financed Projects	<ul style="list-style-type: none"> ▪ Provide a summary for JKCIIP ▪ Ensure that summary information is reconcilable with the IFAD historical transaction statement (to be requested from the IFAD Finance Officer) with regards to the value date of the transaction amount of withdrawal in loan denomination currency. ▪ Cross reference amounts included here per WA to amounts included in the Funds Reconciliation.
<i>Fixed asset register</i>	Prescribed by the IFAD Handbook for Financial Reporting and Auditing for IFAD-financed Projects	<ul style="list-style-type: none"> ▪ Include a fixed asset register which lists all Project assets (<i>including those purchased on behalf of the Community Groups if the Project retains the title and the assets will be returned to the Project at Project closure</i>). ▪ Indicate the implementing agency which procured the asset and related component. ▪ Ensure that all fields are included – refer illustration included in 21.9.

In addition to the above disclosures, the Project is required to maintain and Action Tracker log which is a log of agreed actions. This document should be maintained on an ongoing basis provide together with the financial report (interim or annual). The Action Tracker format is outlined in [21.9](#). It is required that the Action Tracker include actions which have been agreed on with IFAD during missions or the Auditor during the audit (derived from the management letter). The purpose of the Action Tracker is to keep track of progress regarding agreed on actions.

13.5 Other considerations

The following specific issues should be considered in the preparation of the financial reports:

- Accrual related information should be disclosure in the notes of the financial statements. This includes outstanding advances, which, in terms of the cash basis of accounting, should be expensed when provided. This entails that the advance will be recorded in the relevant categories /components at year-end. *(NB: Best practice is that zero advances are outstanding at the end of the fiscal year).*
- In-kind contributions from Beneficiaries should be reported in the financial statements in line with the process as outlined in section 9.7. Also refer to 21.9 to see the illustrative accounting policy and explanatory notes.
- Where applicable, disclose information for PMU separately and on a consolidated manner. In all instances the user of the financial statements should be able to identify if the information relates to activities of PMU.

13.6 IPs reporting to PMU

All Implementing partners which report to PMU are required to submit quarterly reports to the PMU. The PMU will review the reports and verify bank balances/expenses with reference to supporting documentation attached to the report. PMU will proceed to record individual transactions in Tally and clear related advances. The IPs are required to submit quarterly reports using the report format as outlined in 21.13.

IPs is responsible for the accuracy and completeness of reports submitted to PMU and will be required to respond to queries on report content in a timely manner.

13.7 Internal reporting

The following internal reports will be prepared by PMU for the purposes of internal monitoring of project finances and progress:

Type	Period / Frequency of submission
<i>Quarterly project reports</i>	<p>The PMU Financial Managers to prepare a quarterly project report which includes (but not limited to):</p> <ul style="list-style-type: none"> ▪ Consolidated budget to actual expenditure comparison with variance explanation. ▪ Individual budget to actual expenditure report per implementing agency with variance explanation. <p>This report to assist the PMU project director to monitor overall and implementing agency level performance for the purposes of taking corrective action if needed.</p>
<i>Quarterly management accounts</i>	<p>It is required that each implementing partner prepare quarterly management accounts for the purposes of monitoring allocated components/sub-components. The content may include (but not limited to):</p> <ul style="list-style-type: none"> ▪ A financial progress report (sources and uses) ▪ Monthly bank reconciliations ▪ Cashflow forecast ▪ Summary of contract commitments ▪ Overview of budget to actual expenditure analysis with variance explanations <div style="background-color: yellow; height: 20px; width: 100%;"></div>

Type	Period / Frequency of submission
	The quarterly management accounts should be prepared within 10 days of the end of the quarter and submitted to the Project Director for review and discussion during management meetings. The purpose of the quarterly management accounts is to provide a monitoring tool for management with the purposes of identifying issues and taking corrective action.

14. Audit matters

14.1 Internal Audit

APD PMU will procure the services of an internal audit firm on an annual basis and report its findings to the project steering committee to ensure independence. The internal audit work will focus on the activities of PMU and other Implementing partners which report to PMU. Recommended TOR is included in [21.5](#).

The final report will be submitted to the Project Steering Committee to ensure independence. The internal audit work will cover activities at both the central office, district offices as well as a sample of Community Groups.

14.2 External Audit

14.2.1 Auditing standards

IFAD promotes the use of internationally accepted auditing standards and requires that JK CAG office audits JKCIP financial statements in accordance with audit standards that are acceptable to IFAD. Audit Standards issued by the CAG based on INTOSAI ISSAI standards are deemed acceptable to IFAD.

14.2.2 Appointment of the auditor

IFAD prefers the audit of JKCIP financial statements are audited by JKUT CAG. However, JK CAG must ensure that:

- ✓ The auditor must be independent of the project, its staff and activities, in accordance with international best practices.
- ✓ The project auditor may not provide consultancy services to the project or prepare the project financial statements or have done so in the previous two years.
- ✓ The auditor must be suitably qualified and be a member of a professional body affiliated with the International Federation of Accountants.
- ✓ The auditor's work must conform to international auditing standards
- ✓ The audit firm must be able to assign an audit team to the audit possessing the necessary competence and skills.
- ✓ The audit firm must have a proven track record in conducting audits of a similar nature and complexity.
- ✓ The auditors must have sufficient staff to **deploy to both the main offices of PMU & IPs.**

Auditors should normally be appointed in advance of the start of the period to be audited, to allow the auditor sufficient time to plan and carry out a comprehensive examination of the borrower's/recipient's financial records and accounts.

14.2.3 Auditor terms of reference

A sample proposed TOR for JKCIP is included in [21.7](#) in case JKCIP decides to appoint a private sector auditor. The Financial Manager should use and refine this TOR as required.

14.2.4 Audit opinion and audit package

The audit report will outline the audit opinion on the audited financial statements. JK CAG is required to issue an audit opinion in accordance with CAG Audit Standards.

The auditor is expected to submit an audit package that at a minimum includes the audited financial statements, the audit report and the management letter. The management letter is an integral part of the audit package, which documents internal control issues identified by the auditor. The management letter should:

- Outline the auditor's recommendations to address identified internal control issues, and the responses to them on the part of the Project's management.
- Where applicable, provide follow-up commentary on the issues identified in the previous year's management letter.
- Include any ineligible expenditures identified during the audit be outlined in the management letter.

14.2.5 Audit reporting period

IFAD generally requires an annual audit of Project financial statements. However, the frequency of the audit may be changed by IFAD as a function of the Project's risk profile. In all instances, IFAD will confirm the frequency with which JKCIP's financial statements are to be audited.

The audit reporting period may be amended for the first and/or final audits, in line with the following guidance:

- For the first audit, in cases in which the Project commences during the financial year, the following procedures will generally apply:

² ISA 700 (Forming an Opinion and Reporting on Financial Statements) provides illustrative audit reports.

- When the period between the first disbursement and the end of the financial year is less than six months, IFAD may allow the results for the first financial period to be included in the following financial year's audit subject to agreement with IFAD Finance Officer; or
- When the period between the date of the first disbursement and the financial year-end is greater than six months, audited financial statements for the period are always required subject to agreement with IFAD Finance Officer.
- For the final audit, IFAD may recommend an audit reporting period that is longer or shorter than 12 months, but that in no case may exceed 18 months. This is to ensure that the final audit can be concluded and the audit report submitted to IFAD by the Project Closing Date subject to agreement with IFAD Finance Officer..

In such instances, IFAD will discuss and agree on its requirements with the borrower well in advance of commencement of the final audit.

14.2.6 IFAD Audit reviews

IFAD will conduct reviews of JKCIP audit reports. The main purpose of the reviews is to determine whether the auditor conducted a quality audit resulting in an audit opinion acceptable to IFAD, and to assess the quality of the financial reporting of JKCIP.

IFAD will communicate the results of the audit report review process within sixty days following receipt of the audit package. If required, JKCIP will be requested to take corrective actions within a specified time frame. These actions should be included and monitored in the Action Tracker (illustrated in [21.9](#)).

14.2.7 Public disclosure of audit reports

IFAD will publicly disclose JKCIP Project financial statements and audit reports, subject to processes applicable to their publication. In line with the standards of the International Aid Transparency Initiative, JKCIP is encouraged to publish financial information on its own website, for increased accountability. JKCIP must ensure that the audit TORs explicitly mention the right of the JKCIP and of IFAD to publish the audit report, with no limitation-of-use clause.

15. Records Management

15.1 Maintenance of separate accounts and records

In terms of IFAD's General Conditions for Agricultural Finance:

"The Project Parties shall maintain separate accounts and records in accordance with consistently maintained appropriate accounting practices adequate to reflect the operations, resources and expenditures related to the Project until the Financing Closing Date..."

In order to comply with the above requirement, APD PMU and other Implementing partners are required to maintain accounts. Such accounts and records may include:

Type	Example
<i>Electronic information</i>	<ul style="list-style-type: none"> • Data and information maintained within the Tallya accounting software • Other documents and files maintained electronically, either on desktops, laptops or removable storage devices
<i>Correspondence</i>	<ul style="list-style-type: none"> • Emails • Hard copy correspondence (letters)

<i>Documents received from external sources</i>	<ul style="list-style-type: none"> • Bank statements • Supplier documentation
<i>Internally generated information</i>	<ul style="list-style-type: none"> • Employee files • Withdrawal applications • Forms

All documents and information are the property of JKCIP and may not be removed.

15.2 Filing and storage of the financial records

APD PMU and other Implementing partners are responsible for filing records. To fulfil this responsibility:

- Project parties should maintain files in a chronological order, assigning appropriate codes/sequential numbers;
- Project parties should perform filing activities on a regular basis to prevent the accumulation of papers and to ensure that the financial records are always maintained in an up-to-date manner.
- Project parties should allocate an appropriate storage area for the financial records in paper format and maintain them in locked cabinets, safe from water and fire, to which access is controlled and limited.
- Project parties should also classify the financial records as "Confidential", or "General".

15.3 Off-site archiving of financial records

The Financial Manager should ensure that the financial records are archived at an off-site location on a regularly basis. Once a year, the Financial Managers should make sure that the completed or inactive files are archived in a manner that will allow for easy retrieval of the files in case they are required at some future date.

15.4 Electronic back-up procedures

Back-up of electronic information is an important function to be undertaken under instruction from the Financial Manager. It is required that:

- Daily: Electronic information at each Project office is backed up on the local server
- Weekly: Electronic information is saved on an external storage device and kept in a locked cabinet

Project staff access to backup files are subject to authorisation by the Project director or Financial Manager. The access of external persons is prohibited except for the auditors and IFAD staff.

15.5 Retention period

Project parties are required to retain accounts and records for at least ten (10) years after Financial Close. The Financial Manager should ensure that all documents and records (electronic and paper) are handed over to GoI at financial closure to ensure that records can be maintained for the 10-year period.

16. Fixed Asset Management

Fixed asset management is an important process that seeks to track fixed assets for the purposes of financial accounting and to ensure preventive maintenance, and theft deterrence. Adequate Fixed asset maintenance also increases the sustainability of the Project. There are three elements in fixed asset management that require the attention of the Financial Managers:

- Purchase of equipment

- Setting up and maintaining an asset register including verification
- Setting up a plan for disposal and/or handover of the asset once the Project is completed

16.1 Purchase of Equipment

The FCs should follow the following process for each fixed asset purchased:

- Assign a unique, sequential asset number (excluding minor items such as stationary).
- Tag each item with its unique asset number.
- Record the item of equipment in fixed asset register

16.2 Fixed asset register

The FCs must maintain a fixed asset register in the asset management module of the accounting software. The asset register should record the following information for each individual piece of equipment (refer [21.9](#) for illustration):

- Asset description
- Asset number
- Individual responsible for asset
- Implementing agency responsible for purchase
- Source of funding of asset (IFAD, government etc),
- Location of the asset
- Date of purchase
- Cost of purchase and invoice number
- Remarks regarding the condition of the asset

The Finance Managers shall ensure that the consolidated fixed asset register is maintained and updated regularly.

Assets purchased for beneficiary use should be included in the fixed asset register if the assets remain under the ownership of the Project (therefore beneficiaries to return to Project at Project closure).

16.3 Asset Verification Review

Under the management of the Financial Manager, JKCIP must conduct an annual asset verification process whereby the following checks are performed:

- Verify that all fixed assets are still held in the location recorded on the register;
- Confirm the completeness and accuracy of the information recorded on the fixed asset register;
- Check that equipment and vehicles are still in a reasonable state of repair and that remarks regarding the condition of the assets are correct as recorded in the fixed asset register;

The verification review must be performed by different staff from those who use the equipment, to ensure adequate segregation of duty. Discrepancies between the verification exercise and the fixed asset register should be investigated. Where assets are missing or seriously damaged, they should be removed from the asset register. The removal should be formally documented and approved by Financial Manager and Project Director. Moreover, the Financial Managers will undertake random verification of fixed assets during field visit.

16.4 Vehicle Maintenance and Fuel

Drivers are required to maintain waybills/itinerary lists and vehicle history records ([21.11](#)).

No cash shall be advanced to drivers for the purposes of refueling.

- Each vehicle/driver to have dedicated fuel card which indicate the vehicle registration number.
- Each fuel card to have a set daily / monthly limit based on average consumption.

- Changes to the monthly limit is subject to approval by the Financial Managers (which will be approved base on approved trips).
- The waybill shall indicate the reading of odometer at the beginning and end of the period, i.e. the mileage of the car, as well as fuel consumption. This process shall be checked by an FC.
- Drivers shall provide a monthly summary report on fueling and usage. Differences to be followed up/resolved.
- Provision of fuel and lubricants shall be strictly limited per each vehicle per month in accordance with the order signed by the Management.

Vehicle insurance

The Financial Managers should ensure that all Project vehicles are comprehensively covered and that all drivers are noted on the insurance policy. Under no circumstances, may uninsured drivers drive the vehicles. The insurance policies should be renewed annually or as stipulated in the policy. The safety of cars is the responsibility of the drivers assigned to the vehicles. Consequently, they must ensure that the vehicles are parked in a secure area when not in use or outside working hours.

Maintenance

The drivers are required to monitor the maintenance of their assigned vehicles. The drivers must notify the Office Manager of maintenance needs so that the cars can be serviced on a timely basis. The Office Manager is required to request the car maintenance, subject to approval by the Project Director. The assigned cars must always be taken to the selected garage for repairs and maintenance.

17. IFAD financial management support

17.1 Overview of IFAD support

IFAD's Financial Management Division (FMD) will remain involved with JKCIP from Project inception (starting at Project design) to Financial Closure to ensure that JKCIP fiduciary requirements are met.

FMD's Finance Officer will establish ongoing contact with the Project, by liaising with the Financial Manager of PMU and will be available to provide remote support on financial management matters. In addition, FMD will visit JKCIP during missions to the Project (represented by either the Finance Officer or an appointed consultant). Mission types include supervision missions, mid-term reviews and implementation support missions. During missions, FMD will assess and monitor the adequacy of JKCIP financial management arrangements such as accounting, budgeting, internal controls, flow of funds, financial reporting and the auditing practices.

If financial management arrangements of JKCIP are deemed acceptable, IFAD will rely on them to provide assurance that the financing proceeds are being used for the intended purposes. In the case that IFAD identifies weaknesses in the financial arrangements, it will require JKCIP to take the appropriate measures to mitigate those risks.

The key findings and recommendations of missions will be captured in the Aid Memoire which is a document which is shared with APD and includes an overview of issues identified and proposed actions to be undertaken by the project/IFAD to address issues identified.

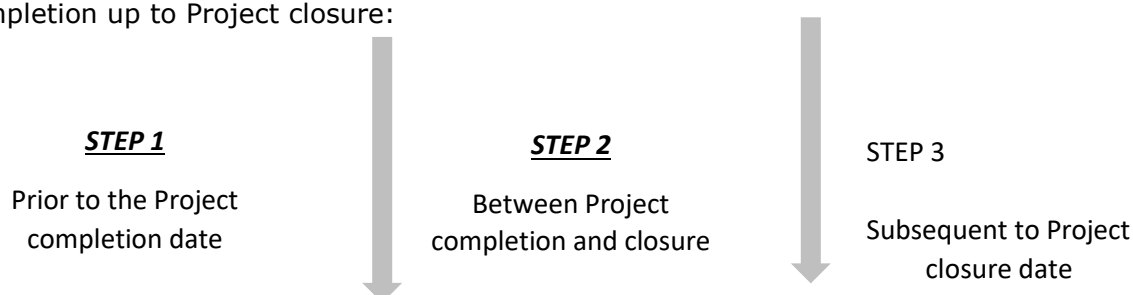
17.2 Roles and responsibilities related to IFAD support

JKCIIP will be required to participate in IFAD missions as follow:

Stage	Project roles and responsibilities
<i>Before IFAD missions</i>	<ul style="list-style-type: none"> • Prepare Appendix 1 (21.10) and submit to the FO/Consultant in electronic format (Excel Workbook, including formulae) <u>before</u> commencement of the mission – the FO/Consultant will specify the date range to be covered within Appendix 1. • Each project party (PMU and other Implementing partners) to complete the Financial Management Assessment Questionnaire (FMAQ) and submit to the FO/Consultant in electronic format (FO to provide most recent template). • Prepare all other information as requested by FO/Consultant before commencement of the mission (refer 21.2).
<i>During IFAD missions</i>	<ul style="list-style-type: none"> • Provide the FO/Consultant with all information which was requested before the mission. • Arrange meeting with the auditors (internal and external) and any other selected party requested by the mission. • Ensure that all FM staff are available to assist the FO/Consultant in performing their duties which may include: <ul style="list-style-type: none"> ○ Review of financial reports, reconciliations ○ Physical verification of fixed assets and inventory ○ Meeting with the auditor ○ Reviewing and completing the FMAQ • Discuss identified FM weaknesses and risks and assist the FO/Consultant with developing appropriate actions for inclusion in the aide memoire.
<i>After IFAD missions</i>	<ul style="list-style-type: none"> • Respond to any wrap-queries from the FO/Consultant • Commence with implementing all actions which are included in the Aide Memoire <ul style="list-style-type: none"> • Update the Action Tracker (see illustration in 21.9) with all actions raised during the missions.
<i>Ongoing</i>	<ul style="list-style-type: none"> • Monitor and update the Action Tracker to ensure all actions are implemented in a timely manner. Liaise with the Financial Manager if required. • Respond to ad-hoc queries received from the Financial Manager or other IFAD staff as it related to FM matters.

18. Project completion and closure

The Project completion date is defined in the financing agreement and the Project closure date is 6 months thereafter. The following is relevant to period before Project completion up to Project closure:



STAGE 1	STAGE 2	STEP 3
Up to the Project completion date	Between Project completion and closure	Project closure date
<ul style="list-style-type: none"> ▪ Justification of advances for all expenditures spent by completion date ▪ Agree on the audit scope of work and submit to IFAD for no objection ▪ Incur eligible expenditure up to the Project completion date 	<ul style="list-style-type: none"> ▪ Commencement of the final audit ▪ Auditor performs the final audit in line with scope of work approved by IFAD ▪ Incur winding up expenditure only (cost of audit, staff salaries, operating costs, Project completion report) ▪ Submit final withdrawal application for justification ▪ Develop an asset handover and disposal plan (include up to date fixed asset register, indicate condition of all assets and to which entity the assets will be transferred). 	<ul style="list-style-type: none"> ▪ Submit final audit report on or before the Project closure date ▪ Submit Project completion report on or before the Financial Closure Date (as required in the financing agreement) ▪ Confirm the final withdrawal application with IFAD ▪ Return outstanding advance if applicable (all unjustified balances) ▪ Closure of the loan with IFAD

A notice is sent to the Borrower at least six months prior to the PCD to advise that all applications must be submitted before the closing date, and to remind the Borrower that expenditures incurred and commitments made after the PCD will not be honoured, except for authorised expenditures during the "Winding Up Period" (from PCD to Financing Closing Date). This means that goods are delivered, civil works are completed and services are rendered on or before such date.

After the financing closing date, IFAD informs the Borrower of the formal closure of the loan/grant account, provides a history of disbursement transactions and cancels the unused loan/grant balance. A re-amortisation plan should be sent where relevant.

Asset handover plan

The plan should develop report outlining the following for the purposes of handing over Project assets to the identified beneficiaries:

- The value of all the assets bought under the Project
- Summary of the current condition of the assets,
- To which entity will the assets be transferred to and on which date and for what purpose.
- List the assets that will be disposed and the reason for being disposed.

19. IFAD Financing agreements – amendments and budget reallocations

If amendments are required to the financing agreement:

- a formal written request should be submitted to IFAD
- outlining the required amendment and motivation thereof.


Amendments to the agreement may be required for (but not limited to):

- Changes to the project completion date and grant closing date,
- Changes to the project budget/budget reallocation (noting that the budget may not be increased above the original total amount)

Budget reallocations

- In some cases, the expenses category amounts as outlined in the financing agreement requires a revision if the project notes that actual expenditure is deviating from the original budget.
- In such instances a reallocation is required, depending on the size of the reallocation per category (expressed as %)
- Reallocation of equal to or less than 10% (of each category) between the various categories if such a reallocation ***does not change the basic purpose of the project.***
- For reallocation greater than 10% of any expense category, the Borrower is required to formally request a reallocation from IFAD (supported by a detailed motivation).

20. Useful links

Document	Link
<i>IFAD financial management e-learning</i>	https://www.ifad.org/elearning_cfs_a/index.html
<i>Revised IFAD policy on preventing fraud and corruption in its activities and operations (December 2018)</i>	https://www.ifad.org/en/document-detail/asset/40189695
<i>Guidelines for internal controls for Public Sector Entities (INTOSAI GOV 9100)</i>	 Guidelines for internal controls for Public Sector Entities (INTOSAI GOV 9100).pdf
<i>IFAD General Conditions for Agricultural Development Financing</i>	https://www.ifad.org/documents/38711624/39421024/general_e.pdf/47c5f14b-2903-4285-b0b0-62c67cd650b8
<i>IFAD Handbook for Financial Reporting and Auditing of IFAD-financed projects (English)</i>	https://www.ifad.org/en/-/document/ifad-handbook-for-financial-reporting-and-auditing-of-ifad-financed-
<i>IFAD Loan Disbursement Handbook</i>	https://www.ifad.org/web/guest/document-detail/asset/39635782
<i>ICP page</i>	https://icp.ifad.org/

ICP support email

icpsupport@ifad.org

21. Annexures

21.1 AWPB Structure and preparation checklist

APD PMU is responsible for the development of the Annual Work Plan and Budget (AWPB), generally covering a period of 12 months, which should include the following mandatory sections:

Section	Description
<i>Introduction</i>	<ul style="list-style-type: none"> ▪ Provide a brief background ▪ Include narrative covering the strategic focus, target group, geographical focus (Project sites), outreach (with gender disaggregation), Project components, specific activities to be undertaken and the planned output for each activity.
<i>Risks and mitigation</i>	<ul style="list-style-type: none"> ▪ Outline of major risks that could affect adversely the Project outcomes and mitigating actions taken.
<i>Budget and financing plan</i>	<ul style="list-style-type: none"> ▪ Describe the necessary inputs and outputs for each activity including the expenditures, financing source and expected completion date. ▪ The expenditures should be classified per activity and should also be linked to a component, expenditure category as per the financing agreement and a financing source. ▪ Each activity should be coupled with tangible outputs or physical targets to facilitate the measurement of Project progress.
<i>Procurement plan</i>	<ul style="list-style-type: none"> ▪ Outline detailed plan outlining procurement activities, include expected cost for each item, procurement method and timeline. ▪ <u><i>The first Procurement plan should cover the first 18 months of the Project lifecycle while the subsequent procurement plans should cover 12 months of the Project lifecycle.</i></u>
<i>Progress and past performance (include in 2nd AWPB onwards)</i>	<p>Outline the following with:</p> <ul style="list-style-type: none"> ▪ Summary of the key achievements ▪ Problems encountered and how these were resolved ▪ Budget execution, comparing actual expenditure per category/component to prior AWPB with an indication of category overspend
<i>Other</i>	<ul style="list-style-type: none"> ▪ Training and technical assistance schedule ▪ PCU staff development plan ▪ Project staff payroll (including the names, titles, salaries and incentives)

AWPB Check: The checks listed below are designed to improve the quality of the AWPB during the final preparation stage.	Yes	No
Is the AWPB complete and clearly presented? Does it disclose sufficient information?		
Is the AWPB in line with the Project description and rational (schedule 1) as per the financing agreement and the Project log-frame? Are all the activities relevant to the Project?		
Does it contain the necessary summary tables by component and financier and by expenditure category and financier as well as the detailed tables by component?		
Does the implementation schedule seem realistic and does it show appropriate targets and milestones? Are the targets and execution level realistic compared to past years progress?		
Does it contain a separate annex disclosing the details of the Project payroll?		
Does it contain a separate annex containing outlining the planned trainings?		
In the detailed tables are the expenditures structured by activity and linked to a component, expenditure category and financing source?		
Are the cost categories of the AWPB in line with the Schedule 2 of the IFAD financing agreements and are expenditures within the agreed allocations?		
Is any expenditure category going to be overdrawn during the year? Is a reallocation of IFAD funds needed?		
Does the total (and subtotal) costs add up? Are the inputs (unit cost) and outputs (physical targets) adequately quantified? Is there coherence between the inputs and outputs? And does these represent value for money (i.e. what is the unit costs for per output, e.g. cost per trained farmer)?		
Are the unit cost are realistic and do they reflect market prices?		
Is the AWPB accompanied by a procurement plan? Is the procurement plan consistent with the AWPB?		
Is the format of the AWPB compatible with other financial reports and the accounting software to allow input in the budget module and generation of actual vs budget reports and		
If last audit, does it take into account completion date of the Project as well as winding up activities such as Project completion report, final audit as handover/disposal of Project assets (computers, vehicles etc.),		

A.1. Annual Work Plan and Budget

Project Name:
Recipient:
Reporting period: DD.MM.YYYY – DD.MM.YYYY

Description Budget Item by Component, Subcomponent and Activity	Methods	Budget Category	Location		Items (cost in USD)			Physical Outreach/target by activity	Timelines				Financing Source (USD)					
			Implementing entity	Country/site	Unit cost	Unit cost	Quantity		Total	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Delivered by	IFAD Grant	Recipiant	Co- financier	
Component 1																		
Activity 1.1																		
Expenditure item																		
Expenditure item																		
Subtotal																		
Activity 1.2																		
Expenditure item																		
Expenditure item																		
Subtotal																		
Activity 1.3																		
Expenditure item																		
Expenditure item																		
Expenditure item																		
Expenditure item																		
Subtotal																		
Total (Component 1,2,3 etc)																		

21.2 Information checklist – preparing for IFAD missions

It is required that JKCI PIM prepare the following in anticipation of IFAD missions:

Information	Guidance
1. <i>Appendix 1</i>	<ul style="list-style-type: none"> Prepare Appendix 1 in Excel Workbook and include formulae as appropriate.
2. <i>FMAQ</i>	<ul style="list-style-type: none"> Include comments in the Financial Management Assessment Questionnaire (with exception of the summary section).
3. <i>Withdrawal applications/ SOEs</i>	<ul style="list-style-type: none"> Make hardcopy files of all recent withdrawal applications/statement of expenditures available (at least covering 12 months prior to the missions). Upon request, provide supporting documentation for a selection of expenditures. Provide a summary of pending withdrawal applications/IFRs for review.
4. <i>Bank reconciliations</i>	<ul style="list-style-type: none"> Make hardcopy files of most recent bank reconciliations available. Include copies of relevant bank statements. Ensure that IFAD designated account reconciliations are prepared in the correct format as outlined in the IFAD FMFCH
5. <i>Financial reports</i>	<ul style="list-style-type: none"> Provide most recent financial reports (as at end of most recent completed month), which include summary information (including all sources and uses of funds). Provide most recent interim financial report (format illustrated in 22.9) Provide copy of most recent audited financial statement.
6. <i>Fixed asset register</i>	<ul style="list-style-type: none"> Provide updated fixed asset register in Excel Workbook format (export from accounting software).
7. <i>Manuals and procedures</i>	<ul style="list-style-type: none"> Provide an electronic of the most recent version of the Financial Manual (to which IFAD provide a no objection). Provide a copy of the accounting software manual.
8. <i>Contract register and monitoring forms</i>	<ul style="list-style-type: none"> Make available the update Contract Register and Contract Monitoring Forms (export from Accounting software).
9. <i>Action tracker</i>	<ul style="list-style-type: none"> Update the action tracker with progress to date.
10. <i>AWPB/Procurement Plan</i>	<ul style="list-style-type: none"> Make available electronic copies of the AWPB and Procurement Plan (provide in Excel Workbook format).
11. <i>Advances</i>	<ul style="list-style-type: none"> Make available a summary of outstanding advances with supporting documentation.

21.3 Terms of reference: Financial Manager

Post title:	Financial Manager of <i>(APD PMU)</i>
Organisation:	<i>(APD PMU)</i>
Location:	Jammu and Kashmir
Name of Project:	JKCIP
Duration:	One-year renewable
Type of contract:	Fixed term
Closing date:	XXX

I. Background

II. Overall objective

The Finance Manager, under the direct supervision of the Project director, and within the framework of projects appraisal reports and loan/grant agreements, is responsible for the financial and administrative management of the PMU, including supervision of FM consultants, Accounting, Budgeting, financial reporting, internal controls, auditing arrangement, flow of funds and the efficient management of projects resources. It is expected that the APD Finance Department Director will assume this role.

III. Roles and responsibilities

- Prepare together with the Project director the Annual work plan and budget and the budget and financing plan.
- Oversee the process of recruitment of FM consultants required for the JKCIP.
- Master IFAD key documents such as, the disbursement handbook, procurement guidelines and handbook, IFAD guidelines for project audits, the Financing Agreement (FA) and the FMFCL.
- Develop and maintain an efficient accounting system and reliable internal control procedures and guidelines for financial reporting and recordkeeping.
- Ensure adequate maintenance of accounting software for the project accounting record-keeping and financial reporting.
- Ensure bank accounts and accounts with implementing partners are reconciled monthly.
- Ensure all supporting documents are adequately maintained for all project financial transactions.
- Ensure external and internal audit reports are sent on time.
- Ensure external and internal audit report recommendations are timely implemented.
- Ensure IFRs are timely prepared and sent to CAAA and IFAD
- Ensure IFAD Supervision report recommendations are timely implemented.
- Responsible for the preparation, review and monitoring of projects budgets including financing plan, procurement plan (together with the Procurement Officer), and staff development plan (together with the training focal point)
- Prepare/verify all withdrawal applications for submission to CAAA/IFAD and ensure the availability of funds for all planned activities. Manage the projects bank accounts, approve and co-signs all payments.
- Prepare and provide financial reports including the sources and uses of funds statement, incurred expenditures by component, expenditure category and financier, designated account reconciliation statement, fixed asset list and cash flow forecast etc. for submission to the Project steering committee, LPA and IFAD on a quarterly basis, and maintain all records in a form appropriate for audit.
- Lead the process of assigning an external audit (CAG) to conduct an independent audit of the annual project accounts, ensuring that annual audits are carried out within the specified timeframe.
- Develop and maintain a system of financial control over all expenditure incurred by implementing partners.
- Responsible for developing and managing an effective and performance based human resources management system.
- Supervise and coordinate the work of staff placed under his/her direct authority.
- Review and regularly update the Financial and Administrative Manual of the PMU.
- Responsible for the organization and supervision of the PMU office, assets, logistics, and all administrative matters.
- Undertake any other activities assigned by the Project Director.

IV. Required qualifications and experience

- Accounting or Finance, undergraduate degree
- At least 5 years of experience in a similar position
- Chartered Accountant of India
- Excellent knowledge of Indian Accounting and Audit standards

V. Duration of Appointment

21.4 Terms of reference: Finance Consultant (two positions)

Post title:	Financial Consultant (<i>APD PMU</i>)
Organisation:	(<i>APD PMU</i>)
Location:	Jammu Kashmir
Name of Project:	JKCIP
Duration:	One-year renewable
Type of contract:	Fixed term
Closing date:	XXX

I. Background

FM consultant is part of JKCIP PMU FM team and primarily responsible for maintaining Tally accounting software for JKCIP.

II. Overall objective

FM consultant will be responsible for maintaining accounting records in the accounting software for JKCIP PMU, reconciliation of accounts and consolidation of financial reports for all implementing partners.

III. Roles and responsibilities

Under the direct supervision of the Finance Manager (PMU); specific duties include:

- Assist the Finance Manager (PMU) in the implementation of a sound financial management system.
- Prepare financial reports, including monthly funds reconciliation, and monthly, quarterly, semi-annual and annual expenditure statements;
- Prepare transaction vouchers, and input all transactions into the PMU accounting system before submission to the Finance Manager (PMU) for approval;
- Process all payments, ensuring that PMU procedures are strictly adhered to;
- Process monthly payroll, payment of salaries to staff and project contributions;
- Assist the Finance Manager (PMU) in the preparation of withdrawal applications and IFRs;
- Prepare cash flow forecasts as required;
- Monitor financial reports and supporting documents from Implementing Partners, including periodic visits to their offices;
- Assist in the preparation and monitoring of annual operational budgets.
- Functional supervision and training of Accounts of Implementing partners.
- Maintenance of a well-organized and up-to-date filing system for accounting and financial records as well as a fixed asset tagging system;
- Perform physical inventory of project assets each year;
- Assist the Finance Manager (PMU) in the preparation of internal financial instructions and guidelines.
- Provide assistance to the external auditors as required;
- Undertake any other activities assigned by PMU management and Finance Manager

IV. Required qualifications and experience

- Accounting or Finance, undergraduate degree
- At least 2 years of experience in a similar position
- Good understanding of Indian Accounting and Audit standards

V. Duration and timeline

The period of assignment in the position will be initially 12 months and may be extended by mutual agreement, with probation period of three months.

21.5 Terms of reference: Internal Audit Services

Contract	Internal audit services
Project	JKCIP
Location	India, Jammu and Kashmir
Duration	XX month per annum
Starting Date	[insert]
Languages required	English

1. Background:

[INSERT]

2. Reporting System:

The objective of the Internal Auditor firm is to add value and improve the Project’s operations and assist Project’s Board of Directors and management by independently reviewing all activities, processes and systems with particular regard to risk and control aspects and bringing a systematic and disciplined approach to the effectiveness of risk management, control, and governance processes.

The successful firm will possess a thorough knowledge of internal auditing procedures, accounting procedures and have sound judgment on risk identification and management.

The firm will produce a monthly internal audit report presented to the Project Steering Committee.

Internal Audit firm shall monitor the appropriate follow-up on audit findings and recommendations. All significant findings will remain in an open issues file until cleared.

3. Independence:

The internal audit firm reports to the Project Steering Committee, who appoints and terminates the firm upon recommendation of the Donors. The firm will work under the overall supervision of the Project’s Steering Committee.

All internal audit activities shall remain free of influence by any element in the organisation, including matters of audit selection, scope, procedures, frequency, timing, or report content to permit maintenance of an independent and objective mental attitude necessary in performing the function.

Internal Audit shall have no direct operational responsibility or authority over any of the activities it reviews. Accordingly, it shall not develop nor install systems or procedures, prepare records, or engage in any other activity which would normally be considered management or staff’s responsibility.

4. Authority and confidentiality:

Authority is granted for full and unrestricted access to all THE PROJECT records, physical properties, and staff relevant to any area under review. All employees are requested to assist the internal audit in fulfilling its function.

Documents and information obtained by the internal audit firm will be handled in the same prudent and confidential manner as by those employees normally accountable for them.

5. Duties and Responsibilities:

Within the framework, as described above, the internal audit firm will carry out the following tasks:

- Conduct a post-audit procedures on the APD PMU and Implementing partners which report to it, with respect to their functions and activities within the project. Make recommendations on possible improvements of the procedures to enhance control mechanisms, financial performance and produce quality reports for senior management and Board of Directors, to enhance decision making, on monthly basis.
- Audit all contracts signed between PMU and Implementing partners with service providers, suppliers, and contractors to verify that (i) compliance with terms and conditions of grant / loan agreements and procurement regulations and donor guidelines; and (ii) the contract is in line with best practice with respect to compliance with terms of reference, request for proposal, tender documents etc.
- Develop professional and constructive working relationships with key managers and be able to challenge when necessary.
- Lead development of specific innovative ways of working and new ideas for reviewing risk and control issues.
- Assess risk and control related policies and procedures, provide input to updates in existing procedural documents with respect to controls as necessary
- Apply internal audit procedures to audit the financial statements, accounting records and other financial and non-financial registries applying accepted internal audit standards.
- Undertake special assignments and investigations and in particular undertake more complex and high-level audit investigations under advisement of the Project Steering Committee.
- Reviewing the means of safeguarding assets and, as appropriate, verifying their existence.
- Reviewing and appraising the economy and efficiency with which resources are employed.
- Reviewing operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned, including verify the adherence of APD PMU/Implementing partners staff to AWPBs, policies, plans, procedures, laws, and fund regulations that are influential on Fund works as well as donors accounting procedures.
- Asses the efficiency, effectiveness and economy of the usage of resources and reports of any deviations in case they are existed.
- Reviewing the adequacy, implementation and operation of donors' transparency and accountability policies and of other anti-corruption, fraud and related misuse policies and procedures.
- Confirming adherence to the Financial Manual (as approved by IFAD).

6. Audit Planning:

- Internal Audit firm shall regularly submit to the Project Steering Committee an up-to-date summary of the audit work schedule.
- The audit work schedule is developed based on a prioritisation of the audit universe using a risk-based methodology. Any significant deviation from the formally approved work schedule shall be communicated to the Project Steering Committee through periodic activity reports.
- The audit planning shall pay specific attention to the activities of the implementing Implementing partners which report to APD JK.

7. Qualification criteria:

- Internal audit firm should be member of recognized professional international Accountancy/ Audit body

- The firm shall govern themselves by adherence to The Institute of Senior Internal Auditors' Code of Ethics. The Institute's International Standards for the Professional Practice of Internal Auditing shall be adhered to by the firm. The Institute of Senior Internal Auditors' Practice Advisories will be adhered to as applicable.
- Assigned employees to have:
 - Proven relevant working experience in Internal Audit.
 - Proven experience of risk management frameworks and approaches.
 - Experience of operational auditing & risk based approach to review.
 - Excellent negotiating and high level influencing skills and the ability to challenge at a senior level when necessary.
 - Ability to work in challenging environments.
 - Ability to work and deliver to tight deadlines.
 - Logical and systematic in analytical thinking. ➤
Facilitation and presentational skills.
 - Full Working knowledge of English, including excellent drafting and presentation skills.
 - Excellent computer skills, including full working knowledge of standard word processing, spreadsheets and presentation packages.

21.6 Supporting documentation upon request from IFAD

As specified in chapter 3 of the IFAD Loan disbursement handbook, the following supporting documentation should be submitted upon request by IFAD:

Type of payment	Supporting documentation
<i>All types of payments</i>	<ul style="list-style-type: none"> ▪ The signed contract or confirmed purchase order (Showing the specified amount that is due paid.) ▪ The bank guarantee for advance payment, as specified in the contract documents ▪ The bank guarantee for performance, as specified in the contract documents ▪ Copies of communications sent by the IFAD country Project manager to the lead Project agency (LPA) providing the IFAD's no objection (post or Prior) to the contract award, and ▪ Evidence of payment.
<i>Payment of goods</i>	<ul style="list-style-type: none"> ▪ Supplier's invoice duly certified for payment by the Project director – specifying the goods, their quantities and prices ▪ Bills of lading or similar documents; and ▪ As appropriate, the certificate of delivery (to include condition of goods to delivery).
<i>Payments for services (including consultants)</i>	<ul style="list-style-type: none"> ▪ The supplier or consultant claim, duly certified for payment by the Project director and showing sufficient detail. If such Services relate to the importation of goods (for example, freight and insurance payments), adequate reference should be given to enable IFAD to relate each of these items to specific goods whose cost has been or is to be financed by the financing closing date; and ▪ As appropriate, a certificate of delivery of satisfactory services
<i>Progress and retention payments of civil works</i>	<ul style="list-style-type: none"> ▪ the claim if the contractor, including a financial progress report, stating the work performed and the amount due; ▪ A certificate-signed by the Project consultants or owner's representative, if any, or by the borrower's chief engineering officer or resident supervising engineer assigned to the Project, to the effect that the work performed is satisfactory and the payment claimed is due in accordance with the terms of the contract, and ▪ A copy of the contract payment monitoring form signed in original by the certifying officer.

21.7 Terms of reference: External Auditor

Borrower:	Government of Republic of India
Project:	JKCI P
Financing Agreements:	XXXXXX
IFAD:	Loan xxx; (IFAD)

1. Background

- The International Fund for Agricultural Development (IFAD) is aiding the borrower/recipient in the form of loan(s) [and/or grant(s)].
- A financing [and/or grant] agreement(s) has/have been signed between IFAD and the [borrower/recipient]; see appendix 1.
- [Insert for private auditor]: IFAD requires the borrower/recipient to appoint an independent auditor to audit the accounts related to the project, in accordance with the IFAD Handbook on Financial Reporting and Auditing.
- The reporting entity is [xxx].
- The entity prepares its financial statements in accordance with [applicable accounting standards].
- The auditor conducts its audit in terms of [applicable auditing standards].
- [Insert any other information that may be relevant to the auditor]

2. Objective

The objective of this audit is to enable the auditor to express an opinion on whether the financial statements (including additional disclosures as outlined in section 5) fairly present, in all material respects, the financial position of the reporting entity as at [insert year-end date], and/or the results of its operations and cash flows for the years then ended, in conformity with the [applicable accounting standards].

3. Responsibilities of the [borrower/recipient]

I. General

- Provide financial statements for the activities financed by the loan/[grant] that are reconcilable with its records and accounts.
- Provide the auditor with access to all legal documents and correspondence with consultants, contractors and other persons or firms engaged by the project and any other information associated with the project that the auditor deems necessary.
- Ensure that accounting policies are consistently applied and disclosed.
- Ensure that appropriate internal controls are implemented to prevent misstatements and susceptibility to fraud.
- Ensure compliance with all relevant laws and regulations that pertain to the entity, as well as with the financing agreement between the [borrower/recipient] and IFAD.
- Provide the financial statements to the auditor within a reasonable time and be available for any queries that the auditor may have.

II. Financial Statements

The [borrower/recipient] shall:

- Prepare financial statements covering the reporting period [date] to [date], in accordance with acceptable accounting standards that will be identified in the Notes to the Financial Statements.

In addition, the following specific disclosures will be included in the financial statements:

- Withdrawal application statement – appendix 1 to the IFAD Handbook on Financial Reporting and Auditing of

IFAD-financed Projects.

- Sources and uses of funds statement – appendix 2 to the IFAD Handbook on Financial Reporting and Auditing of IFAD-financed Projects.
- Designated account statement and reconciliation – appendix 3(a) and 3(b) to the IFAD Handbook on Financial Reporting and Auditing of IFAD-financed Projects.
- [Statements of expenditures – appendix 4 to the IFAD Handbook on Financial Reporting and Auditing of IFAD-financed Projects] – applicable to grants.
- Expenditure transaction list – online, provided in IFAD Grant Forms repository; see document C.2 “Transaction List”] – applicable to grants.
- Where the amount transferred to the Implementing Partners (IPs) is substantial, the IPs should transmit a copy of the audited financial statement to the PMU/PCU.

4. Responsibilities of the auditor

I. Auditing standards

- The auditor is responsible for issuing an opinion on the financial statements in accordance with [ISA/ISSAI/national auditing standards].

II. General Principles

By agreeing to these terms, the auditor confirms that:

- The firm is independent of the project, its staff and its activities, consistent with international best practices.
- The firm is not currently providing consulting services to the project or preparing its project financial statements (nor has it done so in the previous two years).
- The auditor is suitably qualified and a member of a professional body affiliated with the International Federation of Accountants.
- [The office of [public auditors] is a member of the International Organization of Supreme Audit Institutions (INTOSAI)].
- The auditor is able to conduct the audit in accordance with auditing standards acceptable to IFAD, pursuant to paragraph 4 (I).
- The firm can assign an audit team with the necessary competence and skills to the audit.
- The firm has a proven track record in conducting audits of a similar nature and complexity.

III. Reporting

The auditor is required to deliver an audit package in compliance with ISA 700 and include:

- The audited financial statements, including additional disclosures as outlined in paragraph 3 (II).
- A report on factual findings, within the scope of agreed-upon procedures, as outlined in paragraph 6. Any ineligible expenditure identified should be clearly mentioned.
- A Management Letter, including the information outlined in paragraph 4 (IV).

IV. Management Letter

The Management Letter is an integral part of the audit package that documents accounting and internal control issues identified by the auditors. The format of the management letter should classify the findings by risk priority. The management letter should:

- Provide comments and observations on the accounting records, systems and internal controls examined during the course of the audit, identify specific deficiencies and areas of weakness in systems and controls and make recommendations for their improvement;
- Include project management’s responses to the identified control issues and its proposal to address the issues identified within a specific time.
- Where applicable, follow up on the issues identified in the previous year’s management letter.
- Provide comments on economy, efficiency, and effectiveness in project management’s use of resources.
- Report on the degree of compliance with each financial covenant in the financing agreement and provide comments, if any, on internal and external matters affecting such compliance.

- Communicate matters that have come to the auditor’s attention during the audit that might have a significant impact on the implementation of the project.
- Review results and findings on IFR reliability for the reporting period.
- Any other matters that the auditors deem pertinent.
- List additional procedures, if applicable.

The audit report should provide sufficient detail as to the nature and extent of the procedures performed by the auditor. The auditor is required to provide the audit package by no later than [insert date]. Reports are to be delivered in the official language of the financing agreement.

5. Scope of the financial audit

In performing the audit, the auditor shall, at a minimum:

- Confirm whether the financial statements have been prepared following international (IPSAS, GAAP, IFRS), regional or national accounting standards; in the latter case, identify elements of difference with the international standards.
- Confirm the auditing standards used for the audit.
- Obtain audit evidence that the financial statements are fairly presented and free of material misstatements, in accordance with the applicable accounting framework.
- Assess internal controls related to the financial reporting process, and identify any weakness that might result in misstatements, whether due to fraud or error.
- Verify the reliability of the SOEs or IFRs, as the case may be, used to support withdrawal applications and ensure that they are reliable and accurately reflect expenditures incurred and activities carried out during the reporting period.
- Verify whether expenditure incurred in the name of the project is consistent with the terms of the financing agreement(s) (appendix xx) and incurred for the purposes intended in this agreement. Both IFAD and third-party funding should be considered.
- Verify whether counterpart funds provided by the Government of [Country] have been provided and used in accordance with the relevant financing agreement; verify that the amount of in-kind contribution is reported according to the agreed accounting principles and that the reported fair-market value for all in-kind contribution items is reasonable and fully and accurately disclosed in the financial statements.
- Verify that the inventory and fixed assets held by the entity exist, are complete, are properly accounted and are used for project purposes; at project closure, confirm that the project assets are transferred to the borrower/recipient or the entity identified in the financing agreement.
- Verify the project’s recurrent costs (salaries and operating costs) claimed under WAs and ensure they are reasonable, congruent with the implementation needs of the project and within the acceptable threshold (FA schedule II and its revisions).
- The audit should cover selected project regional/provincial implementing units as per the audit plan agreed with the PMU/PCU.
- [List others]

6. Scope of the agreed-upon procedures

The auditor is required to perform the following specific procedures and report on factual findings, as required in paragraph 4.3.

I. Withdrawal application statement

The auditor is requested to obtain the individual withdrawal applications (WAs) submitted to IFAD, as summarized in the withdrawal application statement, and develop test procedures to:

- Confirm that the withdrawal application statement is reconciled with the amounts disbursed by the Fund and deposited to the designated account (DA).

- Confirm that the withdrawal application statement is reconciled with the IFRs submitted to the Fund.
- Ascertain whether the designated account currency equivalent was determined using the historical exchange rate of transfers to the operating account or the accounting rules used.
- [List additional procedures, if applicable]

II. Designated account statement

The auditor is requested to review the activities of the designated account(s) associated with the project, including the initial advance, replenishments, interest that may accrue on the outstanding and year-end balances. The auditor is requested to develop test procedures to:

- Check the accuracy of the DA reconciliation(s).
- Confirm that the DA(s) has/have been maintained in accordance with the provisions of the financing agreement and that transactions from the DA(s) are accurately and correctly recorded in the financial accounts and statements of the project.
- Check that expenditures as reported in the project's financial statements are reconciled with the amounts withdrawn from the DA and that the amounts deposited to the DA are reconciled with the amounts disbursed by the Fund.
- Reconciliation should also be made with the amounts paid from the prefinancing account and direct payments (if any).
- [List additional procedures, if applicable]

III. Interim Financial Reports (IFRs) and Certified Statements of Expenditure (SOEs)

The auditor is requested to obtain the certified SOEs or IFRs as submitted to IFAD and apply such tests and control as the auditor deems necessary under the circumstances, to:

- Ascertain that the financial management system is reliable to produce the IFRs and has met Fund requirement during the year.
- Determine whether the expenditures incurred are related to activities outlined in the AWPB and consistent with the grant agreement.
- Determine whether the funds have been utilized for the intended purposes, with due regard to economy, efficiency and social equity.
- Determine whether the SOE threshold was set for the financing instrument and the IFRs prepared accordingly.
- Determine whether the expenditures claimed through IFRs or SOEs were properly and appropriately authorized, classified⁵⁹ and supported by adequate documentation.
- Identify any ineligible expenditures, including the nature of the ineligible expenditures, the date incurred, and the IFR period.
- [List additional procedures, if applicable]

IV Agreed-upon procedures for donor-funded projects

- In the case of projects financed by the Green Climate Fund (GCF), the auditors will assess the compliance of the project accounting records and the GCF Annual Progress Report (APR) with the applicable GCF requirements (e.g. expenditure eligibility, categorization vis-à-vis the GCF budget categories; etc.).
- Include specific requirements for other donors, as needed.
- [List additional procedures, if applicable]

V Other

- [List additional procedures, if applicable]

7. Public disclosure

IFAD promotes public disclosure of project financial information to enhance the level of transparency and accountability. IFAD will disclose project audit reports, as appropriate, in line with the Fund's disclosure policy. Management letters issued by auditors are not subject to public disclosure by IFAD. In agreeing to the terms of reference, the auditor explicitly acknowledges IFAD's right to publicly disclose audit reports (audited financial statements and audit opinion) and will issue reports without a limitation-of-use clause.

To facilitate the public disclosure process, the auditor is requested to submit two separate files as follows:

- Audited financial statements, audit opinion and report on factual findings (the latter where applicable).
- Management Letter.

8. Appendices

[list as applicable]

Appendix: Financing/grant agreement(s) Appendix: Letter to the Borrower

Appendix: IFAD Handbook on Financial Reporting and Auditing of IFAD-financed Projects

Signed by:

Date:

21.8 Travel advance report

TO BE INSERTED BY APD PMU

21.9 Illustrative financial statements

[PROJECT NAME]
ANNUAL FINANCIAL STATEMENTS
FOR THE 12 MONTH PERIOD ENDING xxx

[THIS ILLUSTRATION IS BASED ON A NEW PROJECT. FOR EXISTING PROJECT, DISCLOSE PRIOR PERIOD COMPARATIVE INFORMATION AND CUMULATIVE INFORMATION ON S&U STATEMENT]

Table of content:

1. Background
2. Management Statement
3. Audit report
4. Statement of Cash Receipts and Payments
5. Budget to Actual Comparison
6. Accounting policies
7. Notes to the financial statements
8. Designated account statement
9. Designated account reconciliation
10. Withdrawal application summary
11. Fixed asset register
12. Action tracker (supplementary)

Background

Insert Project background information

- *Indicate Project start date*
- *Indicate reporting lines*
- *Provide overview of categories and components and indicate responsible IAs*
- *Provide description of Project activities*
- *Status update*
- *Indicate the relevant legislation governing the Project activities*
- *Overview of financing facilities – see table below:*

Source of funds	IFAD Grant	IFAD Loan	GCF Loan	GCF Grant
<i>Facility/agreement number</i>				
<i>Amount approved (indicate currency)</i>				
<i>Undrawn balance at period end</i>				
<i>If applicable, interest rates and repayment periods</i>				
<i>Restrictions on use of funds (e.g. designated account workings, authorised allocation)</i>				

Management Statement

Insert management responsibility statement

Audit report (illustrative only)**Independent Auditor's report (Provided on Auditor letterhead)**

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Community Based Agricultural Support Project Plus funded by the International Fund for Agricultural Development (loans xxx and grants xxx). The financial statements comprise of the Statement of Cash Receipts and Payments, Budget to Actual Comparison, accounting policies and explanatory notes.

In our opinion, the accompanying financial statements of JKCIP give a true and fair view of the Financial performance and cash flows for the year then ended in accordance with *IPSAS Financial Reporting Under the Cash Basis of Accounting*.

Basis for Opinion (refer to ISA705 for modifications)

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the International Ethics Standards Board for FCs' Code of Ethics for Professional FCs (IESBA code) together with the ethical requirements that are relevant to our audit of the financial statements in Republic of India, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matter

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon. We do not provide a separate opinion on these matters.

[insert matters if applicable]

Other information

The Board of Directors is responsible for the other information. The other information comprises the xxxx. Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon. In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IPSAS and for such internal control as management determines is necessary to enable the preparation of financial statements that are free

from material misstatement, whether due to fraud or error. Those charged with governance are responsible for overseeing the project's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements. Whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the project's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit or the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Public disclosure

This report has been prepared on request of the project, the International Fund for Agricultural Development, however, the report is a matter of public record and its distribution is not limited.

The engagement partner on the audit resulting in this independent auditors' report is xxx from xxxx audit firm.

Independent Assurance Report prepared for IFAD (provided on auditor letterhead)

This report represents the results and conclusions of the independent assurance engagement undertaken on behalf of IFAD.

Background

[Summarise details of financiers, facilities and amounts of funding provided for the period under review and committed in total to the project]

Audit Objectives and Scope

An assurance engagement was undertaken in line *ISAE 3000 Assurance Engagements other than audits or reviews of historical financial formation* in order to provide a report to the International Fund of Agricultural Development on the following:

1. Whether the expenditures, reported by the project are in eligible in terms of the financing agreement with the International Fund of Agricultural Development.
2. Whether the project has adhered to other terms and conditions of the IFAD Financing agreement / Letter to the Borrower/Recipient and other financial management related requirements related to maintenance of the designated account records.
3. Whether the IFAD specific disclosures are accurate and complete and agree to IFAD financial records (statements etc).

The financial information outlined in pages xxx to xxx was the subject of this assurance engagement.

Summary of work performed

The following specific work was performed in order to address the scope of work:

Preparatory

- Review financing agreements and related amendments to determine key financing terms and conditions application to the project.
- Review the Letter to the Borrower and related amendments to determine key financing terms and conditions applicable to the project.
- Obtain IFAD financial information related to the project from the IFAD finance officer, as may be appropriate and required.

Designated account statement(s) (page xxx)

- Confirm/agree that opening and closing bank balances (in USD and INR) disclosed on the designated account statement(s) agree to the bank account statement and that such balances reconcile with disclosures in the notes the financial statements.
- Recalculate the closing balance of the designated account statement (in USD and INR). • Confirm/agree that the dollar denominated amounts disclosed have been accounted for in USD at the historical exchange rate, in line with the procedure as outlined in the IFAD Financial Administration Manual (available on IFAD website).
- Recalculate the foreign exchange gain / loss as included in the designated account statement and agree to the amount disclosed in the Statement of Cash Receipts and Payments.
- Agree replenishments / transfers and direct payments to the bank account statement and IFAD historical transaction information.
- Confirm amounts disclosed for withdrawal applications agree to the information disclosed on the withdrawal application summary.

Designated account reconciliation(s) (page xxx)

- Confirm the accuracy of the reconciliation.
- Confirm that the designated account has been managed in line with the provisions of the financing agreement / Letter to the Borrower.
- If applicable, review and determine the reasonability of the explanation for variance as disclosed on the designated account reconciliation.
- Agree disclosed amounts to supporting documentation (bank statements / IFAD historical financial information).

Withdrawal application summary

- Determine whether goods and services have been purchased through the SOE mechanism in line with the stipulated SOE threshold.
- Determine whether the expenditures claimed through SOE procedures were properly and appropriately authorized, classified and supported by audit documentation.
- Select a sample of withdrawal applications and confirm the accuracy of the disclosures to the underlying documentation submitted to IFAD.
- Test a sample of project expenditure transactions from the withdrawal applications and confirming eligibility of expenditure / adequacy of supporting documentation. Summarise all ineligible expenditures identified in the conclusions section.

Fixed asset register (page xxx)

- Select a sample of fixed assets from the fixed asset register and confirm the accuracy and completeness of the information included in the fixed asset register.
- Select a sample of project assets from the floor and confirm that the asset is accurately recorded in the fixed asset register.

Community Group expenditure (Investment Projects)

- Select a sample of competitive grants made to Community Groups in line with investment projects.
- Design and perform procedures to confirm whether community group expenditure is made in line with approved investment projects and for eligible expenditure as defined in the financing agreement. (expenditure also included in the approved AWPB).
- Confirm beneficiary contributions (both in cash and in-kind)

Other

- Confirm the degree of compliance with the recipient's procurement policy and identify non-compliance.

Conclusions on procedures performed

[Summarise findings of procedures]

Management letter

Other issues related to internal control weaknesses are included in the management letter issued on xxx.

[Signed by engagement partner]

Statement of Cash Receipts and Payments

MINISTRY of AGRICULTURE PROJECT NAME LOAN NO: XXXXXXXXX GRANT NO: XXXXXXXXX STATEMENT OF CASH RECEIPTS AND PAYMENTS XX.XX.XXXX-XX.XX.XXXX (In Curnecy)			
		Current Year	Previous Tear
	NOTES	Receipts/Payments	Receipts/Payments
RECEIPTS	5		
IFAD LOAN			
IFAD GRANT			
GCF LOAN			
GCF GRANT			
GOVERNMENT CONTRIBUTIONS			
BENEFICIARY CONTRIBUTIONS			
TOTAL RECEIPTS			
PAYMENTS			
OPERATIONS			
Salaries and Allowances			
Vehicles and Operating Costs			
TRANSFERS			
Grants and Subsidies			
INVESTMENTS			
A-Civil Works			
B- Equipment and Materials			
C- Goods, Services, and Inputs			
D- Consultancies			
E-Trainings&Workshops			
OTHER PAYMENTS			
TOTAL PAYMENTS			
CASH BEGINNING OF YEAR			
INCREASE/(DECREASE) CASH			
CASH AT END OF YEAR			

Prepared by

Controlled by

Approved by

Finance Specialist

Finance Manager

Project Director

Budget to Actual Comparison

(Note: This disclosure is not mandatory in terms of IPSAS Cash given that the JKCIIP budget is not publicly disclosed, however, IFAD requires this disclosure in terms of the IFAD Handbook on Financial Reporting and Auditing of IFAD-Financed Projects)

Name of recipient: _____ Grant number: _____

Name of project: _____

Reporting period from _____ to _____ in _____ (currency)⁴⁷

Description	Current semester			Year to date			Cumulative		
	Actual	Planned	Variance %	Actual	Planned	Variance %	Actual	Planned	Variance %
	1	2	3=1/2	4	5	6=4	7	8	9=7/8
Sources of funds									
IFAD grant – EU fund									
IFAD grant – Other									
Counterpart fund									
Other donor									
Total sources of funds									
Uses of funds									
1 By components									
1.1 List subcomponents									
2 By expenditure category									
2.1 List categories									
Subtotal									
Non-IFAD or EU									
Total uses of funds									

We hereby certify that the receipts from IFAD have been expended for eligible expenditures for the proper execution of the project, in accordance with the terms and conditions of the agreement dated _____.

Name and title: _____

Dated: _____

SOE preparation tips

- Include expenditures incurred by sub-grantees (if applicable).
- Use the same currency as specified in the grant agreement (euros are used if it is an EU grant).
- Signed by an authorized signatory.
- Current semester covers eligible expenditures (actual) and the semi-annual budget (planned) for the semester.
- Year-to-date covers eligible expenditures (actual) and the annual budget (planned) during the year.
- Cumulative-to-date covers eligible expenditures (actual) and total allocated budget (planned) from the beginning until the current semester.
- Include legal commitments.
- Disclose income generated from advance withdrawals.
- Specify whether expenditure was in cash or in kind.

Accounting policies

1. Definitions

- *Designated account* – Ring-fenced, foreign denominated bank account which is maintained on behalf of the entity. The entity may receive replenishments from the direct account in line with the working as outlined in the IFAD Disbursement Handbook.
- *IFAD* – International Fund for Agricultural Development
- *Revolving account* – An account which maintains a record of all cash advances made for staff or Project expenses which are either returned to the Project or justified by valid expenditure documentation.
- *Borrower* – The Borrower is the Government of Republic of India

2. Reporting entity

The financial statements are for JKCIP. The Project is managed centrally by PMU and has operations in various states which are reported on as a single entity.

3. Reporting period

These financial statements include a 12-month reporting period for the current and prior year with additional cumulative disclosure (from Project inception) provided in the notes where appropriate.

4. Basis of preparation

The financial statements have been prepared in accordance with the Standard. The entity complies with all the requirements as outlined in Part 1 of the Standard and as described in the accounting policies. In addition, the entity has elected to adopt the following recommended disclosures in line with Part 2 of the Standard:

- Payments of Third Parties on behalf of the entity (*refer 16. Voluntary Disclosure*)

5. Authorisation date

These financial statements have been authorised for issue by the Project Director on [xxx]. No events after this date are included in the financial statements.

6. Presentation currency and level of precision

The presentation currency is the local currency, USD. Where appropriate, the designated account balances are reported in USD. The amounts are displayed in million (INR) unless otherwise specified in the notes. Additional note disclosures may quote US Dollar amounts if loans or grants from financiers are denominated in US Dollar.

8. Comparative information

It must be noted that, due to the first-time adoption of the Standard, comparative results presented for the period ending xxx (and cumulative results where applicable) was not prepared in line with the Standard. Where practical and material, adjustments have been made to align prior period (and cumulative results) with the IPSAS Financial Reporting under the Cash Basis of Accounting

9. Composition of the annual financial statement

The financial statements comprise the Statement of Cash Receipts and Payments, the Budget to Actual Comparison and the notes. The notes include various other disclosures which are required by external financiers, including IFAD, which may

enhance fair presentation and accountability. Additional, supplementary information is indicated as such.

11. Control of cash

In line with the Standard, cash balances reported at the end of the reporting period include all cash which the entity can use or otherwise benefit from at the exclusion of other. Therefore, cash will include all IFAD designated account balances which are maintained in foreign currency (USD) to which access is restricted in line with the financing agreement entered into between the Recipient and IFAD.

12. Materiality and disclosure

The Project discloses material information separately on the face of the financial statements or in the notes. The materiality is assessed in line with the nature and amount of the item. In all instances, payments of third parties on behalf of the Project is considered material and disclosed separately. This will include payments made on behalf of the Project to third parties or received "in-kind". – refer "16. *Voluntary disclosure*"

13. Classification of transactions

Uses of cash receipts are disclosed in line with categories as defined in the Project financing agreements. Additional useful disclosures in terms of components are provided in the notes to the financial statements. Receipts of funds are disclosure based on the source of finance.

14. Foreign currency

Cash receipts and payments arising from transactions in foreign currency are incorporated in the financial statements Statement of Cash Receipts and Payments in INR by applying to the foreign currency amount the spot exchange rate between the reporting currency and foreign currency at the date of the receipts/payments. The spot rate is defined as the rate of exchange for immediate delivery.

Closing cash balances held in foreign currency are translated to INR the spot rate on the last day of the reporting period. Resulting foreign gains / losses are reported as a reconciling item on the Statement of Cash Receipts and payments. Further information with regard to the gains/losses per financier is disclosed in the notes.

[COMMENT ON USE OF FIFO]

15. Additional note disclosures – accrual basis

The notes to the financial statements provide additional information about liabilities and assets which are not presented on the Statement of Cash Receipts and Payments or Budget to Actual Comparison. These may include contingent liabilities related to suppliers, advance payments from contractors, staff loan receivable and any other material items which will enhance the fair representation of the financial statements.

16. Voluntary adoption of Part 2 of the Standard – Payments made to 3rd parties on behalf of the Project

In line with Part 2 of the Standard, the Project shall disclose payments made on its behalf to 3rd parties. For the Project, this disclosure deals specifically with payments made by the Recipient/beneficiaries for items such as salaries and xxx. Additional note disclosure is provided which outlines the total of such amounts for the period, the nature of activities paid for and the manner in which management has arrived at a value for such payments. In the event that management is of the opinion that the estimation or value may not be fully reflective of the total value received, this will be indicated in the notes.

Sources and uses of funds statement

		Current period	Previous period	Cumulative
<i>Presentation currency</i>		<i>Local currency</i>	<i>Local currency</i>	<i>Local currency</i>
Sources of funds				
IFAD	<ul style="list-style-type: none"> • Loans: replenishments • Loans: direct payments • Grants 			
Cofinanciers	<ul style="list-style-type: none"> • Financier A loan • Financier A grant • Financier B loan • Financier B grant 			
Borrower/recipient	<ul style="list-style-type: none"> • Borrower contributions cash • Borrower contributions in kind 			
Total sources of funds				
By category IFAD	<ul style="list-style-type: none"> • Category 1 • Category 2 			
By category Cofinanciers	<ul style="list-style-type: none"> • Category 1 • Category 2 			
By category Borrower/recipient	<ul style="list-style-type: none"> • Category 1 • Category 2 			
By category Other	<ul style="list-style-type: none"> • Category 1 • Category 2 			
By component				
By component IFAD	<ul style="list-style-type: none"> • Category 1 • Category 2 			
By component Cofinanciers	<ul style="list-style-type: none"> • Category 1 • Category 2 			
By component Borrower/recipient	<ul style="list-style-type: none"> • Category 1 • Category 2 			
By component Other	<ul style="list-style-type: none"> • Category 1 • Category 2 			
Total uses of funds				
Surplus/deficit				

Preparation tips

- Present the cumulative period covering the full project period.
- Present the uses of funds in terms of categories and components (as specified in the financing agreement).
- Present loans and grants separately.
- Present sources separately for each financier.

Designated account statements

			US\$ (or as otherwise denominated)	Local currency equivalent (optional)
Opening balance	Notes		A	A
Add:				
1 IFAD replenishments:				
Date	WA No	XXX		
Date	WA No	XXX		
			B	B
2 Bank interest			C	C
Deduct:				
1 Transfers to operating accounts:				
Date	XXX			
Date	XXX			
			E	E
2 Bank charges			F	F
3 Exchange rate differences				G
Closing balance			A+B+C-E-F	A+B+C-E-F-G

Designated account reconciliations

For the year ended 20XX

IFAD financing agreement number: _____

Bank account number: _____

	Denomination currency	Local currency (if applicable)
Section 1		
1 Total advanced by IFAD	A	
2 <u>Less</u> total amount recovered by IFAD	-B	
3 = Outstanding amount advanced by IFAD	C	
Section 2		
4 Balance of Designated Account according to the bank statement		
5 <u>Plus</u> balance of operating accounts	D	
<u>Plus</u> cash on hand	E	
= Total bank balances as at xxxx	= D+E	
6 <u>Plus</u> amount claimed in this application	+F	
WA xx		
WA xx		
7 <u>Plus</u> amounts withdrawn and not yet claimed	G	
WA xx		
WA xx		
Provide reasons for not yet claimed.		
8 <u>Plus</u> amounts claimed in previous applications and not yet credited at the bank statement date, or claimed after the bank statement date	H	
<i>Application number</i> <i>Date</i> <i>US\$</i> <i>Amount</i>		
_____ _____ US\$ 0		
_____ _____ US\$ 0		
_____ _____ US\$ 0		
9 <u>Less</u> : interest earned	I	
10 = Total advance accounted for (D+E+F+G+H-I)	=J	
11 Explanation of difference between outstanding advance (line 3) and advance accounted for (line 10)	C - J	
<i>Insert explanations</i>		

Date: _____ Signature: _____

Name in Full: _____

Title in Full: _____

Withdrawal application summary

For the year ended

Withdrawal application number	Date	Category 1 ⁴²	Category 2	Category 3	Total	Designated Account currency equivalent ⁴⁴	Value date ⁴³	Rejected by IFAD	Net reimbursed
		<i>In local currency – xxx</i>					<i>In designated account currency</i>		
Section A: Payment method – Replenishment									
Approved withdrawals									
Pending submission									
Subtotal (A)									
Section B: Payment method – Reimbursement									
Approved withdrawals									
Pending submission									
Subtotal (B)									
Section C: Payment method – Direct payment									
Approved withdrawals									
Pending submission									
Subtotal (C)									
TOTAL									
(A+B+C)									

Preparation tips

- The Designated Account currency equivalent is determined using the historical exchange rate for transfers to the operating account.
- The subtotal for approved withdrawals should reconcile to the statement of receipts and payments (cash basis disclosure) and sources and uses of funds statement.

⁴¹ Applicable to projects under IFAD's General Conditions. For grants under the General Provisions for Grant Financing, refer to IFAD [Grant Forms](#).

⁴² Categories as outlined in schedule 2 of the financing agreement.

⁴³ The exchange rate value date is to be specified.

⁴⁴ The Designated Account currency is to be specified.

21.10 Appendix 1

Financial: actual financial performance by financier; by component and disbursements by category

Table 1: Financial performance by financier (USD `000)

Financier	Appraisal	Disbursements	Percent disbursed
IFAD Grant			
IFAD Loan			
GCF Grant			
GCF Loan			
FAO			
Government			
Beneficiaries			
Total			

Table 2: Financial performance by financier by component (USD `000)

Component	IFAD Loan			IFAD Grant			GCF Loan			GCF Grant			Government			Beneficiaries		
	Appraisal	Actual	%	Appraisal	Actual	%	Appraisal	Actual	%	Appraisal	Actual	%	Appraisal	Actual	%	Appraisal	Actual	%

FAO			Total		
Appraisal	Actual	%	Appraisal	Actual	%

Table 3: IFAD Loan disbursements (USD, as at [Insert date: dd-m-yy])

Category	Category description	Original Allocation	Revised Allocation	Disbursement	W/A pending	Balance	Per cent disbursed
I							
II							
III							
IV							
	Initial deposit						
	Total						

Present separate table for each IFAD managed finance facility (IFAD Loan, IFAD Grant) and for each GCF financing (Loan, Grant)

21.11 Vehicle and fuel documents

Waybill

PMU to add copy of the used/standard waybills

Itinerary list

Itinerary list for the period:

Driver:

Vehicle type:

Starting Speedometer reading _____ as at _____

Date	Time		Name	Trip purpose	Mileage, km		Signature	
	from	to			post	prior	Passenger	Driver

Starting Speedometer reading _____ as at _____

Vehicle History Record

Vehicle registration number _____

Assigned driver _____

Date	Repairs			Service & maintenance			Insurance			Fitness tests	
	Description of repair	Garage	Cost	Description of service	Garage	Cost	Type	Period covered	Cost	Check ed by	Cost

Report accidents in the space below, providing all relevant details for each occurrence:

- Date:
- Place:
- Name of driver:
- Circumstances:
- Damage to project vehicle:
- Damage to other vehicles:
- Injuries (indicate name of victims and describe injuries):
- Insurance settlement:

21.12 Implementing partners – MOU terms

To be used/amended as applicable.

APD PMU will enter into MOUs with other Implementing partners. The following recommended financial management roles and responsibilities are proposed for inclusion:

PMU shall:

- ✓ Provide financial management support to the implementing agency;
- ✓ Ensure that implementing agency performs its duties and enjoys rights indicated in the Memorandum.
- ✓ Provide financial management training at project start-up and annually thereafter in order to strengthen the financial management capacity of the implementing agency.

The implementing agency shall:

- ✓ Implement sound financial management practices and procedures to the satisfaction of the PMU.
- ✓ Ensure that all financial management staff responsible for dealing with the JKCIP attend financial management training (hosted by PMU) at project start-up and annually thereafter.
- ✓ Ensure that a qualified and experienced FC is responsible for dealing with the financial management aspects of the JKCIP for the duration of the MOU.
- ✓ Inform the PMU Financial Manager of any finance staff vacancies.
- ✓ Perform an annual financial management self-assessment (questionnaire template to be provided) and submit the results to the PMU Financial Manager. Cooperate with the PMU Financial Manager to address identified shortcomings within a specified timeframe.
- ✓ Assist the PMU with the annual budgeting process by preparing a budget for the component/sub-component which it is required to implement. For this purpose, the PMU Financial Manager will provide a budget template which should be used. In addition, strictly adhere to deadlines for submission of inputs.
- ✓ Retain all project related document (invoices, bank statements, supporting documentation) for inspection. Documents should be retained in line with the terms and conditions as outlined in the IFAD General Conditions for Agricultural Development Financing.
- ✓ When required, submit written request for funds in line with the template included in the FMFCL & [21.14](#). Written requests should be signed by the duly authorized representatives. Request letters should clearly indicate the related budget activity as included in the PMU approved AWPB (and related procurement plan).
- ✓ Prepare and submit a monthly report for IFAD in line with the template included in [21.13](#). Attach original bank statements and original supporting invoices/documents to the monthly report (documents to be returned after review by PMU).
- ✓ Use the monthly report to IFAD for the purposes of internal monitoring of budget to actual performance. Take corrective action as required.
- ✓ Respond to queries / resubmit information as requested by the PMU Disbursement Officer or Financial Manager in a timely manner.

Report I: Summary of Uses of Funds

Name of the Project: Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)

IFAD Instrument number:

List other instruments if applicable

For the Period:

Starting Date

TO

End Date

\	REF	IFAD Loan		
		Actual for Period	Actual For Year To-Date	Actual Since Inception To-Date
		A	B	C
Currency				

Uses of Funds by Category:

Civil Works

Goods, Services and inputs

Training and workshops

Grants and Subsidies

Salary and Operating costs

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Total Funds Used by Categories

II

-

-

-

Uses of Funds by Component:

1. Component 1: Climate-smart and market-led production
Component 2: Agri-business ecosystem development
Component 2: Agri-business ecosystem development
Component 4: Project Management

Total Funds Used by Component (must be equal to II)

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

III

Report II: Funds Reconciliation Statement

Name of the Project: Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)

IFAD Instrument number:

List other instruments if applicable

For the Period:

-
[Starting Date](#)

	IFAD Loan
	Currency
PART I (Funds Status)	
1. Cumulative project expenditure since inception to date	-
2. Cumulative funds received from IFAD till the end of reporting period	-
3. Funds receivable from IFAD (Line 1 minus Line 2)	-
PART II (Receivable from IFAD)	
4. Total of Withdrawal Applications submitted but not yet cleared by IFAD (if not zero, give details below)	-
5. Add/Subtract - Adjustments (if any)	-
6. Expenditure claimed as Reimbursement for the current reporting period	-
7. Funds required as Withdrawal from IFAD (Line 4 Plus Line 5 Plus Line 6)	-

8. Difference, if any (Line 3 minus Line 7). (If not zero, please provide explanation)	-

<i>Details for Line 4: WAs submitted but not yet cleared by IFAD</i>	<i>WA Ref No.</i>

TOTAL

<i>Explanation for Line 5 (if not zero):</i>	<i>IFR & WA Ref.</i>

<i>Explanation for Line 8 (if not zero):</i>	<i>IFR & WA Ref.</i>

Name of the Project: Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)

IFAD Instrument number:

List other instruments if applicable

For the Period:

FY Start Date

To

End Date

	IFAD Loan			
	Planned	Actual	Balance	
	A	B	C=A-B	D=B/A
	<i>Ref: AWP/ Forecast</i>	<i>Actual Cumulative year todate</i>	<i>AWPB Available Balance</i>	<i>Actual Progress against AWPB</i>
	Currency			%age
Expenditure by Categories:				
	-	-	-	
Civil Works	-	-	-	
Goods, Services and inputs	-	-	-	
Training and workshops	-	-	-	
Grants and Subsidies	-	-	-	
Salary and Operating costs	-	-	-	
	-	-	-	
TOTAL I	-	-	-	
Expenditure by Components:				
	-	-	-	
1. Component 1: Climate-smart and market-led production	-	-	-	
Component 2: Agri-business ecosystem development	-	-	-	
Component 2: Agri-business ecosystem development	-	-	-	
	-	-	-	

Component 4: Project Management	-	-	-	
	-	-	-	
TOTAL II (must be equal to I)	-	-	-	

** Note: Provide reasons if the Cash Forecast is over and above AWPB Balance (i.e. the Forecast includes the Quarter 1 of the Subsequent AWPB)*

Chapter 6: Procurement

The draft PIM is prepared during the design process for the project. This needs to be confirmed by the LPA and the final PIM to be submitted to IFAD for review and approval. Any revisions to the PIM, requires IFAD review and no objection.

Applicability of Procurement Guidelines

Procurement of goods, works and services under the project financed from resources provided or administered by IFAD will be undertaken in accordance with IFAD's Procurement Guidelines and Handbook (dated December 2020) and as amended from time to time. (The IFAD Procurement Guidelines can be accessed from https://www.ifad.org/documents/38711624/39421027/procure_e.pdf/e1a99511-d57d-4695-a05b-3d9b597d0149 and the IFAD Procurement Handbook can be accessed from https://www.ifad.org/documents/38711624/39421018/proc_handbook_e.pdf/2febc53a-4244-4447-a788-d06a632fd3b5). In the absence of national law which safeguards the interests of transparency, fairness, and grievance redressal of the participating bidders/suppliers, IFAD Procurement Guidelines shall be followed both at the central level (PMU) and at the decentralised level by all implementing parties.

IFAD recommended Project Procurement related documents could be accessed at <https://www.ifad.org/en/project-procurement>

Overarching guidelines for Project Procurement

Transparency, Competition, Fairness and Elimination of Arbitrariness

Public buying should be conducted in a transparent manner to bring competition, fairness and elimination of arbitrariness in the system. This will enable the prospective bidders to formulate competitive bids with confidence. The following are some important measures to achieve the same and, thus, secure best value for money:

(a) The text of the bid document/Request for Proposals (RFP) should be user-friendly, self-contained, comprehensive, unambiguous, and relevant to the objective of the procurement. The use of terminology used in common parlance in the industry should be preferred.

(b) The specifications of the required goods should be framed giving sufficient details in such a manner that it is neither too elaborately restrictive as to deter potential bidders or increase the cost of purchase nor too sketchy to leave scope for sub-standard supply. The specifications must meet the essential requirements of the project. Efforts should also be made to use standard specifications, which are widely known to the industry.

(c) The bid document/Request for Proposals should clearly mention the eligibility criteria to be met by the bidders such as minimum level of experience, past performance, technical capability, manufacturing facilities, financial position, ownership or any legal restriction etc.

(d) Restrictions on who is qualified to bid should conform to extant Government policies and be judiciously chosen so as not to stifle competition amongst potential bidders.

(e) The procedure for preparing and submitting the bids/RFP; deadline for submission of bids/proposals; date, time & place of public opening of bids/proposals; requirement of earnest money and performance security; parameters for determining responsiveness of bids; evaluating and ranking of bids and criteria for full or partial acceptance of bid and conclusion of contract should be incorporated in the bid enquiry in clear terms.

(f) Bids should be evaluated in terms of the criteria already incorporated in the bid document, based on which bids have been received. Any new condition, which was not incorporated in the bid document, should not be brought into consideration while evaluating the bids.

(g) Sufficient time should be allowed to the bidders to prepare and submit their bids.

(h) Suitable provisions should be kept in the bid document allowing the bidders reasonable opportunity to question the bid conditions, bidding process, and/or rejection of its bid and the settlement of disputes, if any, emanating from the resultant contract.

(i) It should be made clear in the bid document that bidders are not permitted to alter or modify their bids after expiry of the deadline for receipt of bid till the date of validity of bids.

(j) Negotiations with the bidders for procurement of goods and works must be avoided. In case of consultancy services negotiations should be conducted with the highest combined ranked consultant, to clarify certain aspects of reporting, agreement on the Accountability Matrix and to confirm the team of experts proposed. For negotiations with the consultants, please refer to the Guidelines for negotiations.

(k) The name of the successful bidder to whom the contract is awarded should be appropriately notified by the PMU for the information of general public, including display at notice board, periodical bulletins, website etc.

Efficiency, Economy and Accountability:

Public procurement procedures must conform to exemplary norms of best practices to ensure efficiency, economy and accountability in the system. To achieve this objective, the following key areas should be taken care of:

(i) To reduce delays, PMU should prescribe appropriate time frame for each stage of procurement; delineate the responsibility of different officials and agencies involved in the purchase process and delegate, wherever necessary, appropriate purchase powers to the lower functionaries with due approval of the competent authority.

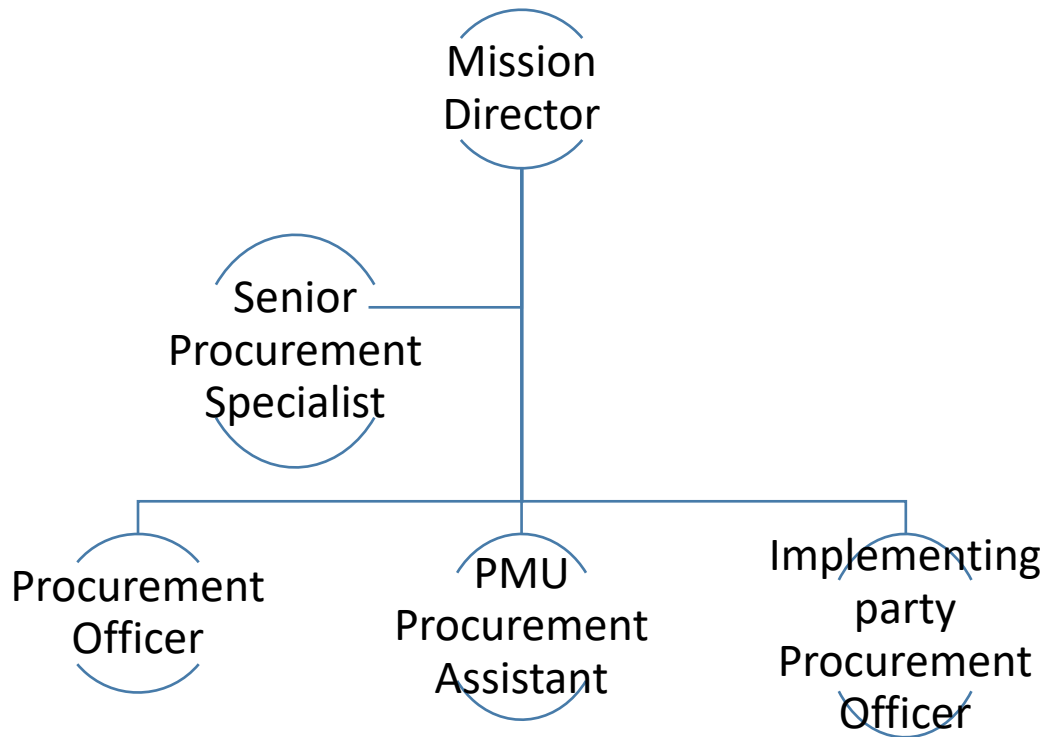
(ii) PMU should ensure conclusion of contract within the original validity of the bids. Extension of bid validity must be discouraged and resorted to only in absolutely unavoidable, exceptional circumstances with the approval of the competent authority after duly recording the reasons for such extension.

Eligibility

Firms/entities/individuals from any country are eligible to participate in this Project, except: (i) as a matter of law or official regulation, India prohibits commercial relations with that country, or (ii) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, India prohibits any import of goods from, or payments to, a particular country, person, or entity. Where India prohibits payments to a particular firm or for particular goods by such an act of compliance, that firm may be excluded; and (iii) those who are included in the IFAD's debarred list or common debarment list agreed with other IFIs.

Institutional Setup

Organogram of Procurement Unit



The Terms of Reference of the Procurement Staff are indicated in **Annexure-3**.

Procurement powers of Principal Secretary and Mission Director

Description	Principal Secretary – APD	Mission Director
Approval of the Procurement Plan and revisions/upgrade	Full powers	
Office consumables		
Procurement of goods and related services (Direct contracting)		
Procurement of works and related services (Direct contracting) for PMU and MPAs		
Procurement of Individual consultants for short term (not exceeding 6 months) on single source selection		
Procurement of individual consultants on competitive selection		
Procurement of goods under shopping		
Procurement of works under shopping		
Procurement of goods under competitive bidding		

Procurement of works under competitive bidding		
Procurement of consultancy services under competitive bidding		
Amendment to contracts		
Approval of Implementation Grants to Community Institutions		
Non-financial Memorandum of Understanding		
MoA with Government agencies/Departments		

Procurement Powers of Directors of Implementing Parties

Description	Director/HoD of implementing parties
Office consumables	Upto
Procurement of goods and related services (Direct contracting)	
Procurement of works and related services (Direct contracting) for MPAs	
Procurement of goods under shopping	
Procurement of works under shopping	
Amendment to contracts	

Engagement of Key Staff

The Financing Agreement will designate the staff considered as "Key Staff" for project implementation. Typically, staff responsible for financial management, procurement, M&E and SECAP related compliance, besides the Mission Director are considered as 'Key Staff'. Key PMU staff can be recruited using a consulting contract which is subject to IFAD No objection. The recruitment must follow an open, competitive and transparent process. The terms of reference, engagement process (advertisement, evaluation of CVs, shortlisting and final selection) will require IFAD no objection.

Secondment of Government officials to project

The government official is seconded to a temporary assignment in an IFAD funded project. The terms of this assignment depend on the government's internal regulations and policy. S/he needs to fulfil the technical and managerial requirements as stipulated in the terms of references of the approved project implementation manual. In addition, the Government should confirm that the seconded official is having vigilance clearance from the respective department. While the seconded official positions are indicated in the Cost Tables and the salary and allowances for the position are borne by the Government share. The seconded official could receive travel and DSA for the travels on account of project implementation and any other additional allowance, the Government may agree for the project staff. If a Government official is seconded for the PMU Key staff, IFAD prior review and no objection is required.

Any contract signed for PMU staff shall be compliant with national labour regulations/rules and the ILO Core Labour standards (whichever is more stringent) in order to satisfy the conditions of IFAD's updated SECAP. Repeated short-term contracts must be avoided unless appropriately justified under the project's circumstances.

Procurement implementation

The Procurement Unit is the primary responsible unit for preparing and implementing the procurement activities under the project. The Unit should have physical and/or electronic copy of the following:

1. IFAD Procurement Guidelines, 2020
2. IFAD Procurement Handbook, 2020
3. Initial and all updates of the Project Procurement Arrangements Letter issued by the IFAD.
4. Financing Agreement and its amendments
5. Project Agreement
6. Project Implementation Manual approved by IFAD
7. IFAD Standard Bidding Documents and templates

Immediately after signing of the Financing Agreement and Project Agreement, the Procurement Unit should prepare and issue General Procurement Notice (GPN). Template for GPN is included in IFAD templates. GPN could be advertised in leading newspapers and the website of the project.

Responses from interested suppliers/bidders should be organised under each of the Procurement Groups and when the procurement activity is implemented, ensure that the interested suppliers are notified to participate in the bidding process, if still interested.

Procurement Methods

The following are the procurement methods are applicable for each category of the project procurement during implementation:

Goods and goods related non-consultancy services:

1. International Competitive Bidding
2. Limited International Bidding
3. National Competitive Bidding
4. National Shopping or Local Shopping
5. Single Source Selection
6. Procurement from UN agencies

Works and works related non-consultancy services

There are no works under the project which requires International Competitive Bidding or Limited International Bidding. Hence all procurement methods for works are within the country.

1. National Competitive Bidding
2. National shopping or Local Shopping
3. Single Source Selection

Consultancy Services

1. Quality and Cost Based Selection (QCBS)
2. Quality Based Selection (QBS) with proper justification
3. Fixed Budget Selection
4. Least Cost Selection
5. Consultants Qualification Selection (CQS)
6. Individual Consultants
7. Direct Contracting (Individuals & Firms)

The procedure for undertaking each of the procurement/selection methods are indicated in IFAD Procurement Handbook.

Procurement thresholds

The thresholds for each of the procurement/selection methods will be updated as per the Project Procurement Arrangements (PPA) Letter issued by IFAD. The thresholds could also be seen in IFAD OPEN portal.

Procurement Planning

Planning is a critical part of the procurement process that enables objectives and priorities to be properly set, workloads to be estimated and resources allocated. The procuring entity needs to plan, organize, project and schedule its procurement activities and to identify potential areas for the pooling of needs.

Planning also provides the Lead Project Agency/Government/IFAD with an important tool for monitoring project implementation. Insofar as possible, procurement planning should be integrated with financial planning so that budgets and procurement needs are synchronized insofar as practical.

Any item/activity, which is not included in the relevant AWPB or Procurement Plan will not be eligible for IFAD financing. Therefore, updates/upgrades of the Procurement Plan is essential.

The Procurement Plan will be prepared, upgraded, updated in IFAD End-to-End Procurement System (OPEN) (<https://open.ifad.org>).

As soon as the Project is declared effective and procurement staff at PMU are engaged, a communication with the following details to be sent to IFAD for obtaining user credentials for nominated staff:

First name	Surname	Job Title	Role	Email	Mobile No.
			Mission Director		
			Sr. Procurement Specialist		
			Procurement Officer		
			Procurement Assistant		
			Other Project Staff		

Only Mission Director and Procurement Staff will have access to create, modify, update and undertake implementation of procurement activities. Nominated project staff will only be able to view. The nomination of Procurement and Project Staff will be done by the Mission Director and the nomination of Mission Director will be done by the Principal secretary, APD.

The Quick cards to assist the Procurement Staff to manage the activities/documents are available at <https://icp.ifad.org/wps/wcm/myconnect/icp/icp-help-en/help/Project+Procurement+-+Online+Procurement+End-to-End+-+OPEN>

The following details are required for creating a Procurement Plan:

1. Procurement Category
2. Activity title
3. Estimated budget
4. Activity description
5. Procurement method
6. Contracting arrangement
7. AWPB Reference No.
8. Sources of financing for the activity
9. Pre-qualification or post-qualification
10. Single or dual envelope

11. Implementation dates

Prior review by IFAD

In accordance with paragraphs 49, 66 and 67 of the IFAD Project Procurement Guidelines and IFAD's Procurement Handbook, the following will be subject to prior review by IFAD and requires IFAD's No Objection:

- 1 Procurement Plans submitted as part of Annual Work Plans and Budget and any subsequent amendment of these plans;
- 2 General Procurement Notices
- 3 The TOR (Job Description), Advertisement and selection proceedings for the hiring of any staff responsible for carrying out or administering procurement processes as part of the project
- 4 Award of any Memorandum of Agreement irrespective of its value
- 5 Award of any contract for goods and goods-related non-consulting services estimated to cost US\$ 100 000 or more;
- 6 Award of any contract for works and works-related non-consulting services estimated to cost US\$ 100 000 or more;
- 7 Award of any contract for consulting services provided by firms estimated to cost US\$ 50 000 or more;
- 8 Award of any contract for individual consulting services estimated to cost US\$ 10 000 or more;

9 Other considerations elaborated in the Project Procurement Arrangements Letter. In addition, the following steps of the procurement process for Goods/Works/Services also require IFAD's No Objection (NO) for contracts designated for "**prior review**" in the project's procurement plan.

	Activity / Step of the Procurement Process for Prior Review Contracts	IFAD "NO" is required
1	Call/Request for Prequalification document and related advertisement	Yes
2	REOI (Request for Expression of Interest) document for consultancy services and related advertisement	Yes
3	Terms of Reference for consultancy services and related non-consulting services	Yes, usually as part of NO request for issue of the RFP (step 9 below)
4	Technical Specifications for Goods/Works/NCS	Yes, usually as part of NO request for issue of the bid docs (step 9 below)
5	Composition of evaluation committees	Yes, usually as part of steps 9, 13, or 15
6	Prequalification report for Goods/Works/NCS	Yes
7	Shortlisting report for consultants' selection	Yes
8	The use of "prior lists" for shortlisting consultants	Yes
9	Complete Bidding Documents and RFPs and CfPs and related advertisement if applicable	Yes
10	Use of a Performance Guarantee template if other than unconditional, irrevocable and on-demand guarantee	Yes

11	Amendments to the Bidding Documents and RFPs, CfPs	Yes
12	Opening bids/quotes/proposals that are less than 3 (excluding DC/SSS)	Yes
13	Technical evaluation report (in two envelope procedures)	Yes
14	The combined evaluation report (in two envelope procedures)	Yes
15	The single evaluation report (in one envelope procedures) for Goods/Works/NCS/Consulting Services (SSS)	Yes
16	Decisions concerning abnormally low bids	Yes
17	Draft contract	Yes
18	Minutes of negotiation at award for consultancy services (where applicable) or when using DC for Goods/Works/NCS	Yes
19	Rejection of all bids/proposals and cancellation of the procurement procedure	Yes
20	Failure of negotiations and proceeding to next ranked consultant	Yes
21	Proceeding to next ranked bidder if top ranked fails to sign the contract in Goods/Works/NCS	Yes
22	Determination to reject a bid/proposal because of cross-debarment	Yes, usually as part of steps 13, 14 or 15
23	Amendments to contracts exceeding 10% in value (increase/decrease in quantities as a result of evolutionary changes). Additional unforeseen new items exceeding 10% of the contract value is a new procurement subject to Single Source/DC conditions.	Yes
24	Extension of time to contracts exceeding 25% of the original contractual duration in Goods/Works/NC Services/Consulting Services	Yes
25	Termination of a contract in Goods/Works/NC Services/Consulting Services	Yes

Constitution of Procurement Committees

For undertaking procurement actions during the preparatory phase (pre-project) and during implementation phase, the following Procurement Committees should be established. The Project has the option of establishing Standing Procurement Committee or ad-hoc Procurement Committee for each type of Procurement.

1. Bid/Proposal Opening Committee: This should have a maximum of 3 members and one member being Procurement Officer. Alternate members in case of non-availability of the initial members should also be indicated.
2. Bid/Proposal Evaluation Committee: There should be a minimum of 3 and a maximum of 5 members. Senior Procurement Specialist at PMU level and Procurement Officer at Implementing Party level will be the Member Secretary of this Committee to advise and guide the members on the procedures and prepare documentation. Members exceeding five are normally not recommended, but for complex procurement involving inter-disciplinary themes, justification with the approval of the Mission Director could be considered. All members of the Evaluation Committee shall comply to the ethical standards and sign a declaration of impartiality and confidentiality for each procurement action any perceived conflict of interest to be declared prior to start of evaluation of bids/proposals.

Preventing Fraud and Corruption in the project

The IFAD Procurement Guidelines and Anti-Corruption Policy, which are adapted to this Project through the Financing Agreement and IFAD General Conditions for Agricultural Development Financing, require zero tolerance to prohibited practices. Therefore, the procurement process also requires a strict adherence to these Guidelines and Policy.

Prohibited Practices

The Borrower and LPA, as well as bidders, potential bidders, suppliers, grant recipients, contractors and consultants financed through the proceeds of this Project, shall observe the highest standard of ethics during the selection and execution of such contracts/grants.

Pursuant to this policy, the following provisions shall be applied throughout the project implementation:

- (a) For the purpose of this provision, the terms set forth below are defined:
 - (i) "Corrupt Practices" mean the offering, giving, receiving, or soliciting directly or indirectly of anything of value to influence improperly the actions of another party.
 - (ii) "Fraudulent Practices" is any act or omission including a misrepresentation that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation. ;
 - (iii) "Collusive Practices" is an arrangement between two or more parties, designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (iv) "Coercive Practices" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party, or the property of the party to influence improperly the actions of a party.
 - (v) "Obstructive Practices" mean: deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an IFAD investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or acts intended to materially impede the exercise of the IFAD's inspection and audit rights provided for under sub-clause (e) below.
- (b) The Borrower and IFAD will reject a proposal for award if it determines that the bidder or consultant recommended for award, or any of its personnel. Or its agents, or its sub-consultants, subcontractors, service providers, suppliers and/or their employees has directly or indirectly engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
- (c) IFAD will declare mis-procurement and cancel the portion of the loan allocated to the contract if it determines at any time that representatives of the borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, coercive, collusive or obstructive practices during the procurement or implementation of the contract in question without the borrower having taken timely and appropriate action satisfactory to the DP to address such practices when they occur, including failing to inform the DP in a timely manner at the time they knew of the practices.
- (d) IFAD will declare a consultant or firm ineligible, either indefinitely or for a stated period of time, to be awarded a future IFAD financed contract if it at any time determines that the bidder, supplier, contractor, service provider or

consultant has engaged in corrupt, fraudulent, coercive, collusive or obstructive practices in competing for, or in executing, an IFAD-financed contract; and

- (e) All contracts financed out of the proceeds of Project has a provision requiring supplier, contractor or consultants to permit both the Borrower and IFAD to jointly or separately inspect their accounts and records relating to the performance of the contract and to have them audited by auditors appointed by the Borrower and/or IFAD.

All staff involved in the procurement process has a duty to report to the Mission Director and IFAD (i.e. through its Country Representative) for any suspected instances of prohibitive practices when identified.

In the case of collusive behaviour, if the evidence suggests that all or some of the bidders or consultants are involved, the evidence should be reviewed by the Mission Director, and if necessary the procurement process is cancelled and all of the involved firms or individuals are sanctioned which could be up to the debarment. If the procurement is still in process, then the procurement must be cancelled and reinitiated only after the matters have been addressed properly.

Complaint Handling Mechanisms (CHM)

There are three distinct types of complaints that are typically found in a Project; i.e., (a) complaints concerning bid protest from aggrieved contractors, suppliers, service providers and consultants, which are addressed during or immediately after the bid process, (b) performance disputes, which are governed by the General Conditions of Contract (GCC) and Special Conditions of Contract (SCC), and, (c) non procurement related complaints from any parties, which are addressed in the PIM.

A complaint is any notification regarding an alleged illegal or improper procurement action and/or conduct of procurement officials, consultants, and/or sub-contractors directly or indirectly supporting a project or associated with its implementation, which the complainant believes is wrong, either under the law or on the grounds of unacceptable behaviour.

The Lead Project Agency shall ensure the confidentiality of any complainant and shall hold harmless any person reporting a complaint, oftentimes referred to as a "whistle blower", with provisions to shield complainant(s) or public official(s) from retaliation when they provide information that they reasonably believe to be a violation of the provisions of the agreed procedures.

All procurement related complaints shall be addressed to the Mission Director, to which the LPA shall respond within 7 business days. If LPA needs more time due to complex investigation related to the complaints, then it shall state so in writing to the complainants, but in any case, a complaint shall be put into closure within 30 business days.

The complainant need not be personally aggrieved or impacted and may be acting merely in accordance with a sense of civic duty, such as an NGO or private citizen, in bringing an occurrence to the attention of project authorities.

All complaints, whether notified by persons who feel personally aggrieved or acting out of a sense of civic duty, will be acknowledged, and acted upon by responsible authorities in accordance with the procedures specified in this section.

Concerning bid protests, from time to time, with and without justification bidders, suppliers, contractors, service providers and consultants may choose to lodge a complaint concerning some aspect of the contract award process. In the event the contract has been awarded and a contractual relationship exists between the parties, there are established dispute mechanisms in the GCC that shall be followed, up to and including judicial review.

A formal mechanism to satisfactorily respond to bid protest complaints must be followed, consistent with this Manual and the steps to be followed by aggrieved bidders, suppliers,

contractors and consultants in the complaints' procedure will be specified in the Bid/Request for Proposal documents.

Complaints may also be addressed directly to IFAD, to which IFAD will resolve the complaints within its service standard.

Conflicts of Interest

A firm/entity/individual participating in a procurement process under this Project shall not have a conflict of interest. Any firm/entity/individuals found to have a conflict of interest shall be ineligible for award of a contract.

A conflict of interest is a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations, and that such conflict of interest is not acceptable under the Project. The Borrower will take appropriate actions to manage such conflicts of interest which may include rejecting a proposal for award if it determines that a conflict of interest has flawed the integrity of any procurement process.

A firm shall be considered to have a conflict of interest in a procurement process if:

- (a) such firm is providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of a project that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm.; or
- (b) such firm submits more than one bid, either individually or as a joint venture partner in another bid, except for permitted alternative bids. This will result in the disqualification of all bids in which the Bidder is involved; or
- (c) such firm (including its personnel) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved acceptable to IFAD throughout the procurement process and execution of the contract; or
- (d) such firm does not comply with any other conflict of interest situation as specified in the Bidding Documents relevant to the specific procurement process.

It is the duty of all project staff and any other public employee directly or indirectly involved with the procurement process and particularly the preparation of bid documents, bid evaluation, contract negotiations, contract management and payments to avoid any potential conflicts of interest. A conflict of interest arises when the individual has a direct or indirect relationship with a bidder, consultant, contractor, service provider or supplier.

In the event that a project staff or a member of the PC or an employee who is directly involved with the procurement process feels that there is the potential for a conflict of interest they shall declare it to the PC and remove themselves from the procurement process.

Standard of Business Ethics

All Borrower staff and consultants involved in procurement activities shall observe the Code of Business Ethics as outlined below.

No individual shall use his/her authority or office for personal gain. Personal gain includes accepting or requesting anything of material value from bidders, prospective bidders or suppliers for the individual, his or her spouse, parents, children or other close relatives, or for other persons from whom the individual might gain direct or indirect benefit of the gift.

An individual shall seek to maintain and enhance the reputation of the Government by:

- (a) Maintaining the highest standards of honesty and integrity in all relationships both inside and outside the Entity in which he works;
- (b) Developing the highest standards of professional competence; and
- (c) Using funds and other resources for which he/she is responsible to provide the maximum benefit to the Government

Conflict of interest - An individual shall declare any personal interest that may affect or might reasonably be deemed by others to affect impartiality in any matter relevant to their duties.

Disclosure of personal relationships - an individual shall declare any relationship with a bidder, supplier, contractor, service provider or consultant and shall take no part in either the decision making process or the implementation of any contract where such a relationship exists. A personal relationship is defined as consanguinity or affinity up to the third civil degree.

Confidentiality and accuracy of information - An individual shall respect the confidentiality of information gained in the course of duty and shall not use such information for personal gain or for the unfair benefit of any bidder, supplier, contractor or consultant.

Information given by an individual in the course of their duty shall be true, fair and not designed to mislead.

Competition - All bidders, suppliers, contractors and consultants shall be treated with fairness and impartiality, and avoid any business arrangement that might prevent the effective operation of fair competition.

Business gifts - No business gifts will be accepted from current or potential Government suppliers unless such gifts are of very small intrinsic value (normally below US\$ 50 equivalent).

Hospitality - An individual shall avoid any business hospitality would be viewed by others as having an influence in making a government business decision as a result of accepting that hospitality.

Reporting - All individuals have a moral and ethical responsibility to report any unethical conduct by a colleague, a bidder or a supplier to their superiors, oversight agencies, IFAD or to the auditors.

Examples of Unethical Conduct - The following are examples of the type of conduct prohibited by this Code of Ethics:

- (a) Revealing confidential or "inside information" either directly or indirectly to any bidder or prospective bidder;
- (b) Discussing a procurement with any bidder or prospective bidder outside the official rules and procedures for conducting procurements;
- (c) Favouring or discriminating against any bidder, prospective bidder or consultant in the Preparing of technical specifications, terms of reference or standards or the evaluation of bids and proposals;
- (d) Destroying, damaging, hiding, removing, or improperly changing any formal procurement document;
- (e) Accepting or requesting money, travel, meals, entertainment, gifts, favours, discounts or anything of material value from bidders or prospective bidders, suppliers, contractors or consultants;
- (f) Discussing or accepting future employment with a bidder or prospective bidder, suppliers, contractors or consultants;

- (g) Requesting any other person to violate the public procurement rules or procedures;
- (h) Ignoring evidence that the Code of Ethics has been violated; and
- (i) Ignoring illegal or unethical activity by bidders or prospective bidders, suppliers, contractors, service providers or consultants, including any offer of personal inducements or rewards or otherwise.

Preventing Sexual Harassment and Exploitation

The Fund requires that all beneficiaries of IFAD Funding, including the client and any consultants, implementing partners, service providers, suppliers, sub-suppliers, contractors, sub-contractors, sub-consultants, and any of their agents (whether declared or not) and personnel comply with IFAD's Policy to Preventing and Responding to Sexual Harassment, Sexual Exploitation and Abuse. PMU and MPAs, suppliers and consultants shall take all appropriate measures to prevent and prohibit sexual harassment and sexual exploitation and abuse on the part of their personnel and subcontractors or anyone else directly or indirectly employed by them or any of subcontractors in the performance of the contract. Client and consultants shall immediately report to the client or IFAD any incidents of sexual harassment and sexual exploitation and abuse arising out of or in connection with the performance of the contract or prior to its execution, including convictions, disciplinary measures, sanctions or investigations. The client may take measures, including immediate termination of the contract, against the consultant, its personnel or any subcontractors, if at any time the client becomes aware of proven acts of sexual harassment, sexual exploitation and abuse by the consultant and/or its personnel, directly or through an agent, in competing for, or in performance of, this contract.

PMU shall establish a Committee (with adequate representation of women) to review and recommend further steps of disciplinary measures or investigations. All complaints (anonymous or identified) should be recorded and action taken within the time limit prescribed in the national law/State law. In addition all such complaints and the action taken thereof should be reported to IFAD. The responsibility of reporting for these is with the Mission Director.

Contract Management

It is to be understood that procurement actions do not end when the contract or purchase order is signed. The contractual obligations to be followed up systematically till the intended results are achieved as a result of procurement and cessation of all legal obligations as per the provisions of the contract with the parties.

During the course of contract administration, the receipt of goods/works as per the technical specifications agreed to be monitored and any shortfall/shortcomings to be informed to the supplier and made good. For Consultancy services, the contract management acquires importance as any delay in achievement of deliverables as per the timeline agreed, impact the project implementation. As per the Responsibility Matrix (Annex 1) the contracts to be closely monitored for satisfactory performance and occurrence of any force majeure conditions. Each payment to the consultancy services should be properly validated against the contract provisions and deviations should be communicated to the party, in writing. If unsatisfactory performance continues, appropriate actions to be initiated with strict adherence to the contract. Frequent change of staff without justification should be viewed as non-performance and action to be initiated for suspension/termination.

All disputes related to the contract should be resolved through mutual consultation and if unresolved disputes persist, arbitration process, as per the national law, should be initiated. All contractors should sign an undertaking that without exhausting the arbitration procedures, no judicial intervention should be proceeded. The results of arbitration will be subject to judicial review.

The end date of the contracts should be closely monitored and if any amendment/extension is warranted, these should be taken up sufficiently in advance. Amendment or extension of contracts, which lapsed, should be strongly discouraged.

IFAD Client Portal-Contract Monitoring Tool (ICP-CMT)

All contracts irrespective of value should be entered into IFAD Client Portal-Contract Monitoring Tool. ICP-CMT is an online tool, which is dynamic and enables good data harvesting and analysis.

For access credentials, the Project should request IFAD by nominating users.

The Senior Procurement Specialist and the Procurement Officer should monitor and update the contract details till completion and closing of contracts. Exceptions and Cost over-run items should be reported to the Mission Director.

Appendix: C6A1: Responsibility Assignment Matrix

Task	Component heads	Procurement Officer	Senior Procurement Specialist	Mission Director
Preparation of AWPB	R			A
Preparation of Procurement Plan and upload in OPEN	C		R	A
Update/upgrade of PP		R	R	
Monitoring achievement/delays in PP			R	A
Initiation of implementation	C		R	
Finalisation of ToR, technical specifications	R	I	I	A
Preparation of RFQ/RFP/Bid documents		R	R	A
Organise pre-bid meetings	C	R	R	
Issuing addendum/corrigendum/clarifications to the prospective bidders	C	R	R	A
Safe custody of bids/proposals received			R	
Organise bid opening meetings and preparation of minutes		R	I	
Preliminary/administrative eligibility evaluation		R	C	
Constitute Technical Evaluation Committees	C		C	R/A
Briefing TEC and assist in the evaluation			R	
Preparation of TEC Evaluation and Combined Evaluation Reports			R	A
Conduct negotiations (in case of services procurement)	C	R	R	I
Preparation of Draft contract/Purchase Order		R	C	
Handling debriefing/protests			R	A
Contract Signature			R	A
Safe custody of Securities			R	
Receipt/delivery of goods		R		
Monitoring Contract deliverables	R	I	C	
Update contract details in ICP-CMT		R		
Contract administration	R	I	I	
Maintenance of all documentation related to Procurement		R		
Coordination with IFAD on procurement matters			R	
Capacity building of junior procurement staff			R	
Lead Procurement performance audit	C		R	
Resolution of audit observations on procurement		R	R	A
Coordination with IFAD SM/ISM		R	R	

R stands for Responsibility to undertake the task

A stands for Accountability/Approval

C – Consultation required

I – To be informed for further steps

Appendix: C6A2: Procurement Correspondence and Record Management

1. Keeping accurate records and evidence is key to a transparent and auditable procurement process. It is therefore mandatory to keep accurate records of all procurement process communications and use a procurement reference numbering system to ensure a transparent and auditable procurement process.
2. Record-keeping of correspondence and communications are critical for effective management of relations with bidders, suppliers, contractors and consultants since these may commit or bind originators and recipients to a course of action which can have legal, contractual or financial implications.
3. Documentary records in hard copy or electronic format are therefore essential for efficient and effective management, as they provide the necessary evidence to support decision-making and action. Moreover, they provide an audit trail that permits the verification of transparency, accountability and effectiveness.
4. The IFAD require that the Lead Project Agency and/or the Government Department retain documents and records for IFAD review at any time within 10 years of bid or contract completion.

	Document	Preferred format
1.	A copy of the published REOI advertisement or shortlist (if applicable)	Hard copy
2.	A copy of the published pre-qualification and bidding documents and any amendments, extensions or clarifications requested and issued	Hard copy
3.	A record of the tender opening, signed by all TEC members and the bidders present	Hard copy
4.	A full copy of each bid received and evaluated, plus clarifications requested and responses received	Hard copy
5.	A copy of the signed evaluation report	Hard copy
6.	Signed minutes of all meetings related to the procurement, including pre-bid and negotiation meetings, when held	Hard or electronic copy
7.	A contract award notice	Hard copy
8.	Any letter of tender acceptance to the supplier, contractor or consultant	Hard copy
9.	The signed contract document and contract acceptance	Hard copy
10.	Any contract amendments	Hard copy
11.	All contractual correspondence between the procuring entity and a supplier, contractor or consultant	Hard copy or electronic copy
12.	Post-contract documents related to the fulfilment of contract obligations, especially photocopies of bank guarantees or payment guarantees	Hard copy
13.	Signed minutes of any meetings related to contract management, including contract progress or review meetings	Hard copy
14.	Signed delivery documents evidencing delivery of supplies, or signed completion certificates related to a contract for services or works under the contract, including any contract delivery records	Hard copy

15.	A copy of all invoices for works, services or supplies, including working papers verifying the accuracy of payments claimed and details of the actual payment authorized	Hard copy
16.	A copy of cumulative payment worksheets/records evidencing management of all payments made	Soft copy
17.	All decisions of the Government's approval authority related to the procurement, including the approval of the bidding documents, the approval of the evaluation report(s), the contract award, the approval of contract documents and contract amendments and any decision to suspend or cancel procurement proceedings	Hard copy
18.	A copy of any claims made by the procuring entity with respect to any warranty, non-warranty, short supply, damage and other claims against the contracted vendor or the procuring entity	Hard or electronic copy
19.	In the case of IFAD prior review, a copy of the respective IFAD NO letter	Electronic copy
20.	any other communications related to the procurement in question, including internal entity correspondence	Hard copy or electronic copy

Appendix: C6A3: Terms of reference

Terms of Reference

Type: **Senior Procurement Specialist**

General Description of task(s) and objectives to be achieved

I. Background

Project Management Unit is the Lead Project Agency for implementing JKCIP in Jammu and Kashmir. Project procurement is the responsibility of the LPA. The position of the Senior Procurement Specialist is to lead on all procurement related matters with the oversight and administrative control of the Mission Director.

II. Overall objective

The Senior Procurement Specialist will coordinate and support on all procurement actions of the project.

III. Roles and responsibilities

The responsibilities of the Senior Procurement Specialist will be as follows:

- i. With reference to the project design document, IFAD procurement guidelines and Procurement Handbook, draw up draft project procurement manual for the project for approval by PMC and IFAD. Prepare and include relevant Community Procurement Guidelines and formats, if required and include in the PIM.
- ii. To update the initial 18-month Procurement Plan prepared during design and ensure that the subsequent annual Procurement Plans are continuously updated in accordance with the procedure and procurement plan agreed with IFAD.
- iii. To liaise with IFAD procurement staff.
- iv. To co-ordinate with concerned subject matter specialist on procurement matters, especially preparation of TOR, technical specification etc.
- v. To lead preparation of bidding documents, evaluation, letters of awards, draft contracts etc. in the procurement of good/works and services including consultancies, in compliance with IFAD Procurement Guidelines and Procurement Handbook.
- vi. To submit necessary documents as per the Project Procurement Arrangements Letter, to IFAD for those items subject to prior review.
- vii. To facilitate/assist in getting NOC from IFAD wherever required.
- viii. To co-ordinate with project team, organize and support evaluation committees for prompt evaluation.
- ix. To make necessary arrangement for contract signatures.
- x. To supervise update of Contract Management details in IFAD ICP-CMT and prepare amendment letters to the contracts. As part of the contract management, in coordination with the concerned officials monitor the contractual provisions for compliance.
- xi. To lead on providing capacity building and mentoring support to other PMU Procurement Staff and Implementing Parties Procurement staff.
- xii. To monitor and provide technical guidance to Implementing Parties' procurement staff.
- xiii. To keep progress of procurement activities against procurement timetables, highlight variations in progress, record reasons and identify remedial actions, if any.
- xiv. Assist Mission Director for placement of various documents/papers before Project Management Committee for review and approval, all types of audits of procurement activities, post review of IFAD, contracts exception reporting, etc.
- xv. To liaison with any other appropriate authority for any dispute among the parties relating to procurement.
- xvi. To provide documentations and data to IFAD fielded Supervision Mission and Implementation Support Missions.
- xvii. To perform any other relevant work related to the project procurement assigned by the Mission Director.

QUALIFICATIONS AND TIMELINE

IV. Required qualifications and experience

Qualifications & Experience:

a. Formal Academic from recognized University or equivalent:

- a. Graduate in commerce, business, finance, engineering or management

b. Relevant Training:

- Purchasing management and procurement systems

c. Work Experience

Post qualification, minimum ten (10) years of demonstrated managerial experience in managing procurement in the organization with complete understanding and experience on national procurement procedure, especially preparation of Expression of Interest, Notice Inviting Tender, Terms of Reference, Request for Proposal and bidding document for procurement of consultant services, goods and works. Preference will be given for experience in handling procurement funded by external agencies like World Bank, ADB, IFAD etc.

Desirable Qualification:

(a) Post Graduate Diploma in Material/Supply Management

(b) Thorough knowledge of procurement procedures of International Financial Institution financed projects.

(c) Completion of Procurement training from a national level institute

(d) MBA from any recognised university or institute.

Preferred Skills:

- Good written and verbal communication skills
- Computer literacy general MS package
- Proficient in computer based spread sheets for data analysis
- Proactive, work with minimum supervision, and as a team builder

V. Duration and timeline

The position is for the duration of the project. Incumbent will be hired initially for one year, with annual extension based on performance.

Terms of Reference

Type: **Procurement Officer (PMU)**

General Description of task(s) and objectives to be achieved

I. Background

Project Management Unit is the Lead Project Agency for implementing JKCIP in J&K. Project procurement is the responsibility of the LPA. The position of the Procurement Officer is to assist the Senior Procurement Specialist on all procurement related matters.

II. Overall objective

The Procurement Officer will report to the Senior Procurement Specialist on all project procurement matters and will be under the administrative control of the Mission Director.

III. Roles and responsibilities

The responsibilities of the Procurement Officer will be as follows:

- i. To co-ordinate with concerned subject matter specialists on procurement matters, especially preparation of TOR, technical specification etc.
- ii. To assist in preparation of bidding documents, and other documentation
- iii. To manage the receipt and safe storage of quotations/bids/proposals
- iv. To co-ordinate with project team, organize and support evaluation committees for prompt evaluation.
- v. To update of Contract Management details in IFAD ICP-CMT and prepare amendment letters to the contracts. As part of the contract management, in coordination with the concerned officials monitor the contractual provisions for compliance.
- vi. To monitor the MPA Procurement progress and inform Senior Procurement Specialist on the challenges and delays
- vii. To review the compliance of the community institutions to the Community Participation Procurement Guidelines and ensure all required documents are correctly maintained
- viii. To keep progress of procurement activities against procurement timetables, highlight variations in progress, record reasons and identify remedial actions, if any.
- ix. To ensure correct maintenance of procurement correspondence and documentation required in hard copy files or electronic copy.
- x. To provide documentations and data to IFAD fielded Supervision Mission and Implementation Support Missions.
- xi. To perform any other relevant work related to the project procurement assigned by the Senior Procurement Specialist or the Mission Director.

QUALIFICATIONS AND TIMELINE

IV. Required qualifications and experience

Qualifications & Experience:

a. Formal Academic from recognized University or equivalent:

Graduate in commerce, business, finance or management

b. Relevant Training:

- Purchasing management and procurement systems

c. Work Experience

Post qualification, minimum 5 years of demonstrated managerial experience in procurement in the organization with complete understanding and experience on national procurement procedure.

Minimum of one year of experience in handling project procurement in an externally aided project.

Desirable Qualification:

(a) Post Graduate Diploma in Material/Supply Management

(b) Completion of Procurement training from a national-level institute or completion of procurement training conducted by an IFI.

Preferred Skills:

- Good written and verbal communication skills
- Computer literacy general MS package
- Proactive, work with minimum supervision, and as a team player

V. Duration and timeline

The position is for the duration of the project. The incumbent will be hired initially for one year, with annual extension based on performance.

Terms of Reference

Type: **Procurement Officer (Put name of Implementing Parties)**

General Description of task(s) and objectives to be achieved

I. Background

Project Management Unit is the Lead Project Agency for implementing JKCIP in JK. Project procurement is the responsibility of the LPA. The position of the Procurement Officer is to assist the Senior Procurement Specialist on all procurement related matters.

II. Overall objective

The Procurement Officer will report to the Senior Procurement Specialist on all project procurement matters and will be under the administrative control of the Director of implementing party.

III. Roles and responsibilities

The responsibilities of the Procurement Officer will be as follows:

- i. To co-ordinate with concerned subject matter specialists on procurement matters, especially preparation of TOR, technical specification etc.
- ii. To assist in preparation of bidding documents, and other documentation
- iii. To manage the receipt and safe storage of quotations/bids/proposals
- iv. To co-ordinate with project team, organize and support evaluation committees for prompt evaluation.
- v. To update of Contract Management details in IFAD ICP-CMT and prepare amendment letters to the contracts. As part of the contract management, in coordination with the concerned officials monitor the contractual provisions for compliance.
- vi. To monitor the MPA Procurement progress and inform Senior Procurement Specialist on the challenges and delays
- vii. To review the compliance of the community institutions to the Community Participation Procurement Guidelines and ensure all required documents are correctly maintained.
- viii. To keep progress of procurement activities against procurement timetables, highlight variations in progress, record reasons and identify remedial actions, if any.
- ix. To ensure correct maintenance of procurement correspondence and documentation required in hard copy files or electronic copy.
- x. To provide documentations and data to IFAD fielded Supervision Mission and Implementation Support Missions.
- xi. To perform any other relevant work related to the project procurement assigned by the Senior Procurement Specialist or the Implementing Party Director.

QUALIFICATIONS AND TIMELINE

IV. Required qualifications and experience

Qualifications & Experience:

c. Formal Academic from recognized University or equivalent:

Graduate in commerce, business, finance or management

d. Relevant Training:

- Purchasing management and procurement systems

d. Work Experience

Post qualification, minimum 5 years of demonstrated managerial experience in procurement in the organization with complete understanding and experience on national procurement procedure.

Minimum of one year of experience in handling project procurement in an externally aided project.

Desirable Qualification:

(a) Post Graduate Diploma in Material/Supply Management

(b) Completion of Procurement training from a national level institute or completion of procurement training conducted by an IFI.

Preferred Skills:

- Good written and verbal communication skills
- Computer literacy general MS package
- Proactive, work with minimum supervision, and as a team player

V. Duration and timeline

The position is for the duration of the project. The incumbent will be hired initially for one year, with annual extension based on performance.

Terms of Reference

Type: **Procurement Assistant (PMU)**

General Description of task(s) and objectives to be achieved

I. Background

Project Management Unit is the Lead Project Agency for implementing JKICIP, JK. Project procurement is the responsibility of the LPA. The position of the Procurement Assistant is to assist the Senior Procurement Specialist and Procurement Officer on all procurement related matters.

II. Overall objective

The Procurement Assistant will report to the Senior Procurement Specialist on all project procurement matters and will be under the administrative control of the Mission Director.

III. Roles and responsibilities

The responsibilities of the Procurement Assistant will be as follows:

- i. To assist in preparation of bidding documents, and other documentation
- ii. To manage the receipt and safe storage of quotations/bids/proposals
- iii. To update of Contract Management details in IFAD ICP-CMT.
- iv. To maintain and update list of registered vendors for different procurement categories
- v. To maintain the procurement documentation in appropriate filing procedures
- vi. To maintain all the reference documents related to Procurement
- vii. To ensure the advertisements/notices are published in newspapers/project website and Government of JK e-procurement portal.
- viii. To update project website on award of contracts
- ix. To perform any other relevant work related to the project procurement assigned by the Senior Procurement Specialist or the Mission Director.

QUALIFICATION AND TIMELINE

IV. Required qualifications and experience

Qualifications & Experience:

a. Formal Academic from recognized University or equivalent:

Graduate in any discipline

b. Work Experience

Post qualification, at least 3 years of handling administrative issues in an organization

Preferred Skills:

- Good written and verbal communication skills
- Computer literacy general MS package
- Proactive, willing to learn

V. Duration and timeline

The position is for the duration of the project. The incumbent will be hired initially for one year, with annual extension based on performance. Within 6 months of appointment, s/he has to undergo Project Procurement training organized by IFAD.

Appendix C6A4 : Project Procurement Strategy Document

JKCIP Project Procurement Strategy (PPS)

Project Overview

Country	India
State	of Jammu and Kashmir (JK)
Programme Area (as per design)	90 blocks over 20 districts of the K
Full Project Name	Competitiveness Improvement of the Agriculture and Allied Sectors Project in Jammu and Kashmir (JKCIP)
Project ID	2000003933
IFAD Loan amount (tentative)	US \$ 100 200 000
Loan Number	TBC

Potential contracts in the first 18 months

High value and urgently needed contracts which have an impact on the implementation

Consulting Services

- Hiring of 23 individual consultants as experts
- Baseline survey
- Trainings for beneficiaries – Trainers, farmers, entrepreneurs, and staff
- Studies
- Establishment of COEs
- FPO business plan preparation etc.

Goods

- Procurement of equipment for quality control labs - 2 labs (US\$ 250,000)
- Procurement of 2000 Ice Boxes for fish (US\$ 122,000)
- Procurement of office equipment

Works

Nil

The cost table identifies and budgeted other procurement activities throughout the implementation period. During the implementation, the PMU is required to plan the procurement activities in line with the annual budget planning.

Overview of Country, Borrower and Marketplace

Operational Context

Governance aspects: India is a sovereign, socialist, secular, democratic republic with a parliamentary system of government based on the principle of universal adult franchise. The federal structure of India comprises the central (federal) level, 28 states, and nine union territories (UTs). The size of the expenditure budget of states has increased over the years owing to revenue augmentation by the states as well as increased devolution from the Central Government. The state Governments are assuming greater responsibility in governmental spending in the country. States primarily rely on three sources for

financing this expenditure: (a) own resources (approximately 44 percent), (b) transfers from the central government (approximately 35 percent), and (c) borrowings (approximately 21 percent).

The Constitution of India lays down the framework demarcating fundamental political code, structure, procedures, powers, and duties of government institutions and sets out fundamental rights, directive principles, and the duties of citizens. Article 53 of Constitution of India vests the executive powers of the Union of India with the President of India. The two articles directly related to procurement are 298 and 299. Article 298 of the Constitution stipulates that executive power of the union and each state shall extend to any trade or business activities and to the acquisition, holding, and disposal of property as well as the conclusion of contracts for any given purpose, and Article 299 stipulates entering of contracts. Article 299 authorizes the central and the state governments to contract for works, goods, and services and requires the executive to protect the fundamental rights enshrined in the Constitution which have implications for public procurement. The Constitution allocates some subjects to the Union government, some to the states, and some concurrently to both. Procurement falls under the concurrent list.

Procurement Policy Division prepared model tender documents for goods, works and services. However, these are for the use of the Central Ministries and Central Public Sector Enterprises. As procurement is decentralized, most State Governments use their own bidding documents with varying standards. However, there are no standard/model bidding documents for goods, works, services, and consultancy at the at the J&K level. In the foreword to the manual by MoF, the finance Secretary has mentioned as –“*Manuals issued by this Department are to be taken as generic guidelines, which have to be necessarily broad in nature. Ministries/Departments are advised to supplement this manual to suit their local/specialized needs, by issuing their own detailed manuals (including customized formats); Standard Bidding Documents and Schedule of Procurement Powers to serve as detailed instructions for their own procuring officers.*” In line with the procurement risk assessment, procurement under JKCIP will follow IFAD Procurement Guidelines and IFAD Procurement Handbook. Both Government of India and the State Governments recognises precedence of international obligations like IFIs Financing Agreements to use IFI procurement guidelines and document templates. Government of JK has implemented few externally aided projects in different sectors but this will be first ever externally aided project to be implemented by Agriculture Production Department.

The federal procurement framework incorporates two broad types of procurement purchase preferences. First is the 'Make in India' policy, which is a purchase preference for local suppliers who can demonstrate at least 50 percent local content (eligible supplier). The second type of preference is a purchase preference relating to micro, small, and medium enterprises (MSMEs), disadvantaged groups, and start-ups. MSMEs are also exempted from paying certain tender-related fees.

Economic aspects: Government JK is committed to provide counterpart funds and also proactively endeavour to link the convergence of Union and J&K Government schemes funds to the project communities, through coordination at high levels of Government. Funds utilisation at sub-units and at community level to be monitored with adequate treasury management practices. As the implementation is spread over large geographical area and the national capacity and availability of locally manufactured products and civil contractors, no international bidding requirements are there in the project procurement approach.

Sustainability aspects: Use of renewable energy sources will be promoted, wherever feasible and positive lifecycle costs. The proposed environmental and social category for JKCIP project is moderate, based on the SECAP screening tool. The SECAP climate risk

rating stands as moderate. The project will solicit and adopt cost-effective, structurally sound structures to address natural disasters situations. Revenue streams for maintenance and upkeep of public good structures will be implemented with community participation.

Technological aspects: General Financial Rules (GFR) mandates that beyond a threshold value of INR 25 Lakhs, all public procurement to be open tender and use e-procurement portal for receiving bids/proposals. All such advertisements are to be published on CPPP (Central Public Procurement Portal). Manual for goods issued by MoF, GoI also prescribes publishing of these opportunities on GeM. PMU, JKCIP will obtain credentials for GoJK e-Procurement System. This system allows online payment. The project will also introduce e-office suites for PMU. Directorates have already been using e-office. This would streamline the approvals and enable archiving of documents electronically. In addition, mobile apps will be used to enter and validate M&E data with links to project and government monitoring portals.

Implementing Agency Capability Assessment

The IFAD-financed project will be implemented through a dedicated Project Management Unit within the Department of Agriculture Production and Farmers Welfare, Government of JK and six implementing parties including Directorate of Agriculture (Jammu, Kashmir), Directorate of Horticulture (Jammu, Kashmir) and Shere Kashmir University for Agriculture Science and Technology (Jammu, Kashmir). Implementing parties are government departments.

Procurement at JK exhibits some weaknesses in advance planning, bids evaluation quality and contract management issues. The Directorates do not have dedicated Procurement Unit staffed by experienced procurement professionals. Generally 1-2 staff have been engaged for procurement without sufficient exposure to public procurement and IFI procurement guidelines. This project also envisages some small works procurement through community participation. Community procurement exposes the project to significant weaknesses in maintenance of procurement documents and financial execution. Monitoring of community procurement will have to be undertaken at Directorates' and PMU level.

Recognising the lessons learnt on the unsatisfactory performance of procurement functions in other projects, several mitigation measures as below are proposed to be implemented to strengthen project procurement functions.

- i) A dedicated Procurement Unit will be established with a Senior Procurement Specialist as head assisted by a Procurement Officer and Procurement Assistant at PMU. In each of the six implementing parties, one procurement officer will be engaged.
- ii) A comprehensive training on procurement aspects will be organised.
- iii) Though the initial 18-month PP, big ticket items are planned which will speed up the implementation. Many of the critical consultancy service engagement to be completed before entry into force.
- iv) Performance evaluation and achievement of identified deliverables is a compulsory provision and any shortfall to be followed up for resolution.
- v) Responsibility Matrix designed and included in PIM.
- vi) Audit will also review procurement performance at all levels.
- vii) Large agricultural inputs procurement will be planned in advance of the planting season and appropriate LTA deployed.
- viii) Community participation procurement to be limited to NRM with a cap of USD 5000 equivalent for each activity.
- ix) IFAD End-to-End Procurement system (OPEN) and its subsequent enhancements will be deployed.
- x) A second level appellate authority will be notified for all procurement protests.

- xi) Government of JK e-procurement system (JK Tender) will be used for soliciting bids, opening and notification of award.
- xii) Project website will have dedicated page for tenders and awards.

Need for hands-on support

Coupled with weaknesses in current procurement, this project is first externally aided project for this department. Hence hands on support is considered absolutely essential.

Contract management capability and capacity

- The Director nominates a committee to verify quality and quantity, who certifies the correctness. However, no clear contract management procedures.
- No comprehensive contract management plan for major contracts in place
- As per discussions, variations are rare. As per existing practice, concerned Director and chief officers in district have powers to amend contract within their powers for contract approval. However, schedule of power notification no. A/PS/DC/2019-62 dated 9 January 2020, does not mention about contract amendment.
- For goods, quantity and specifications are verified against the contract. For works, check measurement is done for final payment. For services, acceptance of deliverables need improvements.
- The Government maintains an online platform named BEAMS (Budget Estimate Allocation and Monitoring Systems). Funds are allocated virtually to approved projects and funds are virtually disbursed though physically funds remain with the treasury of the government. As soon as contract obligations are met, the DDO certifies payment on the platform and payment is directly transferred to the beneficiary. If funds are available, transfer is made within a day and it could take more time if funds are not available with the treasury.
- The contractual provisions include arbitration proceedings for dispute resolution if model tender document used. However, at directorate level, it is missing in most cases.

Complaint management and dispute resolution system-

- There is no effective complaint handling mechanism. First complaint is to procuring entity and appeal is to be made to LG Grievance cell. No record of complaints on the procurement noted.

Procurement trends

Public procurement accounts for a significant level of public expenditure and hence strengthening public procurement systems is central to achieve concrete and sustainable results, build effective institutions, and gain substantial savings in the use of scarce public resources. Public procurement has a strategic function as a mechanism for supporting economic development, conserving and making optimum use of resources through application of sustainable criteria, and increasing job creation and private sector growth including enhanced participation of small and medium enterprises in a country. Government expenditure through public procurement has long been used as a means of stimulating growth at all levels (national, regional, and local), including accomplishing the government's vision and mission.

The Government of India (GoI) has progressively undertaken various initiatives in reforming its public procurement system during the past many years, including setting up a functional Procurement Policy Division (PPD) at the Department of Expenditure, GoI, revising the General Financial Rules (GFRs), preparing procurement category-wise manuals, adopting the electronic government procurement (e-GP) platform, and setting up the Government Electronic Marketplace (GeM), among many initiatives.

One of the key initiatives implemented by the government is the e-procurement system, which enables suppliers to submit bids electronically and allows for greater transparency and efficiency in the procurement process. The system has been successful in reducing the time and cost of procurement, as well as improving the quality of goods and services procured. The system is also available as an application in Google Play. Payment of fees and EMD are also linked to the system, eliminating paper securities.

Market analysis of construction sector

With the booming Indian economy, construction of infrastructure (roads, highways and real estate) was well developed. There are sufficient groups of players (large, medium, and small) servicing this sector at the State level. In rural areas, the availability of suppliers is limited to 4-5, as this sector employs manual labour along with equipments. It is difficult for a contractor to move beyond his operational area due to labour mobilization etc. Cartelisation happens to some extent due to the small pool of available suppliers. For this project, works procurements have not been envisaged.

Market analysis of supply sector

India's economy has been growing steadily over the past decade, with an average annual growth rate of around 6% and the country has emerged as the fifth largest economy in the world. This has led to an increase in consumer spending, which has created opportunities for businesses operating in various sectors.

The market for goods and services in India is diverse, with opportunities in sectors such as agriculture, manufacturing, retail, tourism, and telecommunications. Agriculture is the backbone of India's economy, with about 54% of the population engaged in farming. For 2022-23, the share of Gross value added (GVA) of agriculture and allied sectors in total economy at current prices is 18.3% and growth of GVA of agriculture and allied sectors for the year is 3.3%. There are opportunities in the agriculture sector for businesses that supply inputs such as seeds, fertilizers, and machinery, as well as for those involved in processing and exporting agricultural products.

India has a very robust seed system comprising both public sector institutions and private seed companies. However, last mile delivery is fragmented with small suppliers and traders.

Analysis of Consultancy Market

The consultancy market in India has been growing steadily in recent years, driven by increasing demand for professional services across various sectors of the economy, including government, private businesses, and non-profit organizations. The Government of India has been actively promoting entrepreneurship and private sector development, leading to an increase in demand for consultancy services in areas such as business planning, market research, and investment advisory. Heavy public investment in infrastructure has also created opportunities for consultancies to offer services related to project management, feasibility studies, and technical assistance.

Overall, the consultancy market in India is expected to continue growing in the coming years, as the country continues to implement its development agenda and attract investment from both domestic and international sources.

Procurement Risk Analysis for abovementioned contract/group of similar contracts

Procurement Type	Risks	Mitigation Measures
Works Contracts (though not envisaged for this project except very small works through community)	<ul style="list-style-type: none"> • Very small dispersed works not preferred by the contractors • Lack of qualified supervision • High cost of maintenance • High cost of construction materials 	<ul style="list-style-type: none"> • Packaging of works to be done to attract the suppliers • Solicit prototypes of climate/disaster proof models. • Promote alternative materials
Goods Contracts	<ul style="list-style-type: none"> • No proper need assessment conducted. • Dispersed destination delivery not preferred by the suppliers. • Small traders in the rural areas do not have the capacity to supply. • Low quality seeds • No advance planning for cropping seasons 	<ul style="list-style-type: none"> • Conduct detailed needs assessment. • Engage in proper advance planning to ensure goods are obtained in time, without delaying implementation. • Use Long Term Agreements with multiple suppliers for regularly required goods.
Consultancy Services Contracts	<ul style="list-style-type: none"> • Growing but still small market may result in inadequate expertise in various fields. • Project has difficulty in estimating/evaluating the price, as no benchmark price available • Oligopolistic market may constrain competition 	<ul style="list-style-type: none"> • Comprehensive TORs to ensure selection of qualified suppliers. • Automatic advertisement of procurement notices in E-procurement system • Engage technical resource persons in evaluating the proposals

Procurement Objective for abovementioned contract/group of similar contracts (related to the 5 Rs)

1. Maximize Value for Money
2. Timely completion of contracts
3. Achieve adequate competition
4. Selection of qualified suppliers with good track record in implementation and addressing of SECAP concerns

Recommended Procurement Approach for the Project Procurement Approach

Works Contracts:

Attribute	Selected arrangement	Justification Summary/Logic
Specifications (SECAP compliance)	Conformance	SECAP compliance requirements to be adhered: <ol style="list-style-type: none"> i) No child labour to be employed ii) Strict oversight for structural stability iii) Mitigation of OSH risks by following statutory legal requirements iv) Making available rest sheds for workers v) Deployment of

		skilled labour to operate heavy equipments.
Sustainability Requirements	Yes	
Contract Type	A. Traditional	Most of the works' contracts follow the normal contracting process. These are easy to manage.
Pricing and costing mechanism	A. Schedule of Rates/Admeasurement B Percentage basis (when detailed BoQ is not feasible)	These two methods are applicable and can be used in the pricing and cost mechanism of these contracts.
Supplier Relationship	A. Collaborative	
Price Adjustments	A. None, fixed price	Fixed Price applies or Admeasurement price for small variations authorized.
Form of Contract (Terms and Conditions)	D. State any special conditions of contract	Include SECAP compliance requirements clearly.
Selection Method	A. Requests for Quotations(RFQ)	NCB requirements deter contractors to submit bids. Also the works are dispersed and small.
Selection Arrangement	A. Commercial Practices	In some instances, the market provides the best option
Market Approach	A. Type of Competition 1. Advertised RFQ B. Number of Envelopes/Stages 1. Single Envelope C. Negotiations - No	Open competition places the bids to the entire market to obtain No negotiations are allowed on works contracts
Pre / Post Qualification	B. Post-Qualification	Since bids are advertised in the open market, Post qualification is the most ideal method.
Evaluation of Costs	A. Adjusted Bid Price (corrected for a bidder's minor deviations)	Adjusted bid price is the most ideal method. Before award, bidder has to accept the corrected price.
• Domestic Preference	No	All bidders are domestic. No international bidders would be interested due to small packages.

• Rated Criteria	List the type of criteria to be used (mandatory)	Lowest Price on BoQ or Lowest Evaluated cost.
Debriefing	Preferred	To be conducted after award to identify the errors/failure to submit documents. This would increase the credibility of the organization to widen the competition.

Goods Contracts:

Attribute	Selected arrangement	Justification Summary/Logic
Specifications (SECAP compliance)	Conformance	For agricultural inputs (seeds/plant materials) all the materials should have been authorized by the Government for release. In case of pesticides, no prohibited pesticides to be procured.
Sustainability Requirements	Yes	Sustainability should always be considered in all procurement activities
Contract Type A. Traditional based on Employer's/IA design B. Design and Build (design by contractor) C. Design, Build, Operate, Maintain	Traditional based on Employer's/ IA design	For the proposed project, only standard traditional contract may apply for procurements of goods.
Pricing and costing mechanism A. Lump-Sum B. Performance based contracts C. Schedule of Rates/Admeasurement D. Time and Materials E. Cost Plus	A. Lump Sum	Lumpsum pricing serves well in most of the procurement of goods for the project
Supplier Relationship Adversarial/Collaborative	A. Collaborative	Collaborative relationships work well where suppliers agree on the prices and terms to be met.
Price Adjustments A. None, Fixed Price B. Negotiated or MoA C. Percentage	A. None, fixed price	Fixed prices will apply to procurement of goods as no negotiations are allowed for procurement of goods. Contract duration is not expected to be more than even one year.

Form of Contract (Terms and Conditions)	D. State any special conditions of contract	
Selection Method	A. Requests for Bids (RFB) B. Requests for Quotations (RFQ) C. Direct Selection	Most of the procurements will go through RFB to give an opportunity for competition and a wide range of competitors. Need assessment to be done and technical specifications in a range (not exact leading to a particular brand/model). Conduct market survey. Direct selection only for very low value consumables for office equipments.
Selection Arrangement	A. Commercial Practices B. Framework Agreements/LTA	Both these methods could be used.
Market Approach	A. Type of Competition 1. Open 2. Advertised RFQ 3. Direct contracting (for low value) 4. Government E-Market Place (GEM) without bids. B. Number of Envelopes/Stages 1. Single Envelope C. Negotiations (No)	Most of these tenders are open to encourage competition amongst suppliers in the market Single Envelope will be used for procurement of goods. No negotiations are allowed for procurement of goods.
Pre / Post Qualification	A. Post-Qualification	Good supplier pool available as such post-qualification will be the most ideal method to be used.
Evaluation of Costs	A. Bid Price (exclusive of taxes) B. Life-Cycle Costs	Bid price substantially compliant to the specifications. Life cycle costs to be considered for capital assets like machinery (for agro processing)
• Domestic Preference	No	International bidding not foreseen. All domestic suppliers (manufactured or already imported prior to supply)
• Rated Criteria	Mandatory	Best evaluated price substantially responsive to requirements.

Consultancy Services Contracts:

Attribute	Selected arrangement	Justification Summary/Logic
Specifications (SECAP compliance)	Conformance	When used on TA/advisory role, SECAP requirements to be adopted for final report, which has implications for downstream procurement.
Sustainability Requirements	Yes	Sustainability will be a mandatory requirement for any procurement carried out in this project.
Contract Type	A. Traditional	Most of the consultancy contracts will follow the traditional method
Pricing and costing mechanism	A. Lump Sum B. Time based	Most of the consultancy contracts will be lump sum. However, any of these methods can be used.
Supplier Relationship	A. Collaborative	Collaborative relationship will apply in all contracts with consultants
Price Adjustments	A. Yes, beyond 24 months B. Negotiated	Both Fixed Price and negotiated contracts methods will be used. Price adjustments to be done for long term contracts beyond 24 months. The consultant and the Client to agree on the modality of increase.
Form of Contract (Terms and Conditions)	D. State any special conditions of contract	Legal recourse to dispute resolution only after exhausting all appellate and arbitration avenues. Replacement of team at contract stage not allowed. Long term contracts, exceeding 12 months, each

		replacement requires Client approval. Frequent replacements lead to suspension and termination.
Selection Arrangement	A. Commercial Practices B. United Nations (UN) Agencies C. Government agencies on single source D. Single source	Selection arrangements will be based on standard commercial practices.
Market Approach	A. Type of Competition 1. Open 2. Limited 3. National 5. No Competition - Direct Selection B. Number of Envelopes/Stages 1. Two Envelopes 3. Single Stage 4. Multistage C. Negotiations (Yes)	Competition is national. In very isolated cases direct selection could also be used.
Pre / Post Qualification	A. Pre-Qualification B. Post-Qualification C. Initial Selection (limited tendering)	Shortlisting (pre-qualification) applies to majority of the cases. Where the assignment is specific (like audit where there is hesitancy to submit pre-qualification documents, due to ICAI advisory, post qualification could be used.
Consultant Selection & Evaluation Method	A. Quality Cost Based Selection (QCBS) B. Fixed Budget Based Selection (FBS) C. Least Cost Based Selection (LCS) D. Quality Based Selection (QBS) E. Consultant's Qualifications Based Selection (CQS) D. Direct Selection	All these are acceptable. QBS is to be used exceptionally.
Evaluation of Costs	A. Adjusted Bid Price (after negotiations)	Both methods are applicable

<ul style="list-style-type: none"> • Domestic Preference 	No	No
<ul style="list-style-type: none"> • Rated Criteria 	List the type of criteria to be used (mandatory/desired)	Highest combined score for QCBS. Highest technical score within budget (FBS). Highest technical score with lowest financial cost. Though QBS is allowed, it is not generally used for rural development projects.
Government official (serving/retired/resigned) as part of consultancy team		<p>If the proposed consultant is a government official, IFAD may agree on a case-by-case basis to the hiring of a government official of the Government under consulting contracts in the Borrower/Recipient country, either as an individual or as a member of the team of experts proposed by a consulting firm, only when:</p> <p>a) the services of the government official of the Borrower Government are of a unique and exceptional nature, or his/her participation is critical to project implementation;</p> <p>b) his/her hiring would not create a conflict of interest;</p> <p>c) his/her hiring does not conflict with any laws, regulations, or policies of the Government; and</p> <p>d) he/she is on an unpaid leave of absence granted by the current government employer.</p> <p>The contract of the concerned government</p>

		<p>official (proposed consultant) with its government employer needs to have ended (resigned or retired) or has been halted for the duration of the assignment and an official letter from its current employer to this effect must be submitted.</p>
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Engagement of Government agencies

Memorandum of Agreement (MOA) is a form of procurement contract entered between the borrower and a party or parties of special legal status like a ministry, state agency, UN agencies or other international organizations. The MOA specifies the exact service outputs to be delivered, the delivery schedule and stipulates the corresponding service fees and payments over a specified period of time.

Used typically for specialized non-commercially operating providers of a special legal status.

The use of MOA with private firms is not permitted.

Justification to ensure the best value for money for the project compared to a competitive procurement process involving the private sector.

Payment of any kind of salary to government staff is prohibited. Their DSA/per diem, travel and related expenditures to deliver the services or activities specified in the MOA are permissible.

The MOA is written in the template (Letterhead) of the originating ministry/state entity.

The MOA cannot be legally enforced in normal courts, therefore the risk of non-compliance needs to be reduced as much as possible.

Clear payment modalities (time-based or output-based) and payment schedule needs to be included with a high last (final) payment subsequent to full delivery and acceptance.

The MOA should automatically terminate after its expiry (maximum 12 months) and without any automatic extension. If needed, the MOA can be extended beyond 12 months but any extension is subject to positive performance evaluation and completion of identified deliverables. Delay in performance should not be a reason for extension beyond 12 months.

Initial engagement and extension is subject to IFAD prior review irrespective of value and must be supported with a strong justification why entering into a MOA with the designated entity represents the best option and best value for money for the project compared to a competitive procurement process.

Contract Management

It is to be understood that procurement actions do not end when the contract or purchase order is signed. The contractual obligations to be followed up systematically till the intended results are achieved as a result of procurement and cessation of all legal obligations as per the provisions of the contract with the parties.

During the course of contract administration, the receipt of goods/works as per the technical specifications agreed to be monitored and any shortfall/shortcomings to be informed to the supplier and made good. For Consultancy services, the contract management acquires importance as any delay in achievement of deliverables as per the timeline agreed, impact the project implementation. As per the Responsibility Matrix of PMU Staff (as included in PIM) the contracts to be closely monitored for satisfactory performance and occurrence of any force majeure conditions. Each payment to the consultancy services should be properly validated against the contract provisions and deviations should be communicated to the party, in writing. If unsatisfactory performance continues, appropriate actions to be initiated with strict adherence to the contract. In consultancy contracts, replacement of team members should not be authorized within 12 months except under extraneous or medical conditions. Frequent change of staff with or without justification should be viewed as non-performance and action to be initiated for reduction in management cost and/or suspension/termination of contracts following due process.

All disputes related to the contract should be resolved through mutual consultation and if unresolved disputes persist, arbitration process, as per the national law, should be initiated. All contractors should sign an undertaking that without exhausting the arbitration procedures, no judicial intervention should be proceeded. The results of arbitration will be subject to judicial review.

The end date of the contracts should be closely monitored and if any amendment/extension is warranted, these should be taken up sufficiently in advance. Amendment or extension of contracts, which lapsed, should be strongly discouraged.

Procurement Audit

Procurement is one of the key driver in project implementation. The procurement management is a process that describes how the public resources should be managed until the closure of the contract, to obtain project objectives. These include preparing the independent estimates, constraints, assumptions, procurement documents, bidding and sourcing of suppliers/technical assistance/consultancy services.

A procurement audit is a project management process that reviews different contracts and contracting processes to determine the completeness, efficiency as well as the accuracy and transparency of the procurement process. It is a structured review that stems from the planning of procurement process through the procurement cycle.

The objective of this particular process is to determine the success and failures that require acknowledgement during the implementation which would inform the Project management to resolve problem areas of internal control.

Procurement audit is basically a method in project management that formally evaluates the performance of the procurement processes being practiced. It is also used to create a record that can be used to shape and streamline the procurement practices of the organization.

It is to be understood that the internal audit team which performs the procurement audit function should deploy qualified persons with procurement skills and experience. The ToR should identify the methodology and sampling checks and tools for compliance. The procurement audit observations and the management responses to resolve these should be submitted to IFAD and placed before the Project Management Committee or Project Steering Committee.

Procurement Capacity Development

The procurement staff engaged for the project should have benchmark qualifications and skills. No staff should be engaged without the benchmark skills.

The capacity of the procurement staff will be augmented in the following manner:

- i) Senior Procurement Specialist and the Procurement Officer should be nominated for the Training Programme on Project Procurement (Basic and Advanced) conducted by Arun Jaitley National Institute of Financial Management within 3 months of engagement.
- ii) ITC/ILO has a project procurement training programme (Blend of online and offline), BUILDPROC. BUILDPROC is a capacity-building programme in procurement for agricultural and rural development. The cost of the programme would be borne by the project resources. To retain the talent, the PMU may specify minimum number of years of service to be completed, beyond certification.
- iii) IFAD India Country Office will conduct additional need based training programmes through its staff and accredited procurement consultants.

Procurement Supervision Plan

IFAD will field an annual Supervision Mission to the project and the Procurement Specialist in the mission among other issues will (i) review the procurement contracting and implementation processes and timeliness and appropriateness of procurement actions; (ii) assess contract administration and management procedures and review the completeness and updated nature of contract data in the Contract Monitoring Tool; (iii) determine whether adequate systems are in place for procurement planning, implementation and monitoring, and whether procurement documentation and records (including securities) are maintained as per required standards and can be relied upon.

In addition to the annual Supervision Mission, IFAD India Country Office will also organise a Startup workshop within 2 months from entry into force. Procurement workshop will be either part of the start up workshop or will be separately organised with in two months from entry into force.

Additional specific adhoc support missions will also be fielded by IFAD.

Appendix C6A5 : SECAP and Procurement Actions

Environmental and Social Safeguards			
Biodiversity conservation	Risk Rating	Consequence	Guidance for Project
1.8 Could the project involve or lead to procurement through primary suppliers of natural resource materials?	Moderate	Minor Project may possibly require procurement of natural resources through primary suppliers, and resource extraction is tightly regulated. Alternatives to procurement of natural resources through primary suppliers exist.	No major construction is envisaged in this project. However, depending on the type of construction project in discussion with PMU, adequate requirement as part of bid document will be incorporated. These provision does not need to be incorporated for types of construction work or activities where it is not feasible to obtain nor identify sources of materials in remote rural locations.
Resource Efficiency and Pollution Prevention	Risk Rating	Consequence	Guidance for Project
2.6 Could the project involve inputs of fertilizers and other modifying agents?	Moderate	Minor The project requires minimal use of fertilizers.	Project to include in the tender document a list of approved/certified chemicals and incorporate them in the contract. The list of approved/certified chemicals would be based on existing national regulation.
Indigenous Peoples	Risk Rating	Consequence	Guidance for Project
4.1 Could the project be sited in areas where indigenous people are	Moderate	Negligible	

<p>present (including the project area of influence)? commercialization or use of their traditional knowledge and practices?</p> <p>4.2 Could the project result in activities located on land and territories claimed by indigenous people?</p>	<p>Moderate</p>	<p>The project is not sited in areas where indigenous people are present.</p> <p>Negligible</p> <p>The project is not sited in an area which indigenous people would claim as their territory.</p>	<p>Procurement packaging to work with community directly (community participation in procurement) with indigenous knowledge, technology and material.</p> <p>Bidder required to have past knowledge or experience and potential include some form of compensation to indigenous people, if it is contracted out.</p> <p>Procurement packaging to work with community directly (community participation in procurement) with indigenous knowledge, technology, and material.</p> <p>Bidder required to have past knowledge or experience and potential include some form of compensation to indigenous people, if it is contracted out.</p>
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The IFAD Self Certification which includes IFAD Right to Audit, Anticorruption and SEA/SH Safeguards is mandatory for all projects. This is simply to ensure that these provision which are not necessarily adequately referenced in the National SBD's (Standard Bidding Documents) are included and adhered to, in line with provision of the GC and IFAD policy documents.

For WB and ADB funded Projects, the e-GP allows WB and ADB funded projects to select WB/ADB SDB's instead of the National SBD. However, the e-GP does not provide or allow similar arrangement for IFAD SBD's which we only developed two years back. We should explore the potential to incorporate IFAD SBD's in the e-GP. This would minimise the need to include the Self-Certifications.

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 9: Integrated Project Risk Matrix (IPRM)

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Overall Summary

Risk Category / Subcategory	Inherent risk	Residual risk
Country Context	Substantial	Low
<i>Political Commitment</i>	<i>Moderate</i>	<i>Low</i>
<i>Governance</i>	<i>Moderate</i>	<i>Low</i>
<i>Macroeconomic</i>	<i>Moderate</i>	<i>Low</i>
<i>Fragility and Security</i>	<i>High</i>	<i>Moderate</i>
Sector Strategies and Policies	Moderate	Low
<i>Policy alignment</i>	<i>Low</i>	<i>Low</i>
<i>Policy Development and Implementation</i>	<i>Moderate</i>	<i>Low</i>
Environment and Climate Context	Moderate	Moderate
<i>Project vulnerability to environmental conditions</i>	<i>Moderate</i>	<i>Moderate</i>
<i>Project vulnerability to climate change impacts</i>	<i>Moderate</i>	<i>Moderate</i>
Project Scope	Moderate	Low
<i>Project Relevance</i>	<i>Low</i>	<i>Low</i>
<i>Technical Soundness</i>	<i>Moderate</i>	<i>Low</i>
Institutional Capacity for Implementation and Sustainability	Moderate	Low
<i>Implementation Arrangements</i>	<i>Moderate</i>	<i>Low</i>
<i>Monitoring and Evaluation Arrangements</i>	<i>Moderate</i>	<i>Low</i>
Project Financial Management	Substantial	Substantial
<i>Project Organization and Staffing</i>	<i>Substantial</i>	<i>Substantial</i>
<i>Project Budgeting</i>	<i>Moderate</i>	<i>Moderate</i>
<i>Project Funds Flow/Disbursement Arrangements</i>	<i>Substantial</i>	<i>Substantial</i>
<i>Project Internal Controls</i>	<i>Substantial</i>	<i>Substantial</i>
<i>Project Accounting and Financial Reporting</i>	<i>Substantial</i>	<i>Substantial</i>
<i>Project External Audit</i>	<i>Moderate</i>	<i>Moderate</i>
Project Procurement	Substantial	Substantial
<i>Legal and Regulatory Framework</i>	<i>Substantial</i>	<i>Substantial</i>
<i>Accountability and Transparency</i>	<i>Substantial</i>	<i>Substantial</i>
<i>Capability in Public Procurement</i>	<i>Substantial</i>	<i>Substantial</i>
<i>Public Procurement Processes</i>	<i>Substantial</i>	<i>Substantial</i>
Environment, Social and Climate Impact	Low	Low
<i>Biodiversity Conservation</i>	<i>Moderate</i>	<i>Moderate</i>
<i>Resource Efficiency and Pollution Prevention</i>	<i>Moderate</i>	<i>Moderate</i>
<i>Cultural Heritage</i>	<i>Low</i>	<i>Low</i>
<i>Indigenous People</i>	<i>Moderate</i>	<i>Moderate</i>
<i>Labour and Working Conditions</i>	<i>Low</i>	<i>Low</i>
<i>Community health, safety and security</i>	<i>Low</i>	<i>Low</i>
<i>Physical and Economic Resettlement</i>	<i>Low</i>	<i>Low</i>
<i>Greenhouse Gas Emissions</i>	<i>Low</i>	<i>Low</i>
<i>Vulnerability of target populations and ecosystems to climate variability and hazards</i>	<i>Moderate</i>	<i>Moderate</i>

Risk Category / Subcategory	Inherent risk	Residual risk
Stakeholders	Moderate	Moderate
<i>Stakeholder Engagement/Coordination</i>	<i>Moderate</i>	<i>Moderate</i>
<i>Stakeholder Grievances</i>	<i>Moderate</i>	<i>Low</i>
Overall	Moderate	Moderate

Country Context	Substantial	Low
Political Commitment	Moderate	Low
Risk: The risk is moderate. A political and governance risk on account of impending National elections in April 2024 and local elections (not yet determined) remains.	Moderate	Low
Mitigations: In order to mitigate this risk, the project design has been completed during 2023 and negotiations will be completed prior to elections.		
Governance	Moderate	Low
Risk: The risk is moderate. The project area is administered by the Government of India under its Ministry of Home Affairs through an Administrator appointed by the President of India. In J&K the Administrator is called the Lieutenant Governor. The Agricultural Production Department has been designated as Lead Project Agency, with robust administrative and governance practices ensuring full alignment of administrative procedures and oversight to the practices and standards of the Government of India.	Moderate	Low
Mitigations: IFAD procurement, safeguards and fiduciary compliances will be applied, and regular supervision will be conducted to ensure full compliance.		
Macroeconomic	Moderate	Low
Risk: India's economy may slow down, coming off a strong recovery in FY21/22 (April 2021–March 2022) on account of the spillovers from the Russia-Ukraine war, In addition, the global monetary policy tightening cycle is expected to weigh on India's economic outlook. The debt servicing track record of Gol remains excellent.	Moderate	Low
Mitigations: No project interventions required.		
Fragility and Security	High	Moderate

<p>Risk:</p> <p>J&K's security situation has been improving continuously since 2019. The Security Risk Assessment determined by UNDSS establishes that there is no significant direct threat to the proposed project in J&K that could adversely affect the project.</p>	High	Moderate
<p>Mitigations:</p> <p>IFAD management will ensure that the recommended security measures are put in place to make the proposed project compliant with SRM for Jammu, Kashmir & Ladakh and the specific Risk Assessment prepared for the project. Additionally, the focus of the project on community empowerment and participatory processes is also expected to have a positive impact at the community level.</p>		
Sector Strategies and Policies	Moderate	Low
Policy alignment	Low	Low
<p>Risk:</p> <p>In Dec 2022, GoJ&K launched a "Holistic Agriculture Development Programme in J&K" (HADP). JKCIP's goal, objectives and interventions are in sync with the J&K's strategies including this recently launched initiative.</p>	Low	Low
<p>Mitigations:</p> <p>The detailed design of JKCIP is done as a complimentary project to the Government's Initiative.</p>		
Policy Development and Implementation	Moderate	Low
<p>Risk:</p> <p>The project is fully aligned with the sectoral policies and proposes to leverage government programmes through convergence. The risk in implementation is the capacity of the Lead Implementing Agency to ensure timely start-up and converge with other line departments in the field.</p>	Moderate	Low
<p>Mitigations:</p> <p>The project has built-in a structured mechanism for co-ordination and convergence of project activities. APD will be the Lead Implementation Agency. The project implementation will be harmonised with the working of the Directorates and Universities under the APD. Additionally, IFAD will provide necessary capacity-building support since this is the first IFAD project in J&K. Some of the Project partners (eg. SKUAST) have experience of working on a World Bank project.</p>		
Environment and Climate Context	Moderate	Moderate
Project vulnerability to environmental conditions	Moderate	Moderate
<p>Risk:</p> <p>The project is expected to have a moderate impact on the environment, as it is expected to engage in nursery management and seedling rearing or purchase. More than a risk, changing farmers' perception and behaviour on use of chemical inputs and shift to Good Agriculture Practices (GAP), is a challenge.</p>	Moderate	Moderate

<p>Mitigations:</p> <p>The project has well incorporated environmental and climate adaptation interventions. Good Agricultural Practices (GAP) and Climate resilient Agriculture/Horticulture will be promoted. FPO will be capacitated and supported on GAP and Climate Smart Practices. Nursery and seedling management will follow environmentally sustainable practices. JKCIP will not be involved in any procurement of natural resources that are not environmentally sustainable.</p> <p>The project will adopt zero deforestation and forest encroachment strategy. All the interventions will be conducted outside the forest area. The geographic targeting strategy has excluded blocks with conservation and protected areas to avoid any potential impacts on biodiversity.</p>		
<p>Project vulnerability to climate change impacts</p>	<p>Moderate</p>	<p>Moderate</p>
<p>Risk:</p> <p>The project area is likely to experience river flood, landslides, and hailstorm. Heat waves are expected to become more common, putting a burden on the society and the environment. Rising temperatures and changing precipitation patterns could have an effect on available water resources. Precipitation is expected to rise slightly to moderately in the future, with much of the increase attributed to heavy downpours. The adverse impact of these climate and environmental conditions on agriculture production, biodiversity, and ecosystem sustainability.</p> <p>Project outcomes may be adversely impacted by climate change, and without the provision of effective adaptation measures, beneficiaries may face financial challenges, while the ecosystem and biodiversity may face degradation.</p> <p>Smallholder farmers and target groups display a moderate awareness of climate risks and related adaptive and mitigation measures.</p>	<p>Moderate</p>	<p>Moderate</p>
<p>Mitigations:</p> <p>The project components are designed to encourage livelihood diversification, enterprise development in response to market signals, and climate adaptation considerations in order to face the problems in the context of climate change. Building the capacity of vulnerable target groups to diversify activities through investments in new varieties, small-scale livestock, and off-farm enterprise growth is a subcomponent of the project. The vulnerable groups (women, the poor, and young people) will become more resilient to hazards associated with climate change as a result of capacity development and training components included in various programs.</p> <p>Support has been ensured on water management to tackle precipitation fluctuation and water stress. Suitable variety of crops, together with appropriate management practices, will be promoted to adapt with heat stress. The project will facilitate protected agriculture to tackle hailstorms.</p> <p>Project efforts to build the adaptive capacities of its beneficiaries must emphasize the need for disaster risk planning, climate resilient cropping, and reduced post-harvest losses, among other interventions that build the beneficiary's capacity to cope with, or recover from, the effects of climatic shock events.</p>		
<p>Project Scope</p>	<p>Moderate</p>	<p>Low</p>
<p>Project Relevance</p>	<p>Low</p>	<p>Low</p>
<p>Risk:</p> <p>The project holds little risk as it is well aligned with the development reality of the target communities. The project is complementary to GoJ&K's innovative and transformative HADP launched in Dec 2022, with a budget outlay of INR 50,130 million (USD 650 million) that aims to transform Agriculture in J&K from subsistence to sustainable and commercial agriculture.</p>	<p>Low</p>	<p>Low</p>
<p>Mitigations:</p> <p>No additional interventions are required.</p>		

Technical Soundness	Moderate	Low
<p>Risk:</p> <p>The project aims to address the gaps in the existing programs of the J&K by supporting the identification and promotion of climate-resilient high-value niche crops to harness agroclimatic advantages as an alternative to regular field crops. With a focus on niche agriculture and horticulture crops and support to vulnerable communities, the project will be able to keep a strong focus on the poor and remote farming communities. The project will also help create an ecosystem of start-ups and innovations that include business incubation, agribusinesses promotion, potential export facilitation etc. These will result in increased production, productivity and value realization and consequently, an increase in household income.</p>	Moderate	Low
<p>Mitigations:</p> <p>During project design, value chain profiles and agro-climatic suitability assessments have been carried out and based on this value chains have been selected.</p>		
Institutional Capacity for Implementation and Sustainability	Moderate	Low
Implementation Arrangements	Moderate	Low
<p>Risk:</p> <p>This is the first time APD is implementing an Externally Aided Project in recent times although the Dept has implemented the Jammu & Kashmir Horticulture Project (1978-86). The human resource capacity of project implementing partners has been assessed. APD is in the process of engaging additional staff and set up a PMU to implement HADP. The capacity for staff related to procurement and M&E needs further strengthening.</p>	Moderate	Low
<p>Mitigations:</p> <p>The project has incorporated substantial capacity-building efforts into the project. These efforts will be front-loaded to ensure adequately trained human resources. The project will also allocate funds for the engagement of technical expertise to guide project implementation with a specific emphasis on commercial orientation. The project implementation will be mainstreamed into the working of Directorates and Universities. JKCIP has made allocations for engaging staff required for mainstreaming priorities, finance, procurement and M&E. Additionally the cabinet constituted the J&K ERA (J&K Economic Reconstruction Agency) a society registered under the JK Societies Act in 2004 to implement externally aided projects. JKERA is currently implementing two World Bank funded projects which are expected to end in Dec 2024 and some of the staff for procurement and financial management are likely to become available. The GoJ&K is likely to onboard them for JKCIP to ensure quick transition.</p>		
Monitoring and Evaluation Arrangements	Moderate	Low
<p>Risk:</p> <p>The current arrangements within the APD are not fully adequate to meet IFAD's requirements. The government has a data collection and reporting system but not a structured M&E system. There is also a shortage of staff overall for such normative functions as M&E.</p>	Moderate	Low
<p>Mitigations:</p> <p>The project design has made provisions for M&E and MIS staff. BMGF has put in place a team of 6 technical experts to support the APD. Allocations are also made for baseline, midline and end-line surveys.</p>		
Project Financial Management	Substantial	Substantial
Project Organization and Staffing	Substantial	Substantial

<p>Risk:</p> <p>Although India has a well-developed accounting profession, IFAD-funded projects can't attract good quality FM staff due to low salaries and not attractive career perspectives</p>	Substantial	Substantial
<p>Mitigations:</p> <p>Complete competitive selection of adequately qualified and experienced FM staff for PMU</p>		
<p>Project Budgeting</p>	Moderate	Moderate
<p>Risk:</p> <p>Budgeting will follow government regulations. Collecting budgets for all implementing partners will be challenging task.</p>	Moderate	Moderate
<p>Mitigations:</p> <ul style="list-style-type: none"> - PIM/FMM will have clear roles and responsibilities for budgeting and timelines. - Create a budget team from PMU staff responsible for the timely collection of budget inputs. 		
<p>Project Funds Flow/Disbursement Arrangements</p>	Substantial	Substantial
<p>Risk:</p> <p>The state government will pre-finance project expenditures, and IFAD reimburses quarterly. Timely allocation of funds to all implementing partners will be key.</p>	Substantial	Substantial
<p>Mitigations:</p> <p>Local commercial bank online banking module will be implemented to timely allocation of funds and payments</p>		
<p>Project Internal Controls</p>	Substantial	Substantial
<p>Risk:</p> <p>There are potential internal control weaknesses at implementing partners' level. Implementing partners will be responsible for collecting supporting documents and filing them. Low staff capacity at implementing partners level may result in not timely and inadequate filing of supporting documents.</p>	Substantial	Substantial
<p>Mitigations:</p> <ul style="list-style-type: none"> - introduction of the online banking system for all implementing partners - the development of PIM and FMM with clear roles for supporting documents filing and accounting record keeping for all implementing partners - Private sector internal auditors will prepare semi-annual internal audit reports to the Steering Committee. -The project will provide Grants and Subsidies, which are prone to higher risks, to agri-businesses in line with pre-agreed eligibility criteria with IFAD eligibility criteria and funds flow arrangements. 		
<p>Project Accounting and Financial Reporting</p>	Substantial	Substantial
<p>Risk:</p> <p>Accounting records must be maintained for all implementing partners in one accounting software.</p>	Substantial	Substantial
<p>Mitigations:</p> <p>Implementation of Tally accounting software for accounting record keeping, financial reporting and accounts reconciliations.</p>		

Project External Audit	Moderate	Moderate
Risk: CAG will audit project financial statements. The audit may be delayed due to a shortage of staffing resources and other priorities of CAG.	Moderate	Moderate
Mitigations: PMU will actively follow-up with CAG to complete the audit on time.		
Project Procurement	Substantial	Substantial
Legal and Regulatory Framework	Substantial	Substantial
Risk: There is no central or state legislation on public procurement. The Ministry of Finance at the central level and Finance Departments at the State level have issued executive orders relating to procurement. The regulatory functions of public procurement are fragmented.	Substantial	Substantial
Mitigations: Through the Financing Agreement, the adoption of IFAD Procurement Guidelines, Procurement Handbook and IFAD SBD and templates will be made applicable for project procurement.		
Accountability and Transparency	Substantial	Substantial
Risk: Insufficient attention to the best practices and publication of data related to public procurement.	Substantial	Substantial
Mitigations: GoJ&K has an e-tendering system which will be used for receiving bids/proposals in a transparent manner. 100% procurement performance audit for community procurement will be carried out. Supreme Audit Institution (SAI) Comptroller and Auditor General (CAG) will carry out procurement performance audit. Necessary details of awards of the contract will be uploaded to the project website. Grievance redressal mechanisms and designation of independent investigative authority exist. Measures preventing prohibitive practices and an appeal mechanism will be set up at the project level.		
Capability in Public Procurement	Substantial	Substantial
Risk: Insufficient capacity of the Government Directorates and Departments for the full gamut of the procurement cycle, particularly in a project mode. Availability and willingness of professionals to be deployed in remote locations from other parts of the country may be a challenge. The nodal department does not have experience in implementing an externally aided project, hence not conversant with the procedures and processes and compliance requirements.	Substantial	Substantial
Mitigations: Project procurement units at PMU and Directorate levels to be set up by engaging skilled procurement professionals. After the need assessment, procurement training will be arranged through National Institutes or other public procurement training service providers for government staff responsible for project procurement. Technical Assistance support is also included in the cost estimates. (Additionally please refer to section on Implementation arrangements and proposed mitigation above)		
Public Procurement Processes	Substantial	Substantial

<p>Risk:</p> <p>The executive orders or General Financial Rules do not address all aspects of public procurement and the State Government does not fully follow the National Task Force and Ministry of Finance guidelines and processes.</p>	Substantial	Substantial
<p>Mitigations:</p> <p>Project Procurement under JKCIP shall follow IFAD Procurement Guidelines, Procurement Handbook, SBD and document templates. IT systems will be used to link the AWPB with the procurement plan and contract administration. For low-value procurement, GeM portal will be recommended for use. A detailed procurement manual will be developed for the project in line with the Financing Agreement and Procurement Arrangements Letter. The procurement thresholds will be set up in line with the detailed risk assessment and mitigation measures proposed during design.</p>		
Environment, Social and Climate Impact	Low	Low
<i>Biodiversity Conservation</i>	<i>Moderate</i>	<i>Moderate</i>
<p>Risk:</p> <p>The project's adverse impacts on biodiversity are expected to be minimal. The risk rating is moderate as JKCIP will engage in nursery management and seedling handling or purchase.</p>	Moderate	Moderate
<p>Mitigations:</p> <p>The project will promote Good Agricultural Practices. Inter or multi cropping will be promoted to increase agro biodiversity. The use of chemical inputs will be regulated and the project will promote bio input use.</p> <p>As mentioned above, JKCIP will have 'zero' deforestation and forest encroachment approaches. Blocks are selected to avoid conservation or protection areas.</p>		
<i>Resource Efficiency and Pollution Prevention</i>	<i>Moderate</i>	<i>Moderate</i>
<p>Risk:</p> <p>The risk is rated as moderate, as JKCIP will involve inputs of fertiliser. However, the project will not engage or lead to release pollutants to the environment.</p>	Moderate	Moderate
<p>Mitigations:</p> <p>The project will promote the use of bio inputs and regulate chemical inputs. GAP will be promoted and organic farming will be among the focus areas. Integrated pest management will be promoted, it will be included in FPO capacity building events. FPO and entrepreneurs will be trained in waste management systems. Training, awareness programs will be organised to create awareness and sensitization on pollution prevention. Local wastewater treatment and reuse will be promoted.</p>		
<i>Cultural Heritage</i>	<i>Low</i>	<i>Low</i>
<p>Risk:</p> <p>The project has no adverse impacts on the cultural heritage. The blocks have been identified during design, taking into account the cultural heritage sites and also other environmentally sensitive areas and biodiversity hotspots.</p>	Low	Low
<p>Mitigations:</p> <p>No project interventions will impact any existing physical heritage sites. The project will apply a national chance find procedure if any heritage found during project implementation.</p>		

Indigenous People	Moderate	Moderate
<p>Risk:</p> <p>The project will support the nomadic tribes to improve their quality of life and incomes. Hence the impact of the project on the IPs is expected to be positive.</p>	Moderate	Moderate
<p>Mitigations:</p> <p>The project will strictly follow IFAD's guidelines on targeting. Geographical targeting, self and direct targeting will be applied in the project intervention areas. FPIC implementation plan has been prepared and will be applied. Inclusive and meaningful participation of tribal communities, where applied, will be ensured to increase their participation and ownership on the project activities.</p>		
Labour and Working Conditions	Low	Low
<p>Risk:</p> <p>The project will have minimal impact on labour and working conditions. As confirmed during the field visit and stakeholder consultation, the project will not engage or lead to increase in child or forced labour, and sexual and gender based violence.</p>	Low	Low
<p>Mitigations:</p> <p>Awareness raising at the community level and among project stakeholders to ensure project activities allow decent working conditions and refrain from GBV practices. Contractor contracts and stakeholders will abide by contract/partnership clauses to ensure adequate working conditions. Furthermore, the GRM system will be established/strengthened so that affected people have access to address and resolve their complaints. Sensitisation will also be done in collaboration with relevant authorities to prevent GBV and child labour. Local facilitators engagement will be increased to work with local leaders and male households' members and promote campaigns for sensitization on gender equality and against gender biases. Gender sensitive and participatory consultations will be ensured while finalising and implementing project activities.</p>		
Community health, safety and security	Low	Low
<p>Risk:</p> <p>The risk is rated low. JKCIP will not have construction activities. Project will not engage in gender based violence, neither increase it.</p>	Low	Low
<p>Mitigations:</p> <p>The Safeguards specialist, together with PMU team, will assess the ground situation and implement solution measures if any new issues emerged during the activities implementation.</p>		
Physical and Economic Resettlement	Low	Low
<p>Risk:</p> <p>The project interventions will not have any direct or indirect impact or cause any physical or economic resettlement of the project targeted population or stakeholders.</p>	Low	Low
<p>Mitigations:</p> <p>The project will ensure proactive targeting to benefit vulnerable and marginal communities so that there will be no issues on economic benefit sharing.</p>		
Greenhouse Gas Emissions	Low	Low

Risk: Not applicable	Low	Low
Mitigations: Not applicable		
<i>Vulnerability of target populations and ecosystems to climate variability and hazards</i>	<i>Moderate</i>	<i>Moderate</i>
Risk: The project area is likely to experience river flood, landslides, and hailstorm. Heat waves are expected to become more common, putting a burden on the society and the environment. Rising temperatures and changing precipitation patterns could have an effect on available water resources. Precipitation is expected to rise slightly to moderately in the future, with much of the increase attributed to heavy downpours.	Moderate	Moderate
Mitigations: The following measures are proposed in ESCMP; Flood and Landslide: i) Adequate, disaster complaint housing for livestock, storage of fodder, veterinary care support, CSA training; ii) Weather forecasts and use Hailstorm: Encourage government department to support nets, promote protective farming Drought: i) Crop diversification, drought tolerant crop; ii) Alternate crops, recycle water; iii) Household water harvesting, iv) Micro irrigation, v) Weather forecasts, and vi) Multi and inter cropping		
Stakeholders	Moderate	Moderate
<i>Stakeholder Engagement/Coordination</i>	<i>Moderate</i>	<i>Moderate</i>
Risk: APD coordinates between the different directorates/ Universities as well as between the teams in the Jammu and Kashmir divisions. Since this is the first IFAD project implemented by APD in recent years, there could be some possibility of exclusion of stakeholder or lack of meaningful engagement.	Moderate	Moderate
Mitigations: Along with the extensive consultation to design the project, a stakeholder engagement plan has been prepared and will be implemented, in addition to the GoJ&K's ongoing initiatives.		
<i>Stakeholder Grievances</i>	<i>Moderate</i>	<i>Low</i>
Risk: GoJ&K has established channels to voice grievances by the stakeholders. The efficacy of this system needs further strengthening.	Moderate	Low
Mitigations: JKCIP will follow the government's well established and operational grievances redress mechanism, details in the FPIC implementation plan. The community platforms through Gram Sabhas and other village-level institutions will offer a platform for beneficiaries to voice their grievances. The project-promoted FPOs will become platforms for grievance redressal.		

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 10: Exit Strategy

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Annex 10: Exit Strategy

JKCIP has been designed as a complementary project of HADP which has been designed in consultation with a high-powered committee under the chair of Dr Mangal Rai, Retired Director General of the Indian Council of Agricultural Research with accomplished members. This committee extensively consulted with the relevant Directorates and Universities of Agriculture Science and Technology to identify interventions. These consultations and discussions have resulted in a sound approach and a suite of interventions which will be implemented with strong community participation and engagement of government officials and the private sector. JKCIP's exit strategy hinges on the progress achieved with regard to the sustainability of three major activities of the project: (i) FPO promotion and support for collectivization; (ii) value chain support for niche agricultural and horticultural crops; and (iii) enterprise support for expanding value addition and marketing.

FPO promotion and support for collectivization: The project plans to support 56 existing FPOs and mobilise 45 new FPOs. The mobilisation strategy will build in sustainability and exit strategy from the very beginning. Farmer Producer Organizations (FPOs) are collectives or cooperatives formed by small and marginal farmers to improve their bargaining power, access resources, and enhance the sustainability of their agricultural practices. Sustainability and exit strategies for FPOs are essential to ensure their long-term success and the well-being of their members. As the first step, the project will support continuous training and capacity-building programs for FPO members to enhance their skills and knowledge related to sustainable agricultural practices, efficient resource management, and market trends.

The capacity building will focus on the emergence of the FPOs as sustainable businesses. The sustainability of the FPOs depends on the financial viability of FPOs covering their operational costs and providing dividends or benefits to their members. This involves effective financial management, including budgeting, cost control, and revenue generation through marketing, value addition, and access to government schemes and grants. The project has built-in required capacity building and handholding to achieve this. Best practices such as mobilization of the FPO around businesses to be owned and managed by the community, payment of operating costs against the achievement of the targets in achievement of performance standards and continuous performance assessment to ensure course correction during implementation will be implemented.

The project intends to facilitate the FPOs to establish strong market linkages to ensure that their produce is sold at fair prices. Contracts with wholesalers, retailers, or agribusinesses can secure market access, stabilize prices, and create a steady income for members. The project intends to address these aspects with support for the aggregation of inputs and outputs coupled with the establishment of market linkages. The project will also provide support for business planning and for establishment of the businesses related to diversification and value addition so that FPOs can enhance their sustainability by diversifying their product portfolio and adding value to their produce. For example, they can explore processing and packaging, which can increase the shelf life of products and fetch higher prices. FPOs would focus on ensuring their members have access to modern farming technology, quality seeds, fertilizers, and other inputs, which can improve agricultural productivity and sustainability. The project will promote sustainable agricultural practices, such as organic farming and efficient water management which lead to environmentally friendly and sustainable farming.

Exit strategies for FPOs have been designed to ensure that the organization's benefits and impact continue even if the original leadership or stakeholders change. The exit strategy options built into mobilization include: (i) a strategy where members gradually take on a larger role in management and ownership of the organization with a well-structured plan for rotation of leadership membership rotation coupled with training members to assume leadership positions and make important decisions; (ii) collaborations with agribusinesses companies to provide stability and resources which

can involve joint investments, knowledge sharing, and access to markets, which, over time, might lead to joint ownership or shared governance; and (iii) strengthening the FPO's bylaws and governance structure to ensure smooth transitions and prevent the organization from becoming overly dependent on specific individuals leading to elite capture. The sustainability and exit strategies for FPOs have developed considering experience from other IFAD-funded projects and will be periodically reviewed to adapt to changing circumstances.

Value chain support for niche agricultural and horticultural crops: the project intends to support niche agriculture crops. The project support for value chain support will be for improving the production and productivity of the niche crops. The major niche crops identified include Saffron, Black Cummin, Offseason vegetables, Lavender, etc. The project will build the capacity of the community to implement good agricultural practices to improve the production of quality produce, judicious use of fertilizer and pesticides and reduction of transaction costs. The project will help the establishment of market linkages for the farmers to start shifting towards market-led production. The project will provide support for the expansion of the production area and to implement good agricultural practices with matching grants not exceeding 50 percent of the total investment costs. As an exit measure, the project will put in place systems for recovering the support provided to the community from the project and start a system of revolving the same amongst the community members.

The project will also support the expansion of horticultural crops with the expansion of high-density apple orchards and area expansion under other diversified fruit crops. The project will provide 50 percent support for area expansion with systems for recovering project support as an exit strategy to ensure the revolving of project support amongst the members. Many apple farmers are facing production, productivity and quality decline due to inadequate focus on tree management. The sustainability of project interventions and exit depends on the ability of the farmers to increase the quantum of A-grade fruits. The project will also support an enterprise-led solution to tree management practices. The project will initially support the establishment of this enterprise and thereafter, systems will be put in place to operate this activity as a business for the benefit of both farmers and the entrepreneur. These measures will make project exit seamless.

Enterprise support for expanding value addition and marketing. The project proposes a private entrepreneur-led enterprise promotion support. Sustainability and exit strategies are critical considerations in an entrepreneur-led model of development, especially in the context of startups and businesses that aim to create positive social or environmental impacts. These two concepts are interrelated and play a significant role in ensuring the long-term success and impact of such ventures. Sustainability in the context of entrepreneurship and development refers to the ability of a business or project to maintain its operations and impact over the long term. Sustainable ventures consider economic, environmental, and social factors. The profitability of the business is the key criterion for achieving sustainability but at the same time, the entrepreneurs should focus on: (i) the social and environmental impacts of their ventures which is known as the "triple bottom line," that ensures the businesses consider people and the planet alongside profits; (ii) sustainable businesses optimize their use of resources, reduce waste, and minimize their carbon footprint which not only reduces costs but also aligns with environmental goals; (iii) the ability to adapt to changing market conditions and evolving social and environmental needs which require entrepreneurs to be agile and responsive to stay relevant and effective; and (iv) engaging with stakeholders, including customers, employees, and local communities, that are vital to understanding their needs and building support for the venture's goals.

The project's enterprise support considers two major aspects related to sustainability and exit from project support. The project will support private entrepreneurs to take enterprise development that will add value to the agriculture and horticulture products from J&K. The project will initially support the entrepreneurs with business development services for the preparation of the project reports and feasibility reports. These services

will facilitate the entrepreneurs to understand the project's profitability and the ability to repay the loans. The project will also facilitate bank linkages to assist the entrepreneurs in financing the project and to conduct the next level of due diligence from the loan appraisal perspective.

Since the cost of investment is very high in the Himalayan region in general and J&K in particular mainly on account of higher transport costs, the project in consonance with the GoI and GoJ&K guidelines provided matching grant not exceeding 50 percent of the investment costs to improve the financial viability of the project. In addition, the matching grant also enhances the risk-taking ability of the project. These aspects enhance the ability of the project to exit with a speedy progression of entrepreneurs into profitability.

The exit strategy for the project focusing on enhancing financial access and inclusivity in the Jammu and Kashmir region involves several key steps to ensure sustainability and continued impact after the project's completion. These steps are designed to transition the responsibility and capability to the local stakeholders, including smallholders, Farmer Producer Organizations (FPOs), and entrepreneurs. Here's an outline of the exit strategy based on the project activities:

1. **Self-Sustainability of Pilot Projects:** Ensure that the pilot projects for improved access to finance are designed to become self-sustaining. This involves establishing clear business models and revenue streams or integrating the pilots into existing local systems that can continue without external support.
2. **Integration of Financial Literacy into Local Institutions:** Transfer the responsibility of continuing financial literacy campaigns to local educational institutions, community organizations, or FPOs. Develop a train-the-trainer model to create a cadre of local trainers who can perpetuate financial literacy education.
3. **Local Ownership of Credit Facilitation:** Train local stakeholders, such as the staff of FPOs or community leaders, to take over the role of the Rural Finance Manager. This would include skills in navigating credit processes, proposal writing, and understanding credit terms, ensuring that the community retains these capabilities.
4. **Strengthening Partnerships:** Solidify partnerships and alliances with NBFCs, MFIs, and technology firms to ensure they are robust and continue beyond the project lifespan. These partnerships should be structured to provide ongoing support to the local communities and FPOs.
5. **Sustainable FPO Development:** with a clear roadmap for FPOs to achieve financial management self-reliance, ensuring they can maintain compliance and access to banking services independently. This might involve setting up internal training programs, mentorship structures, or partnerships with local financial institutions.

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 11: Mainstreaming themes – Eligibility criteria checklist

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Mainstreaming themes – Eligibility criteria checklist						
	<input type="checkbox"/> Be gender transformative	<input checked="" type="checkbox"/> Be youth sensitive	<input type="checkbox"/> Be nutrition sensitive	<input type="checkbox"/> Prioritize persons with disabilities	<input type="checkbox"/> Prioritize indigenous peoples	<input checked="" type="checkbox"/> Include climate finance <input checked="" type="checkbox"/> Build adaptive capacity
Situation analysis	<input type="checkbox"/> National gender policies, strategies and actors <input type="checkbox"/> Gender roles and exclusion/discrimination <input type="checkbox"/> Key livelihood problems and opportunities, by gender	<input checked="" type="checkbox"/> National youth policies, strategies and actors <input checked="" type="checkbox"/> Main youth groups <input checked="" type="checkbox"/> Challenges and opportunities by youth group	<input type="checkbox"/> National nutrition policies, strategies and actors <input type="checkbox"/> Key nutrition problems and underlying causes, by group <input type="checkbox"/> Nutritionally vulnerable beneficiaries, by group	<input type="checkbox"/> National policies, strategies and actors <input type="checkbox"/> Main groupings among PwDs <input type="checkbox"/> Context-based barriers and opportunities for PwDs	<input type="checkbox"/> International standards, national policies, strategies and key IPs' organizations <input type="checkbox"/> Main IPs communities, demographic, social, cultural and political characteristics <input type="checkbox"/> Important livelihoods constraints and opportunities for IPs and their cultural heritage	
Theory of change	<input type="checkbox"/> Gender policy objectives (empowerment, voice, workload) <input type="checkbox"/> Gender transformative pathways <input type="checkbox"/> Policy engagement on GEWE	<input checked="" type="checkbox"/> Pathways to youth socioeconomic empowerment <input checked="" type="checkbox"/> Youth employment included in project objectives/activities	<input type="checkbox"/> Nutrition pathways <input type="checkbox"/> Causal linkage between problems, outcomes and impacts	<input type="checkbox"/> Pathways to PwDs' socioeconomic empowerment using a twin-track approach	<input type="checkbox"/> Pathways to IPs' socioeconomic empowerment	
Logframe indicators	<input type="checkbox"/> Outreach disaggregated by sex, youth and IPs (if appropriate) <input type="checkbox"/> Women are > 40% of outreach beneficiaries <input type="checkbox"/> IFAD empowerment index (IE.2.1)	<input checked="" type="checkbox"/> Outreach disaggregated by sex, youth and IPs (if appropriate) <input checked="" type="checkbox"/> Persons with new jobs/employment opportunities (CI 2.2.1)	<input type="checkbox"/> Outreach disaggregated by sex, youth and IPs (if appropriate) <input type="checkbox"/> Targeted support to improve nutrition (CI 1.1.8) Outcome level CIs <input type="checkbox"/> CI 1.2.8 MDDW <input type="checkbox"/> CI 1.2.9 KAP	<input type="checkbox"/> Outreach disaggregated by sex, youth, disability and IPs (if appropriate)	<input type="checkbox"/> Outreach indicator disaggregated by sex, youth and IPs <input type="checkbox"/> IPs are > 30% of target beneficiaries	
Human and financial resources	<input type="checkbox"/> Staff with gender TORs <input type="checkbox"/> Funds for gender activities <input type="checkbox"/> Funds for IFAD empowerment index in M&E budget	<input checked="" type="checkbox"/> Staff with youth TORs <input checked="" type="checkbox"/> Funds for youth activities	<input type="checkbox"/> Staff or partner with nutrition TORs <input type="checkbox"/> Funds for nutrition activities	<input type="checkbox"/> Staff with disability inclusion-specific TORs <input type="checkbox"/> Funds for disability inclusion-related activities (including accessibility)	<input type="checkbox"/> Staff with IPs-specific TORs <input type="checkbox"/> Funds for IPs related activities, including FPIC	IFAD Adaptation Finance \$50,776,000 IFAD Mitigation Finance \$0 Total IFAD Climate-focused Finance \$50,776,000

ECG Remarks	Gender Nutrition Youth Persons with Disabilities Indigenous Peoples <input type="checkbox"/> No social inclusion themes
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India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex 12: List of eligible activities to be financed by FIPS

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Annex 12: Grant regime and financing plan for household-level investments

Category of beneficiaries	Example activities	# of grants	Total Value of Grants budgeted	Grant/Loan size	Grant/ loan policy
Farmer Producer Organizations	Equity support for mobilizing equity capital for the FPOs	45	Total investment US\$ 481,000 Beneficiary: US\$ 240,500 (50%) IFAD grant – US\$ 192,000 (40%) GoJK grant: US\$ 48,100 (10%)	Max Rs 2000 per member.	Matching equity support (50%) from the project – additional incentives to women and youth to be worked out by the project but not exceeding Rs 3,000 per women/youth member. This will be the equity capital of the FPO and will be partly used as a contribution for business investments. The FPO will have been receiving services for at minimum six months (or whatever is determined in the scorecard methodology)
Farmer Producer Organizations	Equity support for Collective investments (semi-public) – aggregation of inputs and outputs, farm mechanization units, collective irrigation/water management systems, orchard management business and other businesses.	120	Total investment: US\$ 2.58 million Beneficiary: US\$ 1.29 million (30%) IFAD Grant – US\$ 0.1.03 million (40%) GoJK grant: US\$ 0.774 million (30%)	Unit cost Rs 200,000 to Rs 1,000,000. 70% grant initially.	These investments will be performance based available to FPOs with a minimum 100 members and have mobilized the required contribution of 30% based on participatory business planning, subject to achieving Level 2 (and after a minimum of 18 months as project FPOs). A total of two grants may be awarded to each FPO, based on access to finance, performance with a declining grant percentage. During the project implementation pilots will be developed provide loans to FPOs and thereafter this support will be reviewed. The equity capital noted above may be used for FPO contribution. The project will work with the banks and develop tools and

Category of beneficiaries	Example activities	# of grants	Total Value of Grants budgeted	Grant/Loan size	Grant/ loan policy
					products to improve access of farmers to bank finance.
Smallholder farmers for niche agricultural crop production	Support for enhancing production and productivity. Diversification into Saffron, Black Cummin, Aromatic rice, Off-season vegetables, aromatic and medicinal plant and other niche crops	7,270	Total Investment US\$ 33.29 million Beneficiary: US\$ 16.65 million (50%) IFAD grant – US\$ 13.3 million (40%) GoJK grant: US\$ 3.33 million (10%)	Unit cost of Rs 5000 to Rs 34,000 per Kanal. Limit of 500,000 and/or 20 Kanals, which ever is lowest. Maximum 50% grant only for fixed assets, with the exception of saffron which will include 1 year of working capital if required.	The project will target FIGs and individual farmers to provide this support. Balance 50% either from own contribution of the farmer or through loans under Kisan credit card. [The project will implement this activity in clusters and will develop FIGs comprising not more than 20 persons. This will enable ease of extension service delivery and also aggregation of inputs and outputs for forward and backward linkages.]
Small holder farmers for horticultural crop production	Support for enhancing production and productivity of horticultural crops and diversification and intensification of fruit and nut crops – Apple, Walnut, Mango, Litchi, Citrus, Kiwi and others	44,200	Total Investment US\$ 37.64 million Beneficiary: US\$ 18.82 million (50%) IFAD grant – US\$ 15.06 million (40%) GoJK grant: US\$ 3.76 million (10%)	Unit cost of Rs 20,000 to Rs 200,000 per Kanal. 50% grant Limit of 500,000 and/or 20 Kanals, whichever is lowest.	The project will target FIGs and individual farmers. Balance 50% from own contribution of the farmers. During project implementation products for financing the horticultural crops will be introduced and thereafter the grant support will be reduced. The grant will only finance the fixed asset investment.
Small holder farmers for horticultural crop production	Support for horticultural nurseries, solar fencing, irrigation facilities	1,635	Total Investment US\$ 19.88 million Beneficiary: US\$ 9.94 million (50%) IFAD grant – US\$ 7.95 million (40%) GoJK grant: US\$ 1.99 million (10%)	Unit cost of Rs 200,000 to Rs 1,000,000. 50% grant	The project will target FIGs, FPOs and individual farmers. For fixed assets and land improvements only. Balance 50% from own contribution of the farmers. During project implementation innovative products for financing these activities will be introduced and thereafter the grant support will be reduced.

Category of beneficiaries	Example activities	# of grants	Total Value of Grants budgeted	Grant/Loan size	Grant/ loan policy
Entrepreneurs	Grading lines, processing units, CA storages, mushroom production, agri-tourism, honey production and processing and others	2,321	Total Investment US\$ 53.07 million Beneficiary: US\$ 26.53 million (50%) IFAD grant – US\$ 21.22 million (40%) GoJK grant: US\$ 5.31 million (10%)	Unit cost from Rs 200,000 to Rs 2,000,000. In some cases such as CA stores cost may reach Rs 105 million. Grant of 50% but not exceeding Rs 10 million. Grants <50000: Support 40(ifad), 10 GoJK 500000-2 MM: Support 30 (IFAD), 10 GoJK 2MM-10 MM: Support 20(IFAD) and 10 (GoJK)	The project will target individuals, partnerships and companies with grant supported investments to be rural based outside (>50km of Srinagar and Jammu) Grants will be for no more than 50% of the fixed asset investments. Disbursement of grants will be contingent upon the securing of loan financing from banks. This ensures that grant funds are allocated in tandem with additional financial support, reinforcing the viability and commitment of the entrepreneurial projects. The project will assist with the screening/pre qualification of potential grant recipients. The bank will evaluate the business and financial proposals and sanction the disbursement of grant against the loan approval. During project implementation innovative products for financing these activities will be introduced and thereafter the grant support will be reduced. The project will establish special incentives to attract women and youth owned businesses. Preference will be given to those financial proposals/entrepreneurs which indicate a high percentage of sourcing from smallholders. A complete list of eligible business types and investment types will be outlined in the PIM.

Category of beneficiaries	Example activities	# of grants	Total Value of Grants budgeted	Grant/Loan size	Grant/ loan policy
Start-ups	Start-up businesses in agri and allied sectors	358	Total Investment US\$ 2.80 million IFAD grant – US\$ 2.24 million (80%) GoJK grant: US\$ 0.56 million (20%)	Only seed capital of Rs 200,000 per start-up to be provided as grant and all scale up capital will be accessed through bank loan and convergence.	The project will target individuals with business idea and mentor them to grow into businesses. The mentorship will include both technical and financial mentorship.
Vulnerable community support	Milk collection centres, processing of milk products, ice boxes for fisherfolk (largely semi-public investments)	5,012	Total Investment US\$ 1.06 million IFAD grant – US\$ 0.85 million (80%) GoJK grant: US\$ 0.21 million (20%)	Unit cost of Rs 120,000 to 250000 (individuals) to Rs 251,000 to 1,000,000 (communities). 80% grant	The project will target vulnerable communities comprising pastoralists and fisherfolk. The grant release for milk collection centres and milk products will be given to groups, and due diligence will be conducted to ensure that the infrastructure will be managed
Vulnerable community support	Micro-enterprise support - trading, small shops, livestock units	2,050	Total Investment US\$ 5.34 million Beneficiary: US\$ 2.67 million (50%) IFAD grant – US\$ 2.13 million (40%) GoJK grant: US\$ 5.34 million (10%)	Unit cost of Rs 200,000. 50% grant	The project will target vulnerable communities who have started settling down. Grant release linked to financing of loans from banks/MFIs

Rationale for grant

- Governments provide grants for farm and enterprise investments to promote these investments for fast-tracking employment generation in the local area to reduce outmigration to the cities in search of jobs.
- Agriculture and enterprise investments in remote locations require higher levels of initial investments making them not competitive with other parts of the country and hence the Government provides higher levels of grants in J&K. However the investments must be competitive and this will be determined by a feasibility study.
- These investments are prone to unforeseen risks both climate and market risks and the grants reduce the investment risks of the farmers and enhance production and productivity. Grant provision for such underserved special areas is a global phenomenon to hedge these risks.

- High level of collateral requirements make access to finance difficult. Grants combined with access to finance activities should improve access to finance.
- Grants, carefully articulated, help accelerate investment and economic development of rural areas and the government will reap economic benefits from higher tax collection, improved employment generation, reduced migration and reduced stress on overcrowded cities.

Grant principles

- Individual entrepreneurs/farmers/companies and partnerships will get only one-time grant support, disbursed in tranches linked to Business plan milestones and bank financing. There will be no second tranche of support and they will not have had any grant or subsidy support from government or other projects for the last 5 years, including subsidized rents and leases, subsidy in utilities, subsidy for inputs etc.
- All other grants (with exception of FPOs), including those to FIGs and smallholder farmers under production grants, will get only one-time grant support. There will be no second tranche of support and they will not have had any grant or subsidy support from government or other projects for the last 5 years, including subsidized rents and leases, subsidy in utilities, subsidy for inputs etc. Smallholder farmers as part of an FPO may receive a grant under these categories for individual business needs. Receipt of technical assistance will be a requirement and will be indicated as part of the screening.
- All grants in enterprise promotion will be subject to the sanction of bank loans. They will prepare a detailed investment and business plan which will be developed in a format with input from bank partners. All feasibility studies will include a pro forma calculation of returns w/o grant support/subsidy, as well as with grant/subsidy support. They will also include explicit ties to smallholders as suppliers. The project will pre-screen these recipients against criterion, and the bank will evaluate the financial proposal for feasibility. The grant will be released by the bank only subject to loan approval.
- All farm-based grants will be subject to farmers' ability to mobilize the balance amount through their sources and or bank loans.
- FPO capitalization grants will be recovered and used for reinvestment. Yearly grant for covering seed and fertilizer supply will not be provided. All grants will be one time and based on a business plan.
- The grant procedures will be aligned with the ongoing grant mechanisms of the J&K and will be restricted to no more than 50% of the cost of investment. In the event, GoJK reduces the grant quantum in the sector, the same will apply to JKCIP. Any changes to the grant regime will be outlined and evaluated in a supervision mission and with the no objection of IFAD.
- The release of grants to FPO will be linked to the achievement of specific levels in a graduation scorecard. Receiving services for a minimum period (six months or as determined by the scorecard methodology) and achieving Level 1 in the scorecard are prerequisites for initial equity funding. Reaching Level 2, after a minimum of 18 months as project FPOs, is required for additional support.
- The grant disbursement for milk collection centres and milk product processing will be exclusively allocated to group initiatives rather than individuals. Comprehensive due diligence will be conducted to ensure that the proposed infrastructure will be effectively and sustainably managed.

- During implementation, the principles, rationale and quantum of grants will be further finetuned and operationalised in discussion with the GoJ&K and will be guided by the above, to ensure a harmonized approach on the ground with a focus on limiting the risk of elite capture, sustainability and a clear exit strategy.

India

Competitiveness Improvement of Agriculture and Allied Sectors Project in Jammu and Kashmir (J&KCIP)

Project Design Report

Annex: Annexure on Value Chains profile

Mission Dates: 03 Oct 2023 to 20 Oct 2023

Document Date: 08/03/2024

Project No. 2000003933

Report No. 6741-IN

Asia and the Pacific Division
Programme Management Department

Market Review: Saffron

JK



Key facts of Saffron value chain

Few facts

- Monoculture
- Cultivated from saffron corms (bulbs).
- Corms can produce flowers for up to a decade.
- Harvesting the flowers. After harvest, the saffron stigma (the red part of the flower) is



Season of production
August to November



Profile of farmers

Type of farming: Marginal and small farm

Size of the farm: 0.5 ha (majority)
Labor intensive – hand picked corms and removal of saffron stigma manually.

Main final products:
Crocus sativus Saffron variety, characterized by its long, deep red stigmas and strong aromatic flavor



Yield

2.5 kg/ha

Number of Producers: 16,000

Area under production: 3715

Quantity produced : 9.2 MT

Producing Districts:
Pulwama, Srinagar, Budgam and Kishtwar, Baramulla, Poonch, Batote, Rajori

Type of farming: Medium farm

Size of the farm: 0.5 to 1 ha (majority)
Labor intensive – hand picked corms and removal of saffron stigma manually.

Saffron Cropping System

1. **Soil:** Well-draining, pH 6-8, enriched with compost.
2. **Planting:** Corms planted in summer (Aug-Sep), 10-15 cm apart/deep.
3. **Growth:** Flowers bloom in autumn; each has three red stigmas.
4. **Harvesting:** Hand-pick flowers in early morning, separate saffron threads.
5. **Drying:** Sunlight, shade, or dehydrator.
6. **Storage:** Airtight containers in a cool, dark place.
7. **Dormancy:** Winter phase; protect from excessive moisture.
8. **Corm Multiplication:** Cormlets produced around original corm; replant every few years.
9. **Pests/Diseases:** Monitor for fungi and pests like rodents.

Type of farming: large farm

Size of the farm: 1 ha and above (majority)

Labor intensive – hand picked corms and removal of saffron stigma manually.

Special Consideration and Challenges

Special Consideration for Saffron

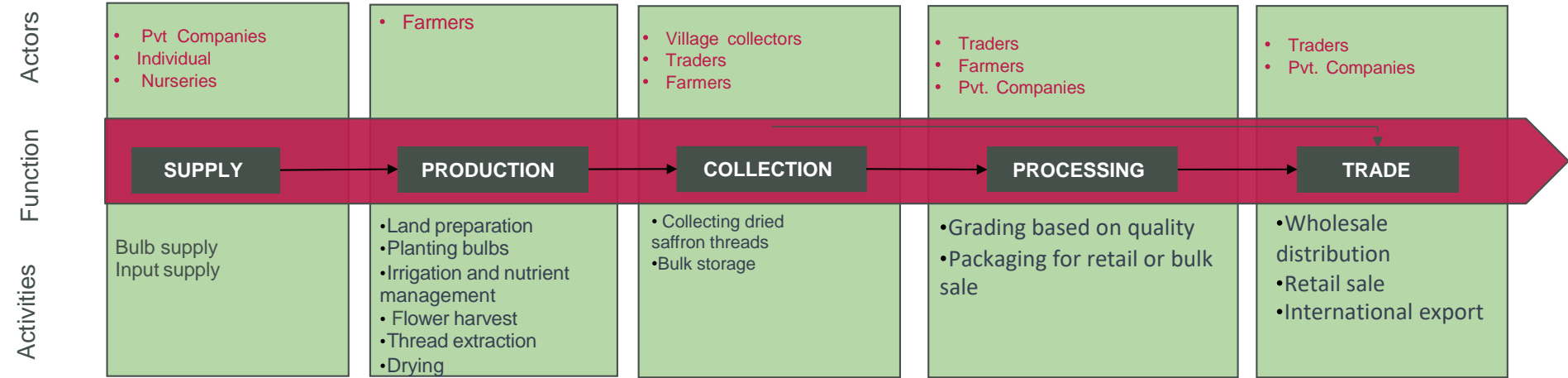
- **Harvest Timing:** Saffron flowers bloom for only a few weeks in the fall, and the saffron threads (stigmas) must be harvested by hand on the morning they bloom.
- **High Labour Intensity:** It takes thousands of flowers to produce a single pound of saffron spice, making it one of the world's most labour-intensive crops.
- **Storage:** Saffron threads are delicate and must be stored in a cool, dry place to maintain their flavour and potency.

Challenges

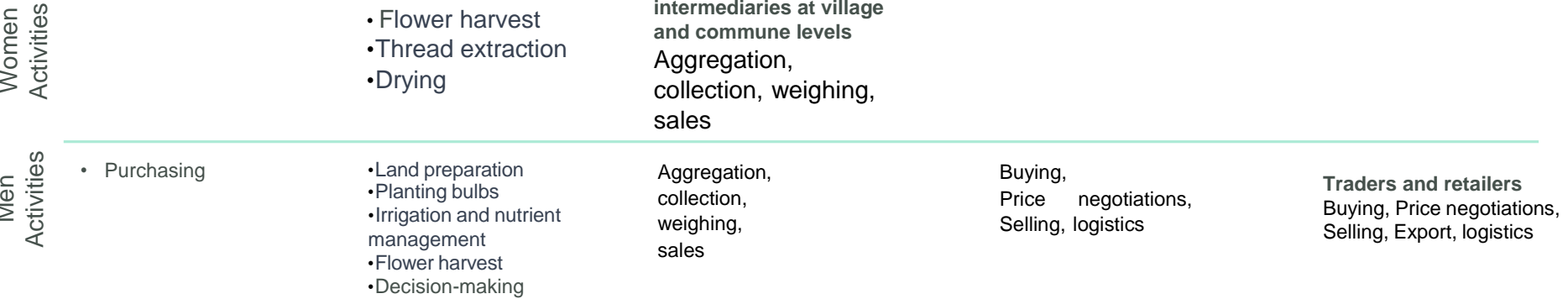
- **Low Productivity:** The productivity of saffron has faced a decline, which may be attributed to outdated farming practices, soil degradation, and disease incidence.
- **Irrigation Infrastructure:** The region has faced challenges in maintaining consistent and efficient irrigation, which is crucial for saffron cultivation.
- **Quality Corms Availability:** The availability of high-quality corms is a challenge. Corms determine the yield and quality of the saffron crop.
- **Cheap Imports:** Influx of cheaper saffron from other countries affects the profitability of the local farmers.
- **Fragmented Supply Chain:** A disorganized supply chain makes it difficult for farmers to get fair prices and reach wider markets.
- **Middlemen:** Their presence in the value chain often reduces the profits that reach the actual producers.
- **Climate Change:** Changing weather patterns (reduced rainfall and snowfall and temperature fluctuation adversely affect saffron production.

Main Actors in the Rice Value Chain

Mains actors



Women are key actors in the saffron value chain, as they do flower extraction, thread extraction and dying

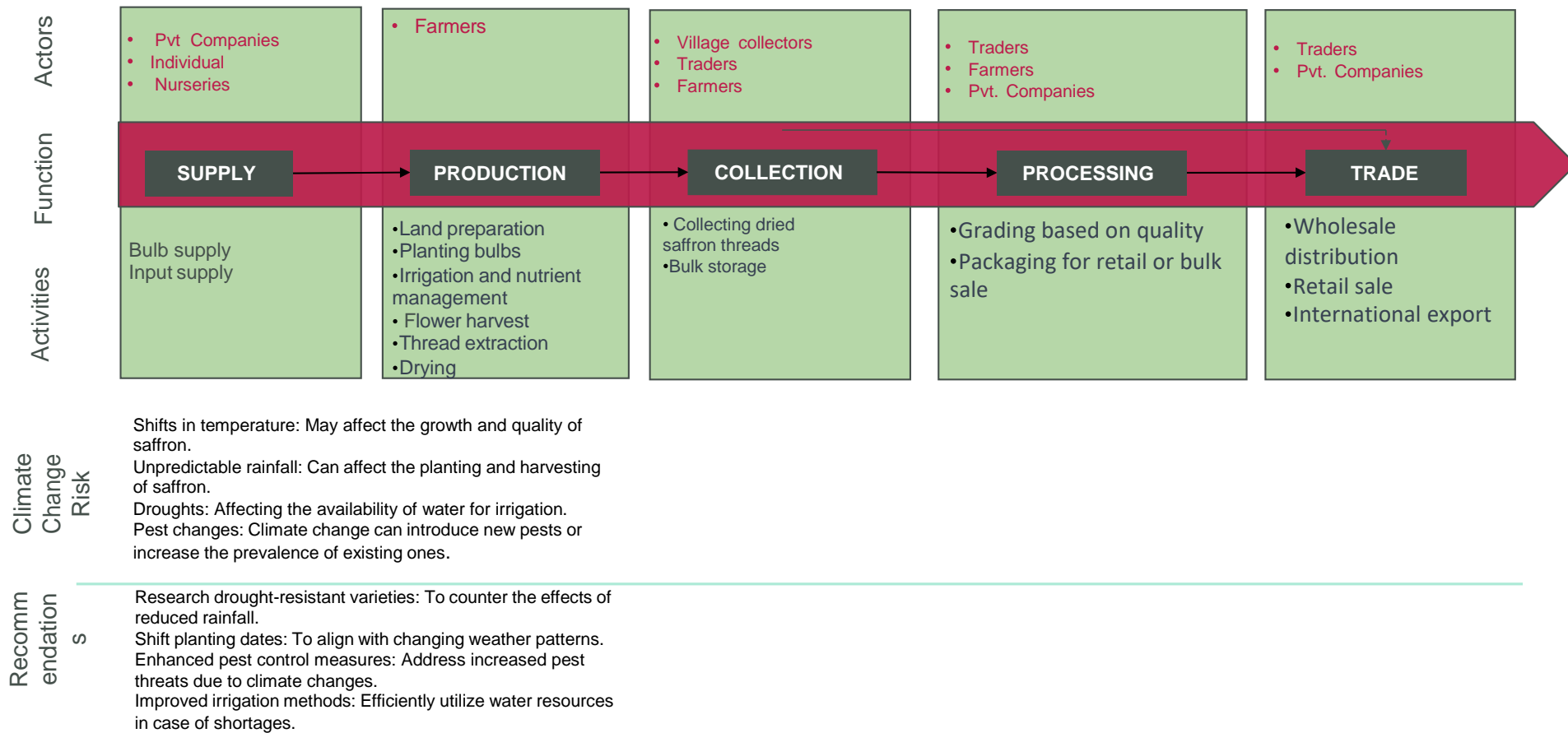


Special Gendered Observations:

- **Decision Making:** In traditionally patriarchal societies like J&K, major decisions related to finances, selling, and expansion is made by men. However, women, especially those involved in the day-to-day operations, have significant influence and provide crucial insights.
- **Labour Intensity:** The labour-intensive nature of saffron harvesting and processing means that all available family members, both male and female, are often involved in these tasks during the peak season.
- **Economic Empowerment:** Saffron cultivation can be a means of economic empowerment for women, especially in regions where they can take on roles like grading, packaging, and retailing.

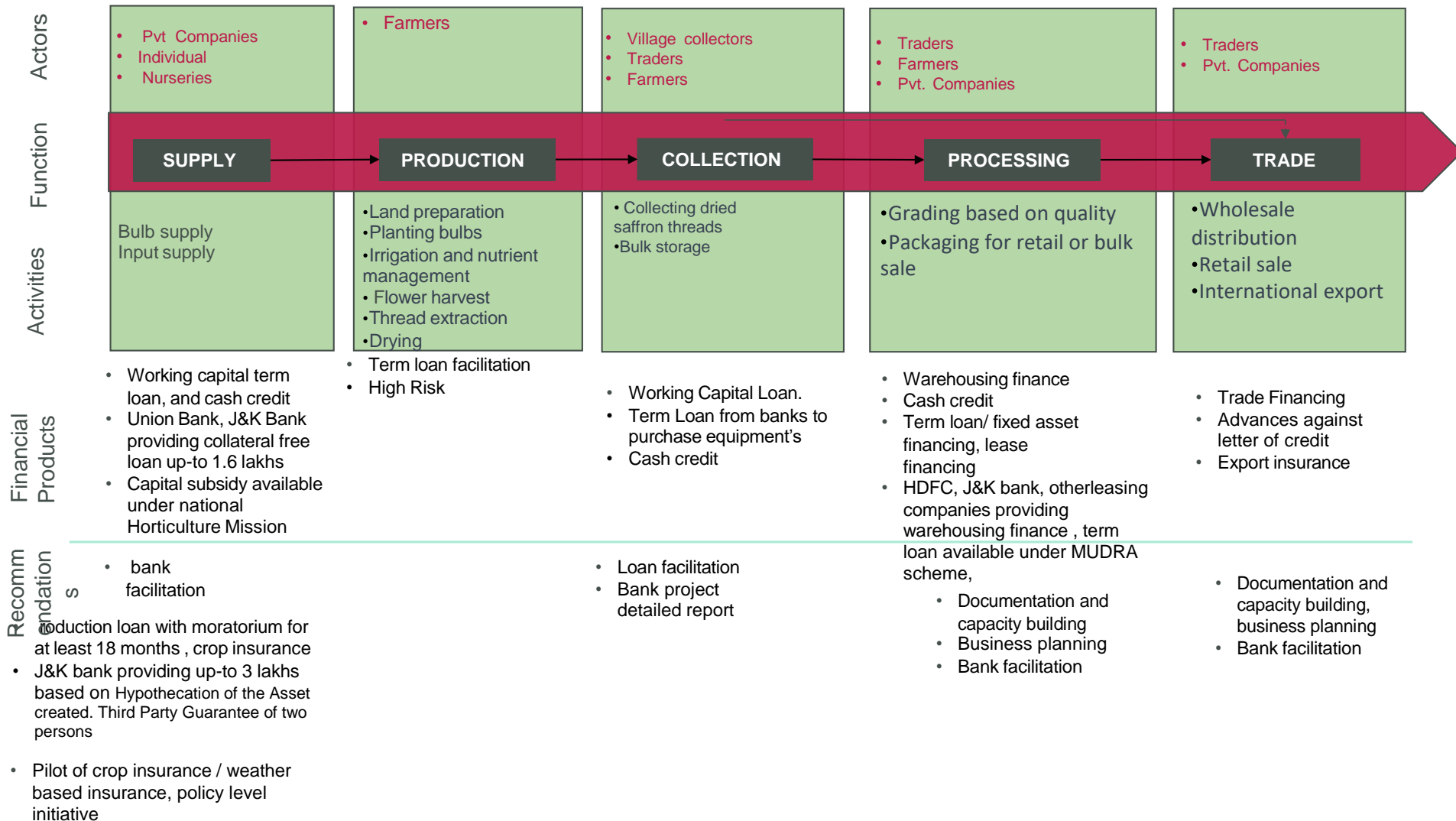
Main Actors in the Saffron

Mains actors



Financial Products and Recommendation

Mains actors



Identify and Review Market Issues

- **Low saffron prices:** The price of saffron fluctuates due to several factors, such as overproduction in major saffron-producing regions, counterfeiting, and adulteration. This can impact genuine saffron producers who invest significant effort and resources into ensuring quality.
- **High input costs:** Saffron cultivation requires specific conditions, and any inputs, such as specialized fertilizers or equipment for thread extraction, can be costly. Moreover, the labor-intensive process of saffron harvesting makes it one of the most expensive spices to produce.
- **Lack of access to credit:** Saffron farmers, especially in traditional growing areas, may not have easy access to formal credit systems, limiting their ability to invest in improved cultivation methods or technologies.
- **Adulteration and Counterfeit products:** The high value of saffron makes it a prime target for adulteration and counterfeit products, which not only deceive consumers but also depress the price of genuine saffron.
- **Poor infrastructure:** In some saffron-producing regions, there is insufficient infrastructure to efficiently transport, process, and store the saffron, leading to quality degradation and potential loss of income for farmers.
- **Climate change:** As with many crops, saffron is sensitive to climatic conditions. Unpredictable weather patterns, including unexpected rainfall or temperature fluctuations, can adversely affect saffron yields.
- **Stringent quality standards for export:** Exporting saffron to international markets requires adherence to stringent quality standards. Meeting these standards can be challenging for small-scale farmers or those without the resources to ensure consistent quality.

1. Soil & Water Management in J&K for Saffron:

- Soil Management:** The unique loamy soil of J&K is ideal for saffron cultivation. Maintaining its health through practices like organic matter incorporation can ensure optimal saffron yields. Soil testing in the saffron fields can help monitor nutrient levels.
- Water Management:** Given J&K's varying rainfall, efficient irrigation techniques can be crucial. Drip irrigation can ensure water reaches saffron corms directly, minimizing waste.

2. IPM & INM for Saffron in J&K:

- IPM:** Saffron fields in J&K occasionally face threats from pests like corm rot. Implementing IPM can help manage such threats using sustainable methods.
- INM:** The practice can be adapted to ensure saffron fields get nutrients both from organic (like compost) and inorganic sources, optimizing growth.

3. New Area Development for Saffron in J&K:

- Exploring potential areas within J&K that have the right altitude and climate for saffron cultivation, and providing necessary infrastructure support.

4. Market Promotion of GI Tagged Saffron from J&K:

- Kashmiri saffron has received a GI tag due to its distinct flavor and color. Promoting this GI tag can attract a premium in both national and international markets, emphasizing its superior quality and authenticity.

5. Enterprise Strengthening through FPO in J&K:

- FPOs can help saffron farmers in J&K with collective procurement of corms, shared processing units, and access to larger markets, ensuring better prices and reduced intermediaries.

6. Private Sector Collaboration for COE Business Planning for Saffron in J&K:

- Engaging with private entities can establish research and training centers focused on saffron in J&K. These can be hubs for advancing saffron cultivation techniques and post-harvest practices.

7. Protected Indoor Cultivation Technology for Saffron in J&K:

- Given the sensitivity of saffron to environmental factors, exploring protected cultivation methods in J&K can help ensure consistent yields. Techniques like greenhouse cultivation can be researched for their viability for saffron.

Vegetables Value Chain :

J&K



Key facts of Vegetable value chain



Few facts

Main products :

Capsicum, carrot, cucumber, okra, kinnow, and lemon



Season of production

All year around

Yield 28.5 MT/Ha

Area under production: 31,000 Ha

Production: 8,83,500 MT



Profile of farmers

Type of farming: Small farm

Size of the farm: 0.25 – 1.5 ha

Mechanization: Minimal

Mainly subsistence farming

Type of farming: Medium farm

Size of the farm: 0.25-1.5 ha

Mechanization: Few primary processing units

Type of farming: Large farm

Size of the farm: 2 – 5 ha

Mechanization: few processing units

Cropping System

The cropping system is primarily influenced by the altitude and climatic conditions, ranging from subtropical in Jammu to temperate and cold arid in Kashmir and Ladakh, respectively. Here's a brief overview of the vegetable cropping system in Jammu and Kashmir:

Zonal Cropping Systems:

Sub-Tropical Zone (Jammu region): Vegetables like tomato, brinjal, okra, cucurbits, and chillies are grown during the summer months. During winters, the region sees the cultivation of off-season vegetables such as cauliflower, radish, peas, and carrot.

Temperate Zone (Kashmir Valley): The primary crops include cabbage, cauliflower, knol-khol, turnip, radish, carrot, and beetroot. Given the temperate climate, the valley also sees the cultivation of some exotic vegetables like broccoli, lettuce, and celery.

Cold Arid Zone (Ladakh region): Due to the short growing season and cold conditions, the main vegetable crops are hardy ones like turnip, radish, pea, and spinach.

Seasonal Cropping:

Kharif Season (Summer): Major vegetables cultivated during this season include tomato, brinjal, pumpkin, cucumber, and beans.

Rabi Season (Winter): Vegetables like cabbage, cauliflower, knol-khol, turnip, radish, and spinach are grown.

Zaid Season (Short season between Rabi and Kharif): This season sees cultivation of quick-growing vegetables like melons, cucumbers, and gourds.

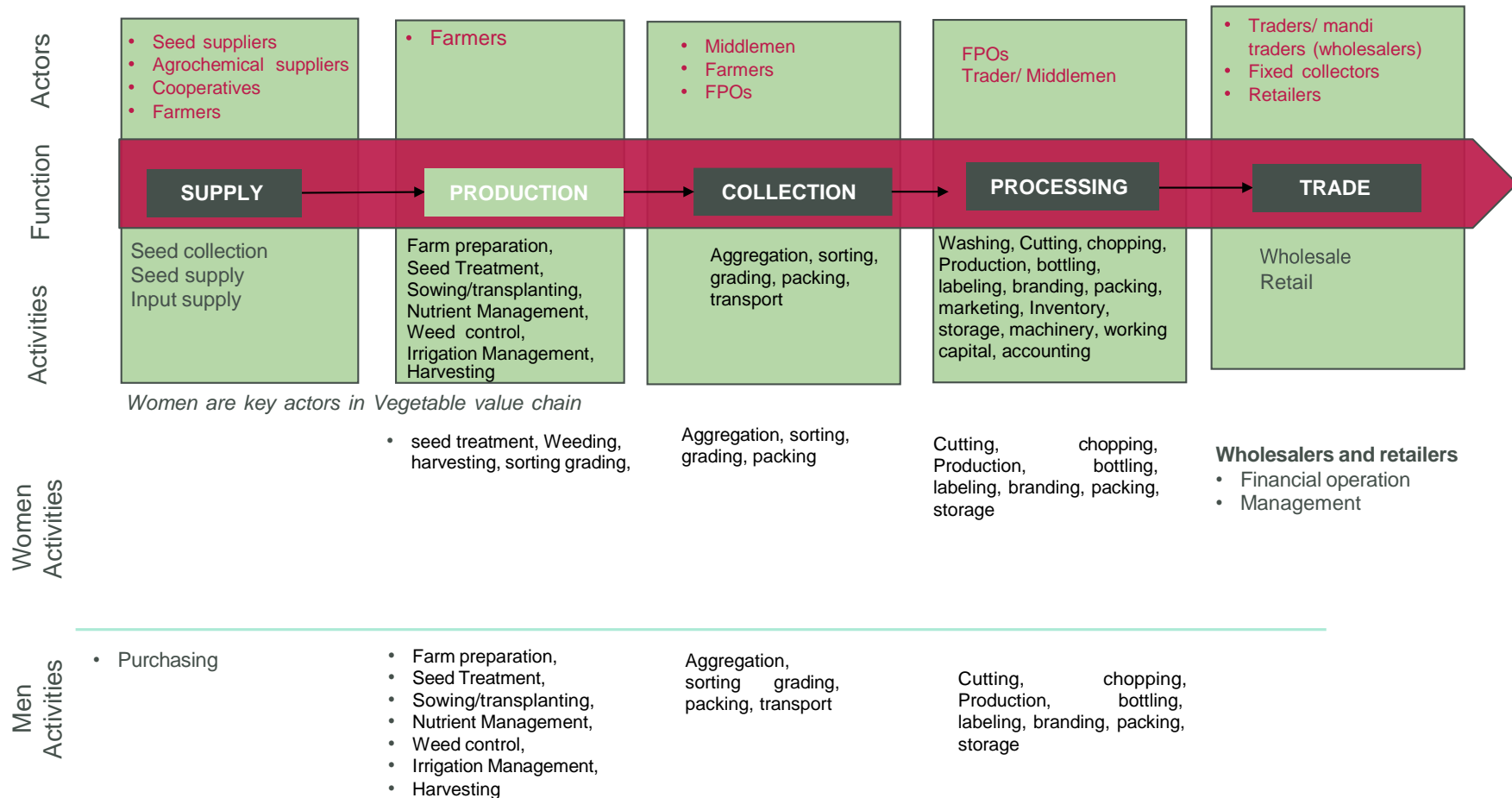
Vegetable Cultivation in CAISAR Project Area

Challenges

- **Quality Seeds:** Limited access to high-quality seeds affects yield and market produce quality.
- **GAP (Good Agricultural Practices):** Low awareness among farmers leads to reduced productivity and potential safety issues.
- **Irrigation:** Inadequate water management results in variable crop yield and quality.
- **Post-Harvest Losses:** Absence of proper facilities leads to significant economic losses and higher market prices.
- **Middlemen:** Dominance in the market means farmers often receive undervalued prices for their produce.
- **Marketing Challenges:** Access barriers to broader markets limit profit potential and can saturate local markets.
- **Post-Harvest Practices:** Improper storage, handling and pre colling shorten produce shelf life, reducing market reach and profitability.

Overview of the value chain

Mains actors

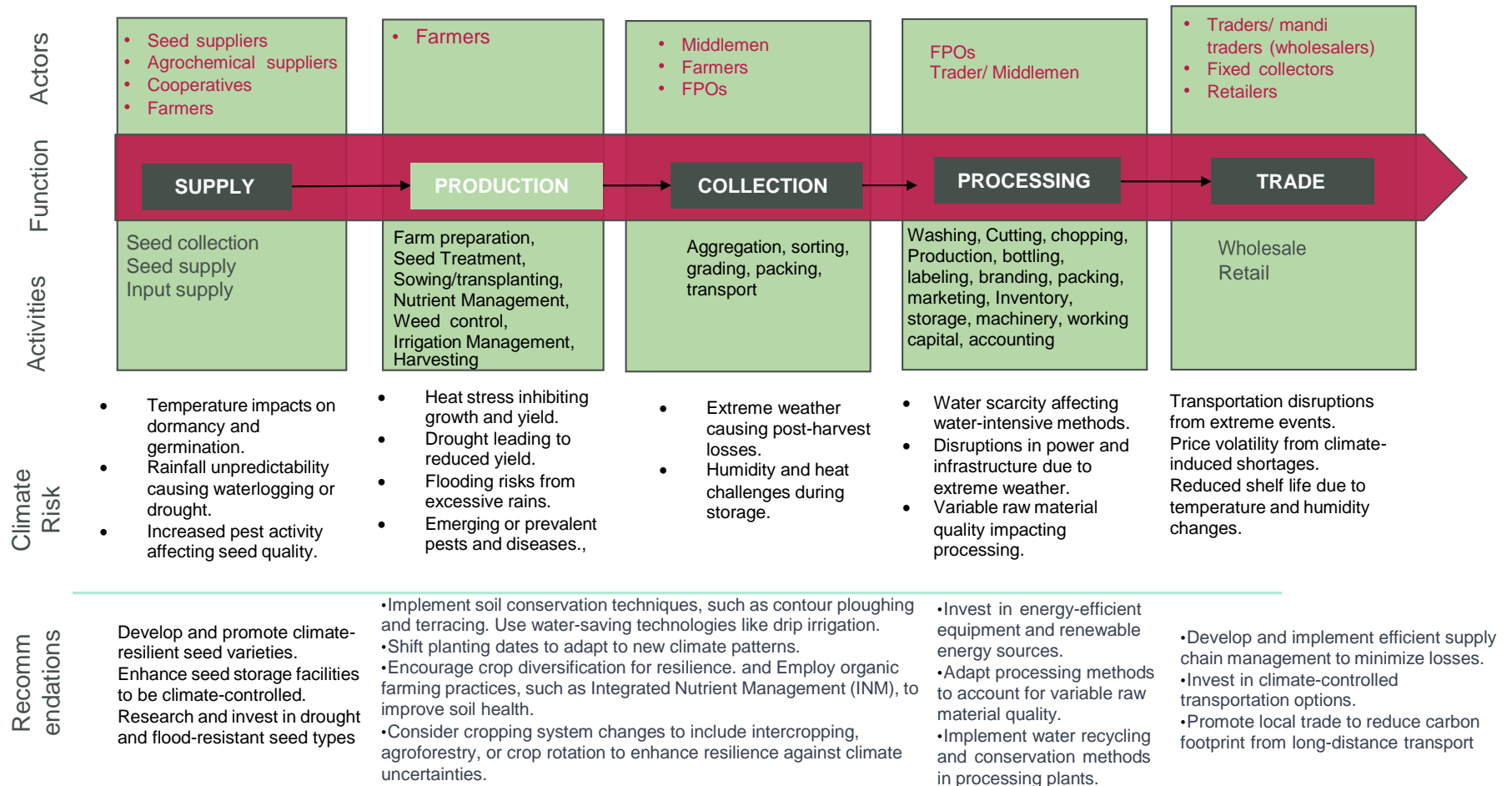


Women are Key Actors in Vegetable Value Chain in Jammu & Kashmir: Their involvement is integral at various stages of the vegetable cultivation and selling process.

- **Physical Work:** Women in Jammu & Kashmir take on significant manual labour responsibilities. They are actively engaged in tasks such as transplanting and harvesting, which are crucial for vegetable cultivation.
- **Purchasing Role:** Women have a dominant role in buying the necessary agricultural inputs. This suggests they are trusted with financial decisions and play an essential part in the investment aspects of farming.
- **Decision-Making:** In the Jammu & Kashmir context, women aren't just manual laborers; they are involved in critical decision-making processes that determine the farming methods and strategies. This indicates they have a voice and influence in the overall farming process.

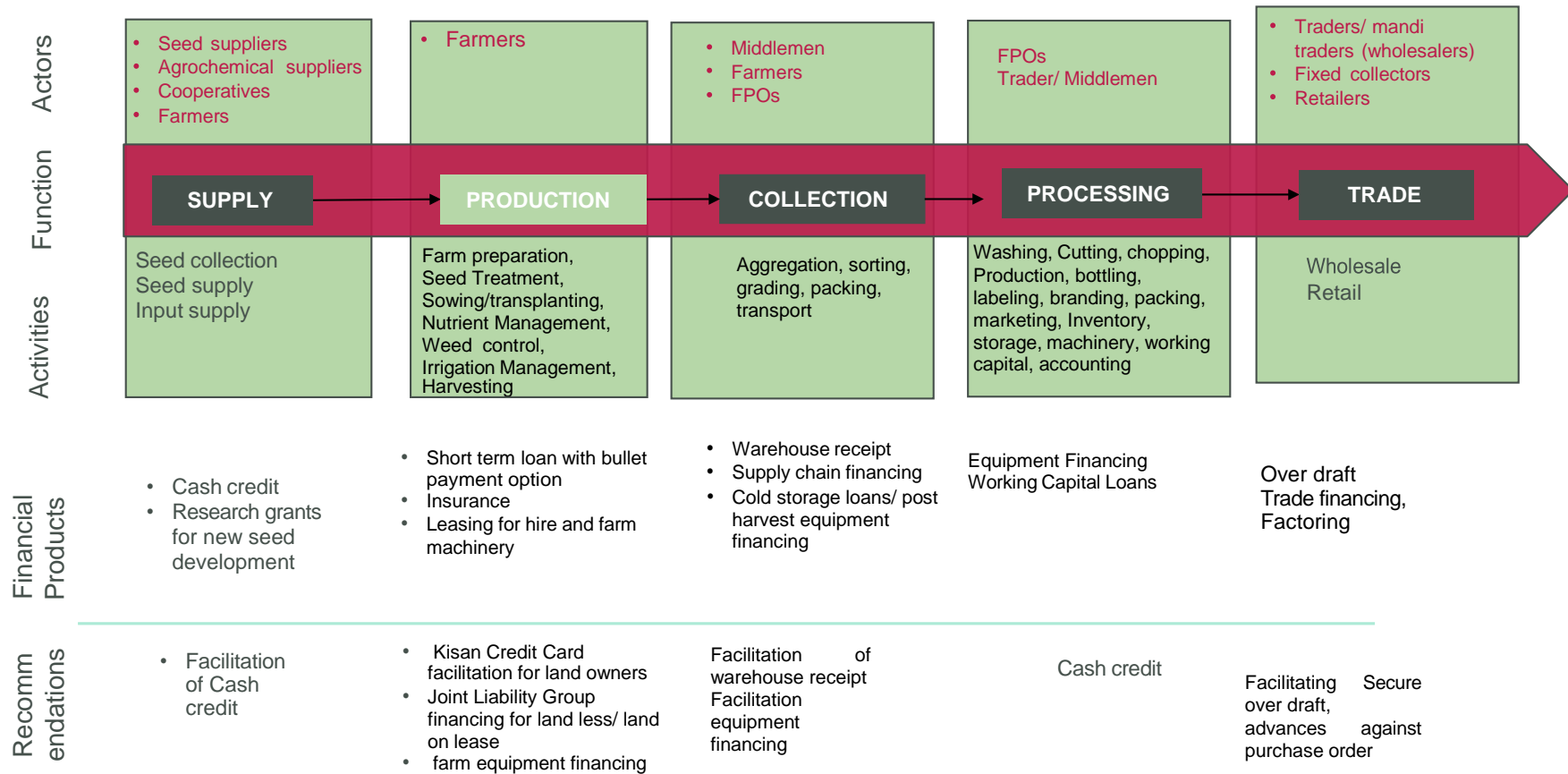
Climate Change Risk

Mains actors



Financial products and Recommendation

Mains actors



Identify and Review Market Issues

- **Lack of Market Information:** Farmers often lack timely and accurate information about market prices, demand, and consumer preferences, leading to poor decision-making.
- **Middlemen Dominance:** The presence of numerous intermediaries in the value chain often reduces the profit margins for farmers.
- **Inadequate Storage Facilities:** Absence of proper cold storage and warehousing lead to significant post-harvest losses.
- **Inefficient Supply Chain:** Delays and inefficiencies in transportation result in the deterioration of vegetable quality.
- **Limited Access to Modern Markets:** Many farmers are unable to access modern retail markets, which often offer better prices and terms.
- **Standardization Issues:** Absence of standardized grading and sorting systems can lead to varied pricing and quality perceptions.
- **Seasonal Gluts and Price Drops:** Overproduction during certain seasons can lead to sudden drops in market prices.
- **Inadequate Market Infrastructure:**
 - Lack of proper roads, market sheds, and cleanliness in traditional marketplaces.
- **Lack of Value Addition:** Limited facilities or knowledge to process vegetables and add value, such as producing pickles, chips, or frozen goods.
- **Volatile Market Prices:** Fluctuating prices due to various factors, from climatic changes to international market trends, can make earnings unpredictable.
- **Credit Constraints:** Difficulty in accessing affordable and timely credit can limit farmers' ability to invest in production or marketing activities.
- **Low Bargaining Power of Farmers:** Fragmented production and the absence of collective bargaining often puts farmers at a disadvantage.

Proposed Intervention

1. **Minimize Wastage:**
 - **Quick Delivery to Market:** Ensure a streamlined supply chain to reduce the time taken from farm to market.
 - **Sort and Separate Vegetables:** Differentiate easily perishable vegetables, like leafy greens, from longer-lasting ones to manage storage needs.
 - **Cold Storage and Chillers:** Invest in modern cold storage facilities to maintain vegetable freshness and prolong shelf life.
 - **Primary Processing:** Adopt methods like drying, smoking, and pickling to preserve vegetables and add value to the produce.
2. **Protected Cultivation:**
 - **Offseason Vegetables:** Utilize greenhouse and shade net technologies to cultivate vegetables during offseasons. This helps in fetching better prices due to low supply during these times.
3. **Land Development:**
 - **Area Expansion:** Engage in land reclamation, terracing, and other land development techniques to increase the arable land available for vegetable cultivation.
4. **Assured Irrigation:**
 - Invest in modern irrigation systems like drip and sprinkler irrigation. This ensures a consistent water supply, optimizes water usage, and promotes better crop yields.
5. **Assured Market Linkage:**
 - **Contract Farming:** Develop partnerships between farmers and buyers where pricing and procurement are predetermined, ensuring security for both parties.
 - **Cooperatives:** Encourage farmers to form cooperatives or groups to collectively sell their produce, ensuring better bargaining power.
6. **Transportation Facilitation:**
 - **Improved Logistics:** Invest in refrigerated transport and better road connectivity. This ensures vegetables reach the market in fresh condition and reduces transit losses.
 - **Supply Chain Optimization:** Implement tracking and management systems to streamline the delivery process and reduce delays.

Aromatic Rice Value Chain :

J&K



Key facts of Aromatic Rice value chain

Few facts

- Main districts:** Anantnag, Budgam, Baramulla
- Yield - Current:** 5.5 MT/ha
- Number of producers:** 723 (approx.)
- Area under production (ha):** 259
- Production (MT):** 259

Main final products:

- Main Rice Variety:** Aromatic Rice famous for unique aroma and taste,
-

Main cropping system:

Rainfed + transplanting + Sowing: Late May to June; Harvesting: September to October. + **traditional methods** with minimal chemicals.



Season of production
September-October

Long-term rice

Traditional basmati varieties

Planted: May - June
Harvested: November- December

Short-term rice

Fast maturing varieties

Planted: May - June
Harvested: September – October



Profile of farmers

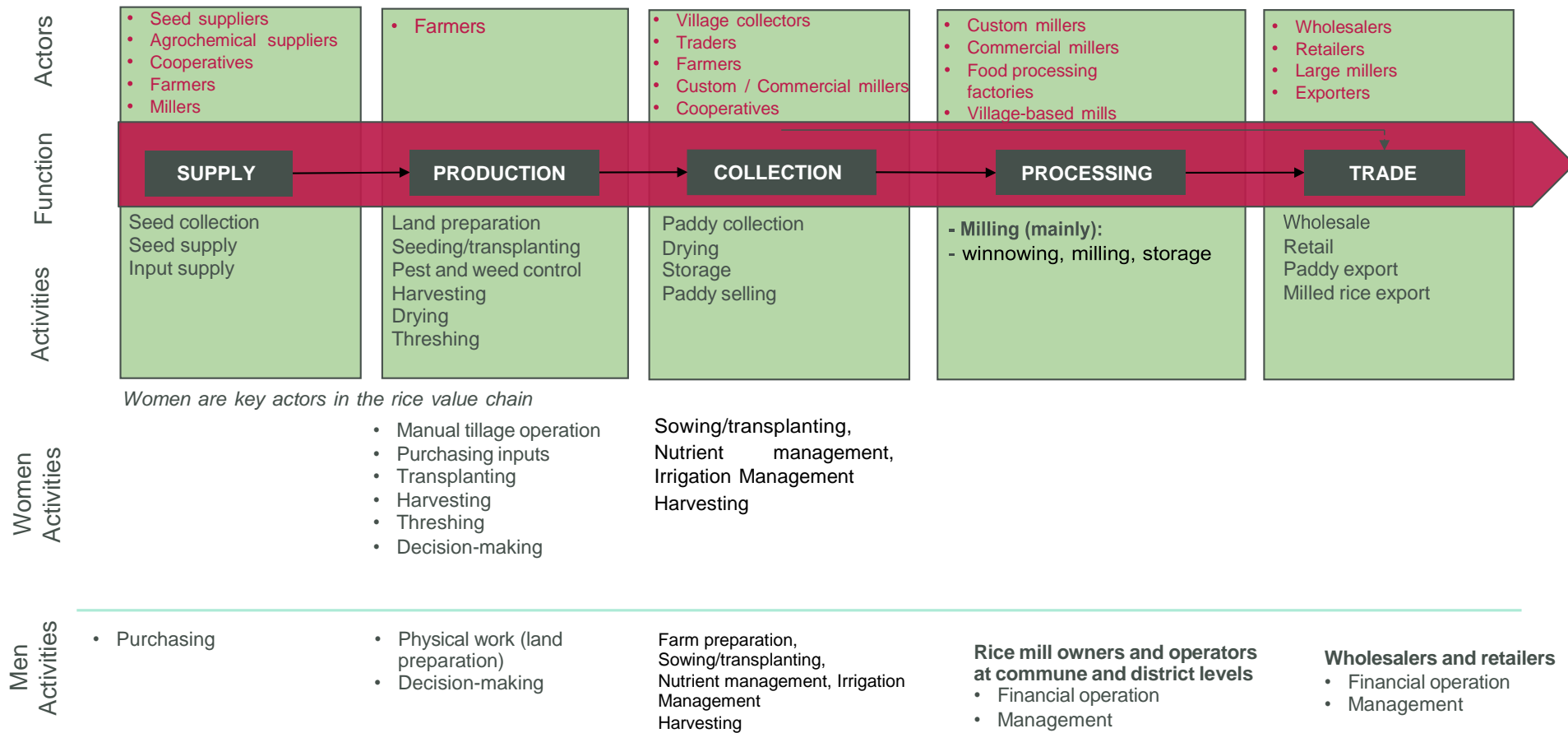
Type of farming: Small farm
Size of the farm: 0.25 ha (majority)
Mechanization: Limited, mainly manual labor

Type of farming: Medium farm
Size of the farm: 0.25-1.5 ha
Mechanization: Combination of manual labor and machinery

Type of farming: Large farm
Size of the farm: 1.5ha and above
Mechanization: Tractors or combine harvesters + provide services for others

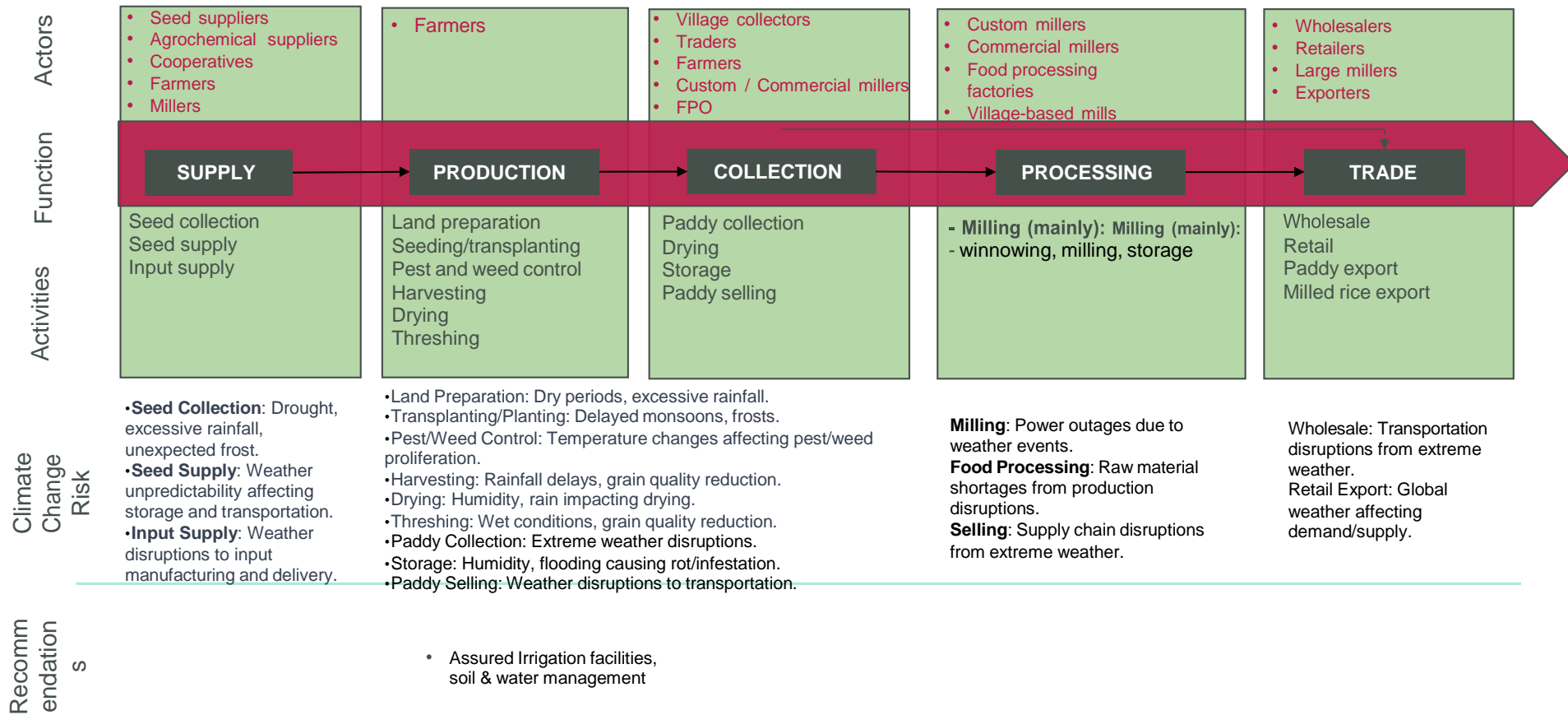
Main Actors in the Aromatic Rice Value Chain

Mains actors



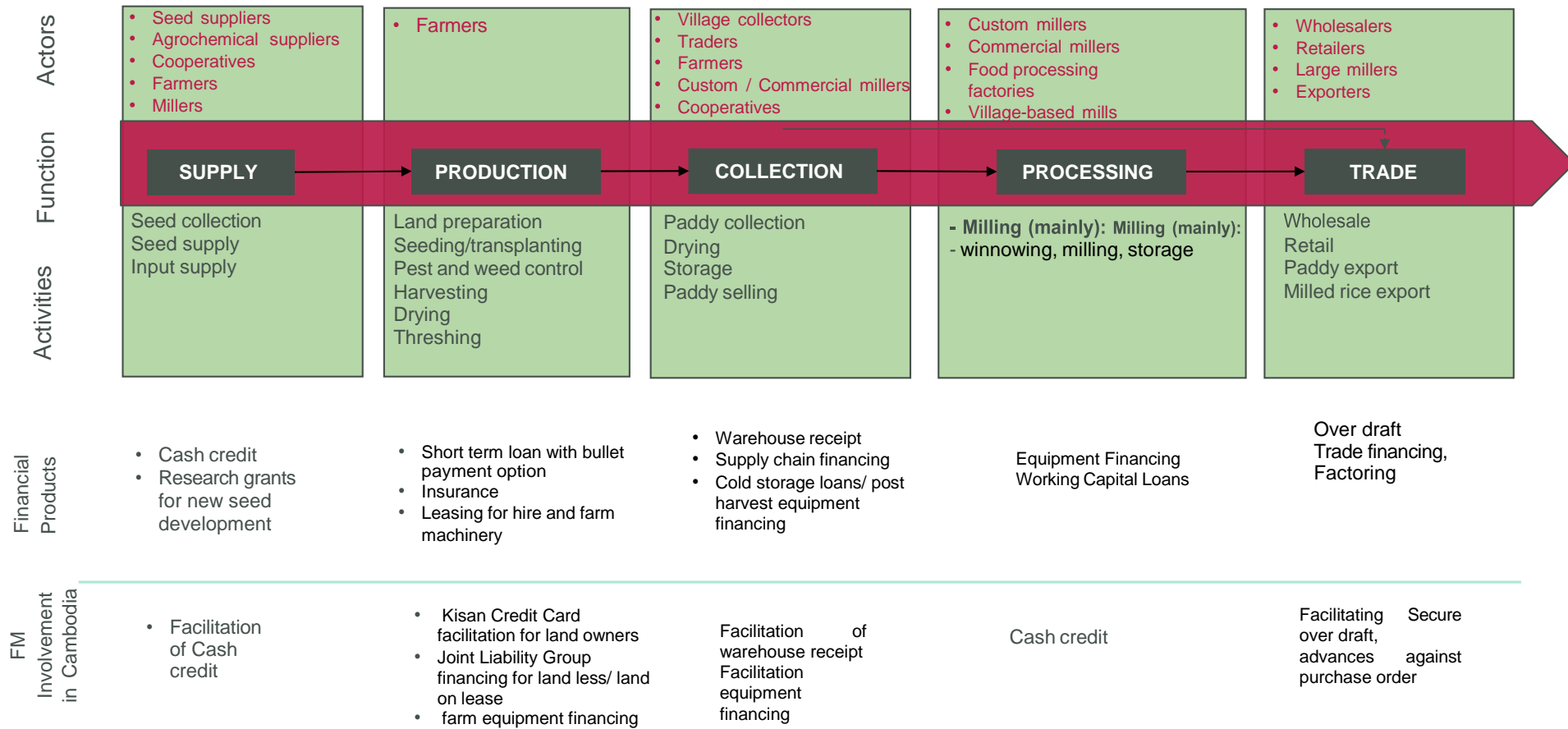
Identify and Review Climate Change Risk

Mains actors



Financial Market Involvement

Mains actors



Identify and Review Market Issues

- **Quality Seeds:** Ensuring access to high-quality seeds and maintaining seed purity is vital. Cross-pollination with non-aromatic varieties can dilute the aroma and overall quality.
- **Weed Control:** Aromatic rice fields are often susceptible to invasive weeds which compete for nutrients, requiring regular weeding which can be labor-intensive.
- **Irrigation:** Precise water management is essential for aromatic rice. Both water scarcity and waterlogging can affect yield and quality.
- **Pest & Diseases:** Aromatic rice varieties are more vulnerable to certain pests and diseases, such as the rice blast fungus, brown plant hoppers, and bacterial blight.
- **Storage Pests:** After harvest, the rice is at risk from pests like weevils and moths during storage, potentially affecting the grain quality and reducing yields.
- **Climatic Sensitivity:** Requires specific temperature and rainfall patterns for optimal aroma and flavor development.
- **Soil Quality:** Optimal soil types are crucial for the best aroma, flavour, and yield.
- **Long Growth Duration:** Longer exposure to environmental risks compared to non-aromatic varieties.
- **Price Volatility:** Market fluctuations based on global demand, quality, and regional production.
- **Labour Intensiveness:** Practices like hand transplanting and weeding are labour-intensive.
- **Post-harvest Handling:** proper drying, storage, and milling are critical to retain the aroma and quality.
- **Adulteration Concerns:** The high value of aromatic rice leads to risks of adulteration, challenging authenticity and purity.
- **Climate Change Impacts:** Changing weather patterns affect cultivation regions and crop quality.

Proposed Intervention

- **Nematode Management:**
 - Conduct soil testing specifically for nematodes.
 - If nematode presence is confirmed, incorporate pre-rice cropping with marigold and sesbania (either rostrata or aculeata) to act as a biocontrol against nematodes.
- **Seed Quality Assurance:**
 - Ensure the provision of high-quality seeds with a germination rate of at least 90%.
 - Implement seed treatment with a 1% salt solution to enhance seed viability and health.
- **Input Assurance:** Prioritize the use of quality inputs for rice cultivation to ensure the best yield and grain quality.
- **Certification:** Obtain Organic Produce Certification to appeal to a niche market seeking organic products and potentially fetching better prices.
- **Milling & Storage Improvements:**
 - Upgrade rice mills to advanced models that reduce the incidence of broken rice grains.
 - Enhance storage facilities to maintain grain quality, reduce post-harvest losses, and manage storage pests.
- **Diversification:** Consider cultivating varieties like Japonica and non-basmati aromatic rice. These have a growing demand and present lucrative export opportunities.

Pulse Value Chain :

J&K



Key facts of Pulse value chain

Few facts

- **Main districts:** Kathua, Samba, Rajori, Poonch, Udhampur, Ananatnag, Kulgam, Shopian, Badgam, Kupwara, Bandipora
- **Yield - Current:** 0.9 MT/ha (approx.)
- **Yield - Projected:** 1.3 MT/ha (approx.)
- **Number of producers - Current:** 20,524 (approx.)
- **Number of producers - Projected:** 30,530 (approx.)
- **Production (MT) - Current:** 6,619 (approx.)
- **Production (MT) - Projected:** 7,400 (approx.)

Main final products:

- **Pulses:** Black Gram, Green Gram (Moong), Rajmash, Peas, Lentil (Masoor), Chickpeas (Chana)

Main cropping system:

- **Rainfed +Irrigated + Activities:** Farm preparation, Seed Treatment, Sowing/transplanting, Nutrient Management, Weed Control, Irrigation Management, Harvesting.



Season of production

Rabi & Kharif (October & April)



Profile of farmers

Type of farming: Small farm

Size of the farm: 0.25 ha (majority)

Mechanization: Limited, mainly manual labor

Type of farming: Medium farm

Size of the farm: 0.25-1.5 ha

Mechanization: Combination of manual labor and machinery

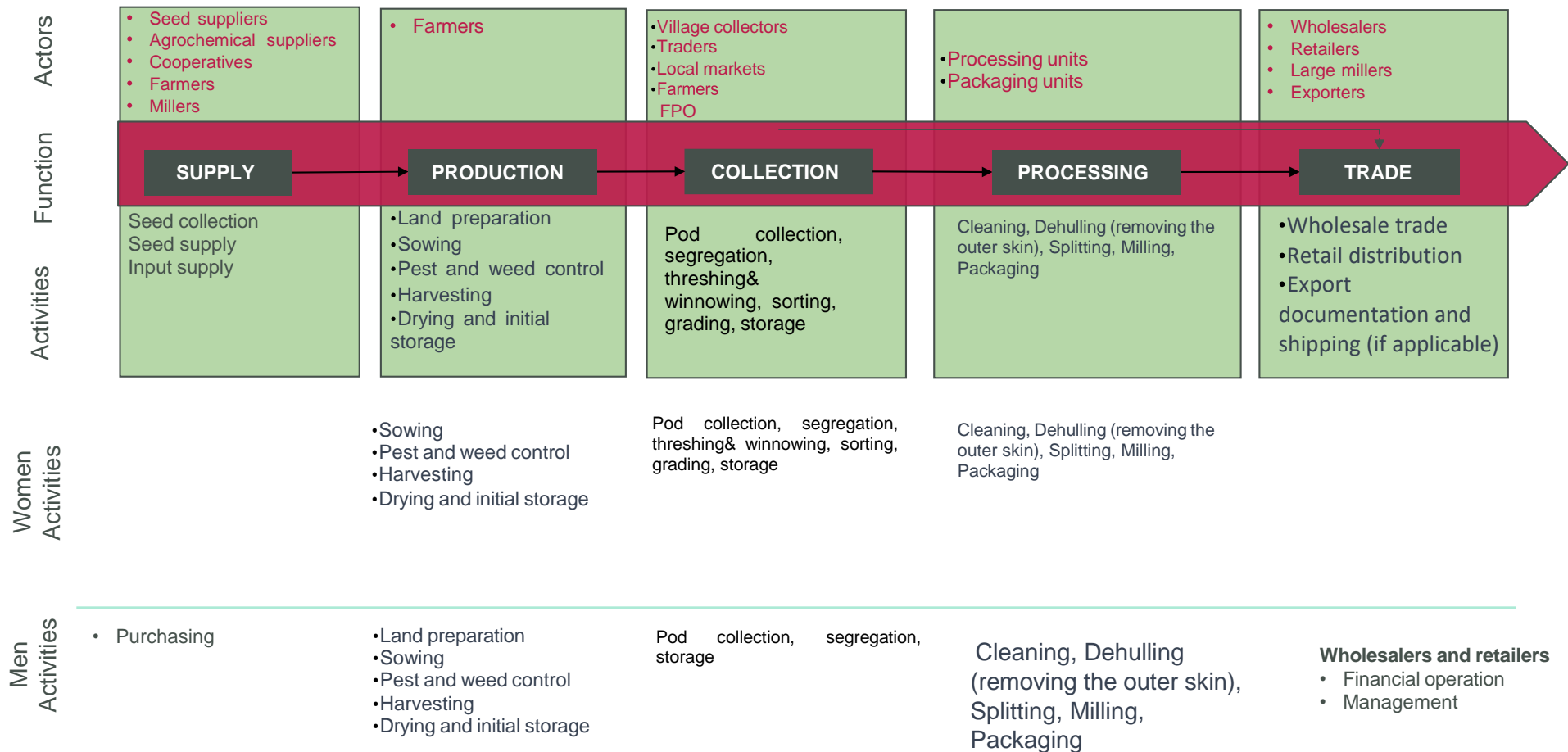
Type of farming: Large farm

Size of the farm: 1.5ha and above

Mechanization: mechmatisation + provide services for others

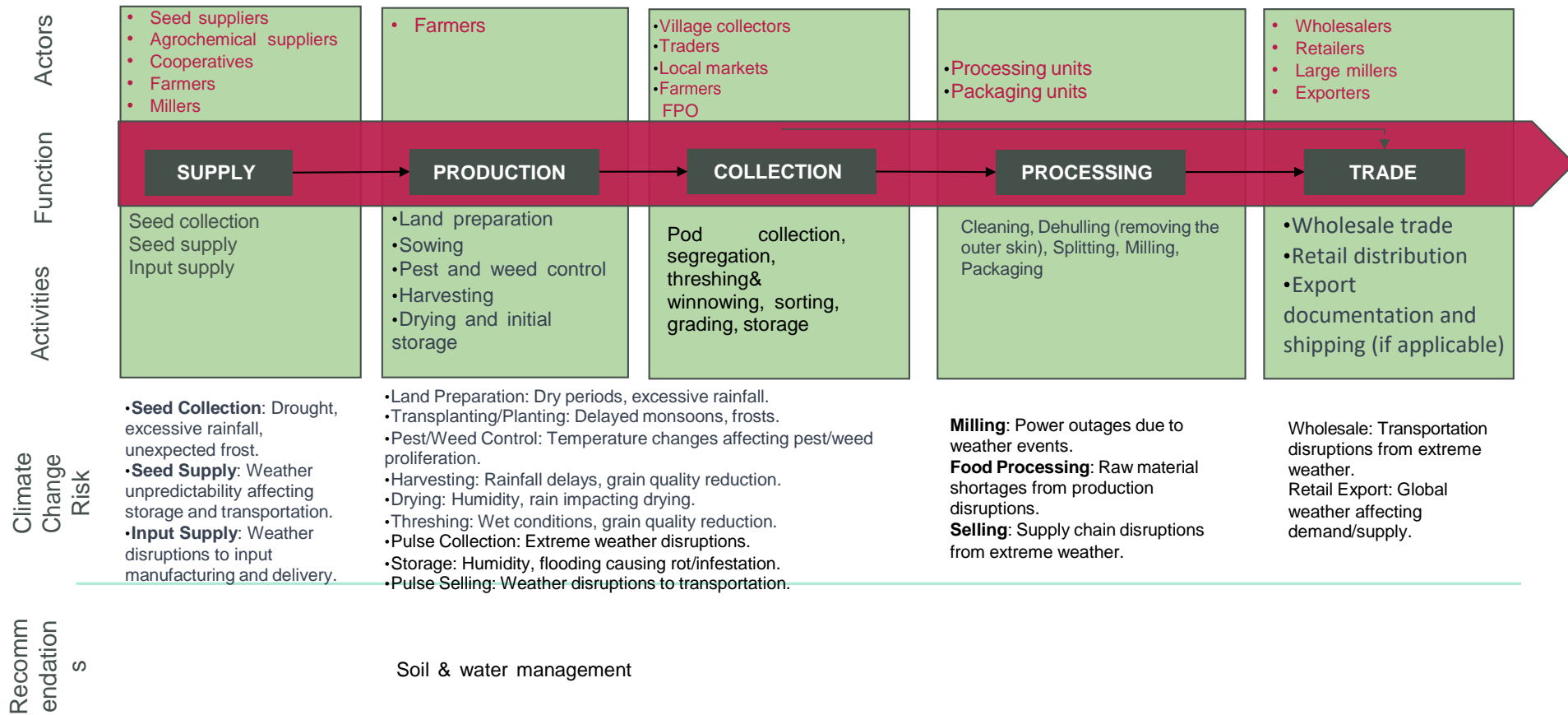
Main Actors in the Pulse Value Chain

Mains actors



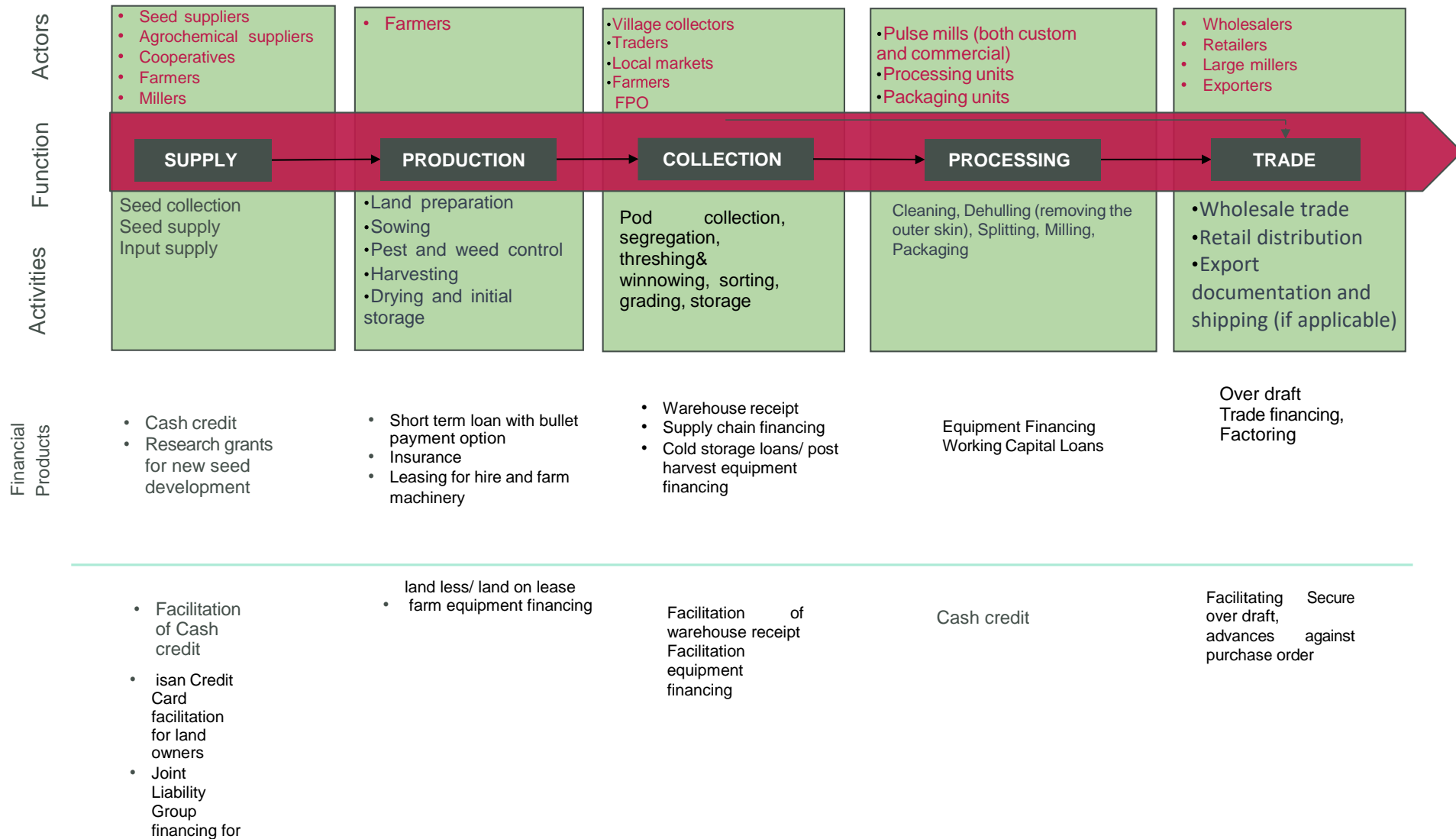
Identify and Review Climate Change Risk

Mains actors



Main Actors in the Pulse Value Chain

Mains actors



Identify and Review Market Issues

1. Suboptimal Yield Performance

- **Description:** Despite the potential for higher yields, pulse crops often underperform due to a myriad of reasons ranging from poor farming practices to unfavorable weather conditions.
- **Impact:** Reduced income for farmers, potential market shortages, and inconsistent pricing.

2. Inadequate Access to Quality Seeds

- **Description:** Farmers often don't have access to high-grade, disease-resistant seeds, leading them to use subpar seeds that might not yield optimal results.
- **Impact:** Lower crop yields, increased susceptibility to diseases, and reduced market value for the produce.

3. Non-adherence to Good Agricultural Practices (GAP)

- **Description:** Ignorance or negligence towards GAP can lead to inconsistent produce quality, excessive use of harmful chemicals, and non-sustainable farming methods.
- **Impact:** Risk of producing items that don't meet market or export quality standards, environmental degradation, and potential health hazards.

4. Post-harvest Storage Issues and Pest Infestations

- **Description:** Traditional storage methods and facilities are susceptible to pests, leading to significant post-harvest losses.
- **Impact:** Economic losses due to wasted produce, reduced market availability, and potential health risks from consuming pest-infested products.

5. Lack of Modern Farming Knowledge and Equipment

- **Description:** Many farmers might not be updated with modern farming techniques, technologies, or might not have access to modern farming equipment.
- **Impact:** Stagnant or declining productivity levels, increased labor intensity, and inefficiencies in farming operations.

6. Economic Constraints and Limited Resources

- **Description:** Financial challenges might prevent farmers from investing in quality seeds, modern equipment, or training sessions.
- **Impact:** Reluctance or inability to adopt improved farming practices, leading to reduced yields and income.

7. Climate Variability and Unpredictable Weather Patterns

- **Description:** Pulse crops can be sensitive to climatic changes and may be adversely affected by unpredictable weather patterns.
- **Impact:** Crop failures, reduced yields, and increased vulnerability to diseases and pests.

Interventions and Their Impacts:

1. Production of Quality Planting Material and Seed Villages

- **Implementation:** Establish dedicated zones or 'seed villages' where high-grade, disease-resistant seeds are produced. Collaborate with agricultural research institutions to develop and distribute such seeds.
- **Benefits:** Ensures consistent and enhanced yields, reduces vulnerability to diseases, and elevates the overall quality of produce. Farmers get reliable access to top-tier planting materials.

2. Capacity Development

- **Implementation:** Conduct training sessions, workshops, and field demonstrations for farmers on modern farming techniques, efficient use of resources, and sustainable agricultural practices.
- **Benefits:** Empowers farmers with the latest knowledge and skills, leading to increased productivity, reduced resource wastage, and adherence to GAP.

3. Ensuring Quality Inputs

- **Implementation:** Develop and implement a robust supply chain for delivering quality fertilizers, pesticides, and other essential inputs. Ensure these inputs meet the requisite quality standards.
- **Benefits:** Consistent crop quality, reduced risk of produce rejection in markets due to substandard inputs, and better soil health.

4. Organic Produce Certification

- **Implementation:** Set up a certification body or collaborate with existing agencies to certify farms that adhere to organic farming practices. This certification can serve as a quality assurance marker for consumers.
- **Benefits:** Offers a competitive advantage in the market, fetches better prices, ensures health and safety standards, and promotes sustainable farming practices.

5. Storage Pest Control Protocols

- **Implementation:** Introduce and standardize pest control methods, both preventive and reactive, tailored for storage facilities. This might include the use of natural repellents, improved storage infrastructure, and periodic inspections.
- **Benefits:** Drastically reduces post-harvest losses, ensures the longevity and quality of stored produce, and prevents potential health risks from consuming pest-infested products.

Spices Value Chain :

J&K



Key facts of Spice value chain

Few facts

Main districts: Bandipore, Kupwara, Ganderbal, Anantnag, Badgam, Poonch, Rajori, Doda, Kishtwar, Ramban.

Number of producers - Current: 21,221 approx (as per the previous data you provided).

Number of producers - Projected: 26,099 approx.

Production (MT) - Current: 19,446 approx.

Production (MT) - Projected: 22,500 approx.

Main final products:

- **Spices** Black Cumin, Kashmiri Chilli, Coriander, Fennel, Ginger, Caraway Seeds, Cinnamon, Turmeric, Bay Leaf, Aniseed.

Main cropping system:

Rainfed Cultivation + Irrigated Cultivation + Inter-cropping + Mixed Cropping + Rotational Cropping+ Agroforestry System



Season of production

May to July and October-November



Profile of farmers

Type of farming: Small farm

Size of the farm: 0.25 ha (majority)

Mechanization: Limited, mainly manual labor

Type of farming: Medium farm

Size of the farm: 0.25-1.5 ha

Mechanization: Combination of manual labor and machinery

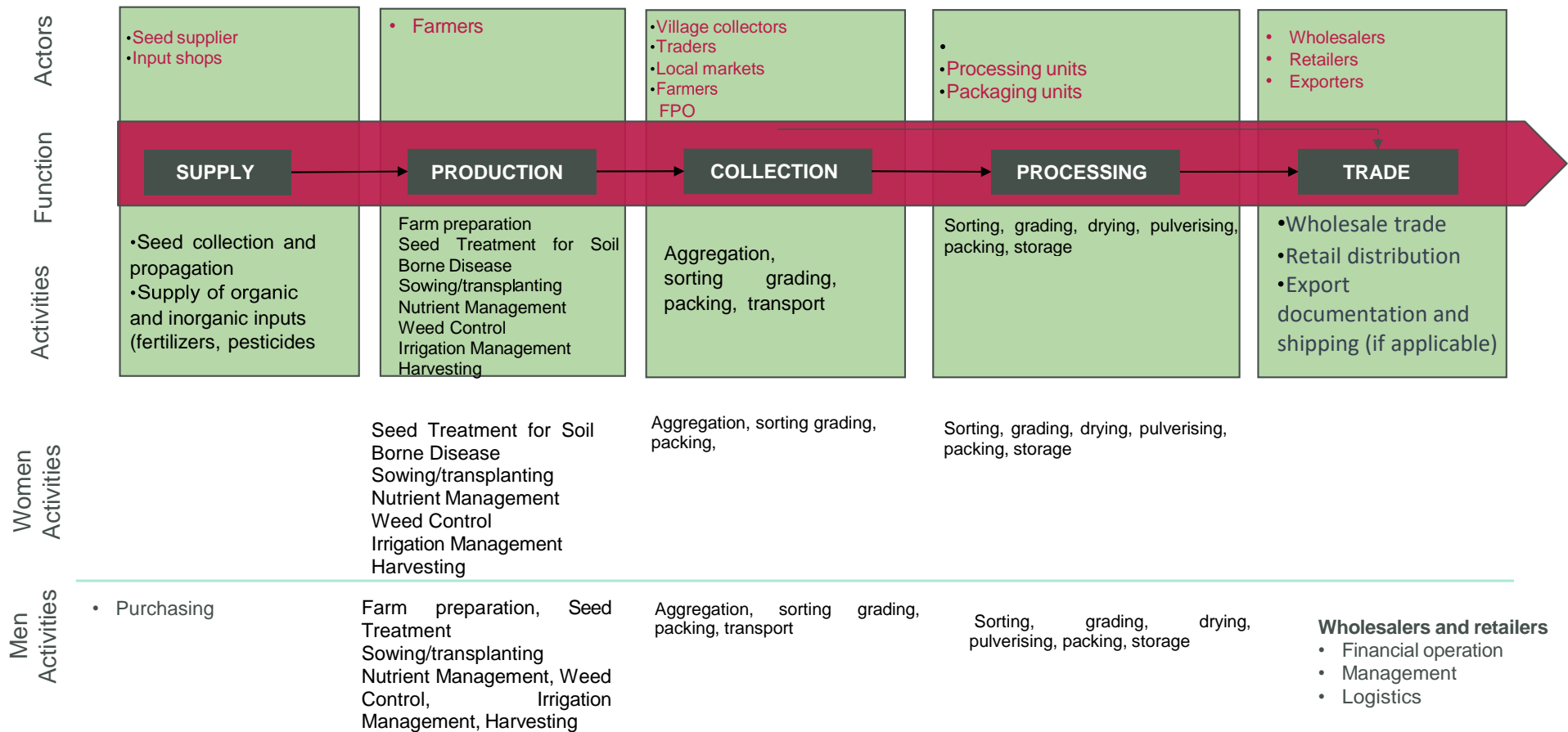
Type of farming: Large farm

Size of the farm: 1.5ha and above

Mechanization: mechmaisation + provide services for others

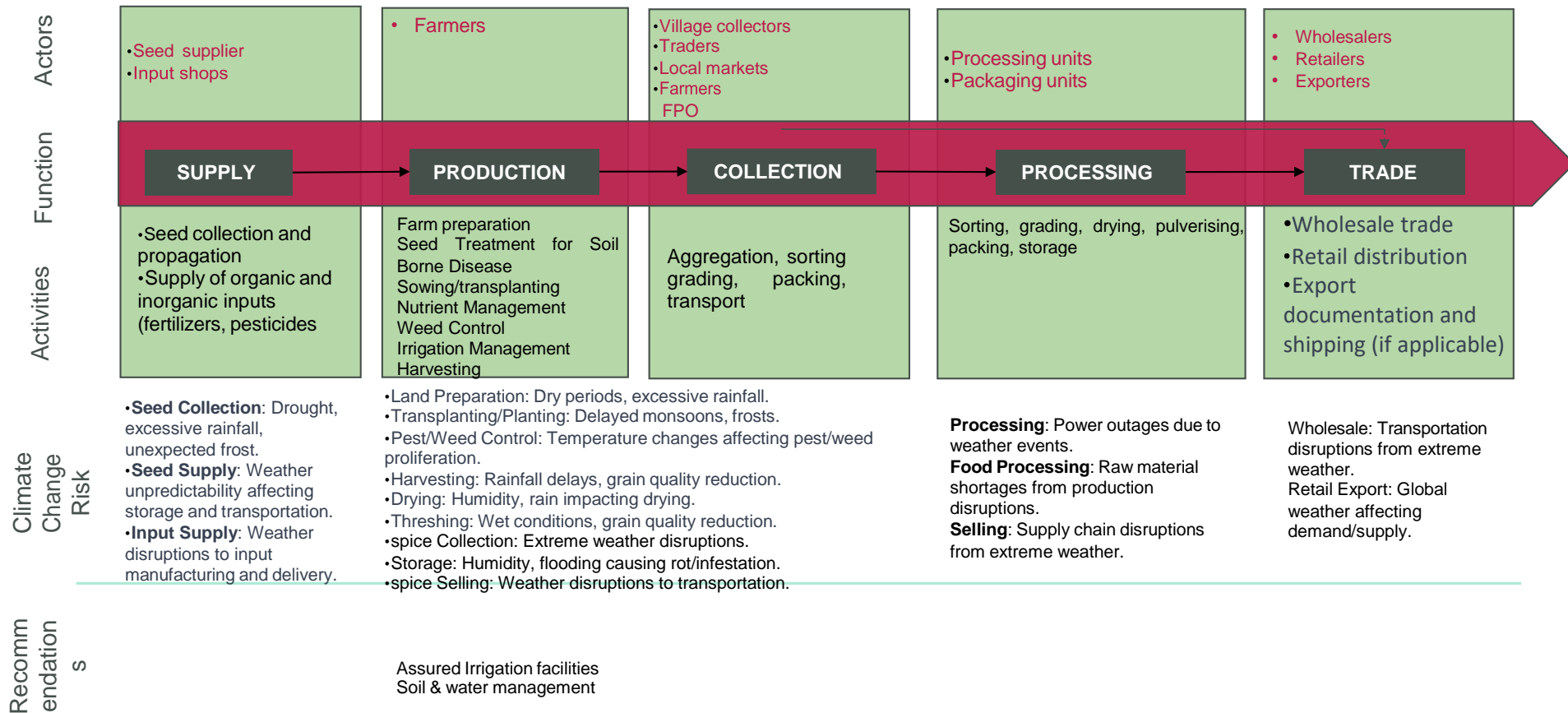
Main Actors in the Spice Value Chain

Mains actors



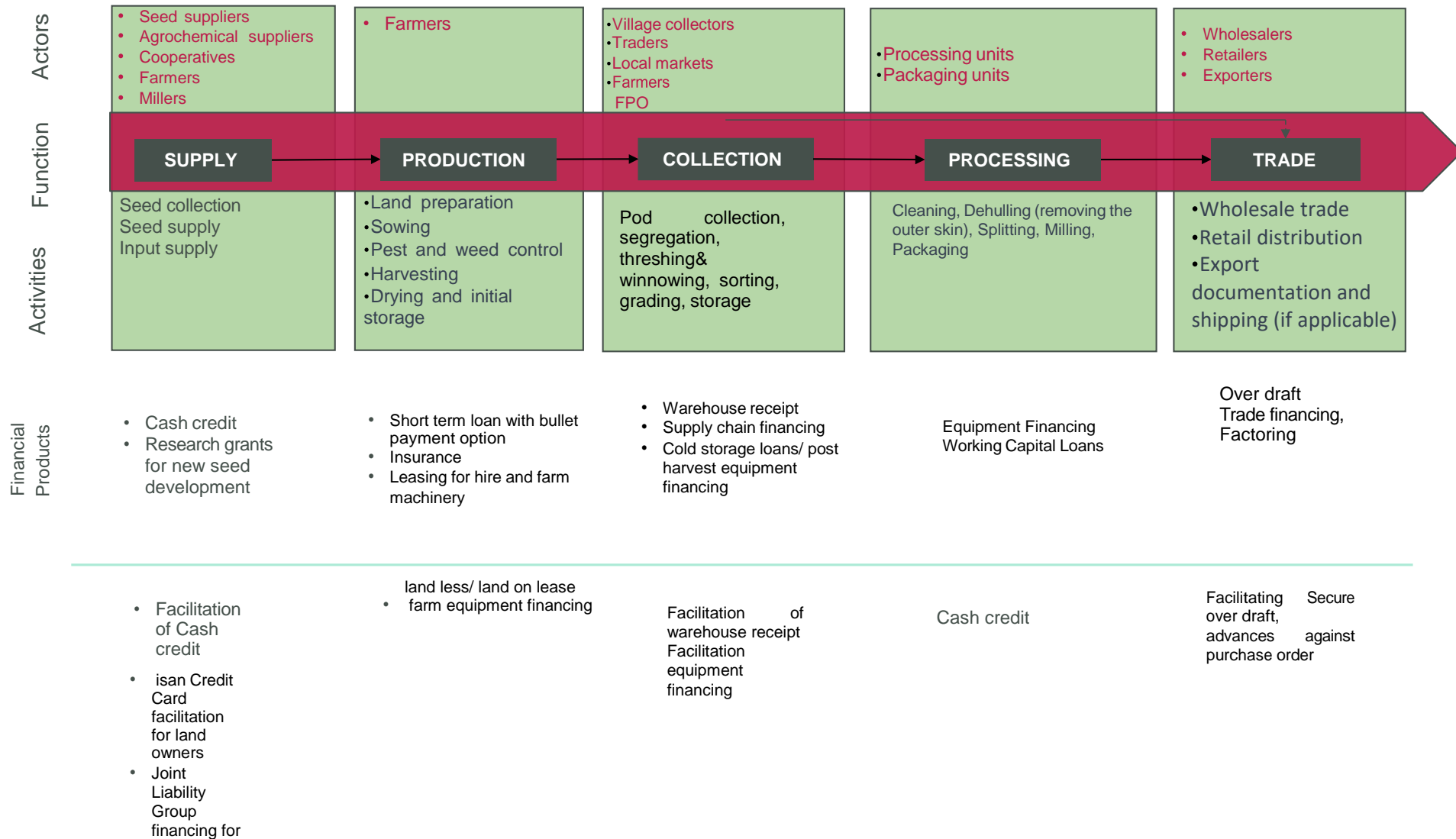
Identify and Review Climate Change Risk

Mains actors



Main Actors in the Spice Value Chain

Mains actors



Identify and Review Market Issues

- **Low Productivity:** Inefficient farming practices and Limited access to advanced agricultural technology.
- **Quality Seed Material:** Lack of access to high-quality seed varieties and Challenges in seed storage and germination.
- **Irrigation:** Inadequate water supply and management systems and dependency on seasonal rains, leading to unpredictable yields.
- **Good Agricultural Practices (GAP):** Limited knowledge and implementation of GAP and lack of standardized farming practices across regions.
- **Storage Pests:** Infestation of stored spices leading to losses and inadequate storage facilities and pest control methods.
- **Low Prices:** Fluctuations in market prices affecting farmers' income and inadequate support price mechanisms for spices.
- **Middlemen:** Dominance of intermediaries leading to reduced profits for farmers and lack of direct market access for many spice farmers.
- **Adulteration:** Mixing spices with inferior or inedible materials and absence of stringent quality checks and monitoring.
- **Cheap Imports:** Competition with imported spices affecting local markets and quality concerns with imported products.

Proposed Intervention

-
- ~~Setting up Nurseries for Production of Quality Planting Material.~~
 - Establish specialized nurseries dedicated to spice crops.
 - Ensure availability of genetically superior and disease-free planting material.
 - Foster research collaborations to introduce new and improved spice varieties.
 - Ensuring Quality Inputs:
 - Facilitate access to certified and quality-controlled fertilizers.
 - Promote the use of organic inputs like Farm Yard Manure (FYM) and vermi-compost to boost soil health.
 - Conduct periodic soil tests and guide farmers on customized fertilizer usage.
 - A Network of Sprinkler Irrigation Sets:
 - Introduce modern irrigation infrastructure tailored for spice cultivation.
 - Promote efficient water usage through sprinkler systems, reducing water wastage.
 - Educate farmers on the best irrigation practices for specific spice crops.
 - Capacity Development for Good Agricultural Practices (GAP):
 - Organize training sessions and workshops to educate farmers about GAP.
 - Develop a standardized set of guidelines for spice cultivation.
 - Foster collaborations with agricultural institutions to keep updating farming practices.
 - Market Linkages:
 - Establish direct connections between spice producers and buyers, minimizing middlemen intervention.
 - Introduce platforms or cooperatives where farmers can collectively bargain for better prices.
 - Collaborate with export agencies to tap into international spice markets.

Lavender Value Chain :

J&K



Key facts of Lavender value chain

Few facts

- Main districts:** Pulwama, Budgam, Anantnag, Baramulla, Ganderbal, Doda, Ramban, Kathua, Poonch, Rajori
- Number of producers - Current:** 2,368 approx
- Number of producers - Projected:** 3,500 approx
- Production (MT) - Current:** 1,065 approx
- Production (MT) - Projected:** 1,200 approx

Main final products:

- Lavender oil
- Dried Lavender flowers
- Value added products

Lavender Cropping System

- Altitude & Site:** Preferably 800 to 1,300 meters above sea level, on sunny slopes.
- Soil:** Well-drained, slightly alkaline. Enhanced drainage with sand or gravel. Raised beds commonly used.
- Propagation:** Primarily through root or hardwood cuttings.
- Planting:** Spring season, with a spacing of 3 x 2 feet between plants.
- Watering:** Regular during establishment, less frequent once matured.
- Fertilization:** Farmyard manure added pre-planting; minimal fertilization post-establishment.
- Weed Management:** Regular weeding, especially during initial growth.
- Pest & Disease:** Integrated pest management for issues like spittlebugs and root rot.
- Harvesting:** During full bloom, typically June to July.
- Post-Harvest:** Flowers dried in shade, then distilled for oil or used in products.
- Intercropping & Rotation:** Possible with other aromatic plants or legumes.



Season of production

- June to October

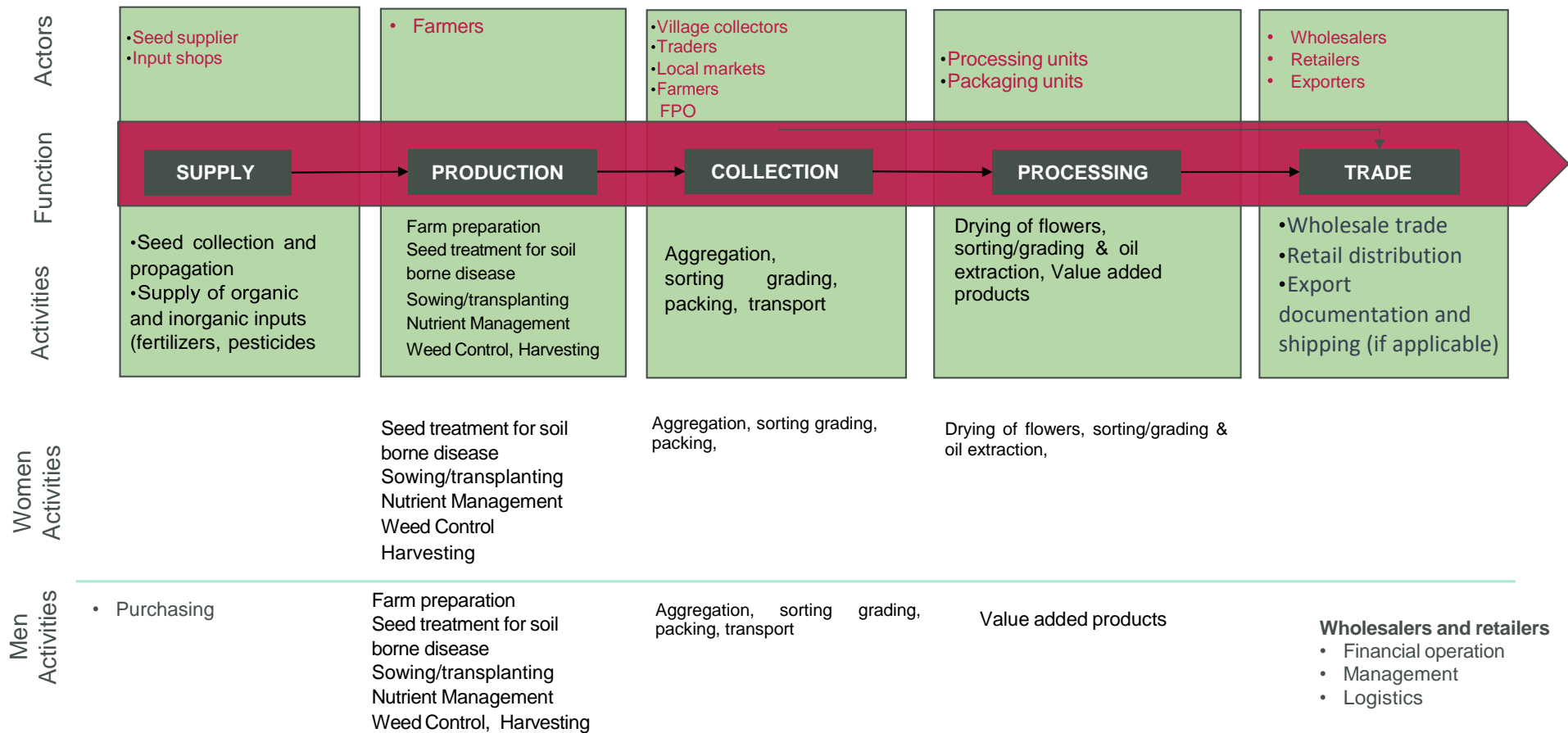


Profile of farmers

Type of farming: Small farm
Size of the farm: 0.25 ha (majority)
Mechanization: Limited, mainly manual labor

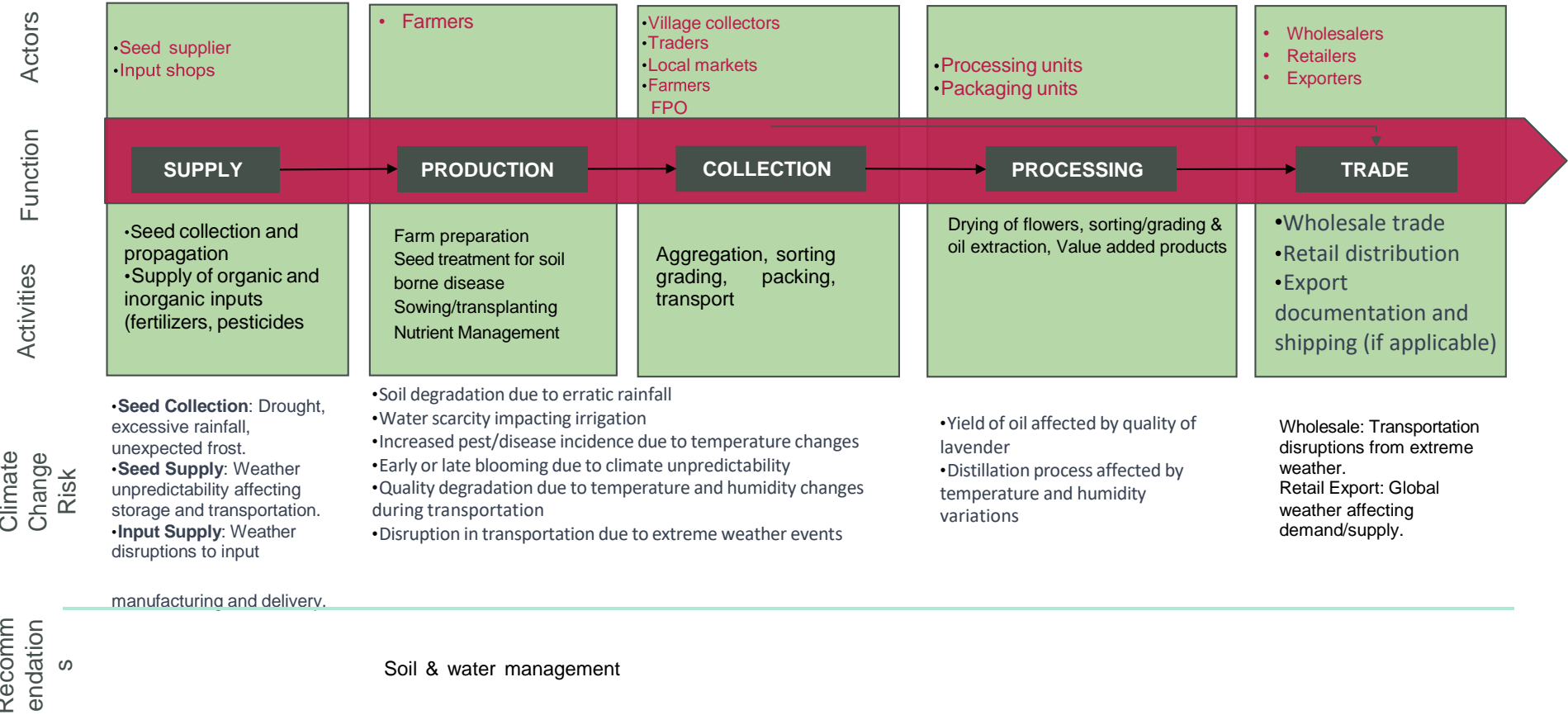
Main Actors in the Lavender Value Chain

Mains actors



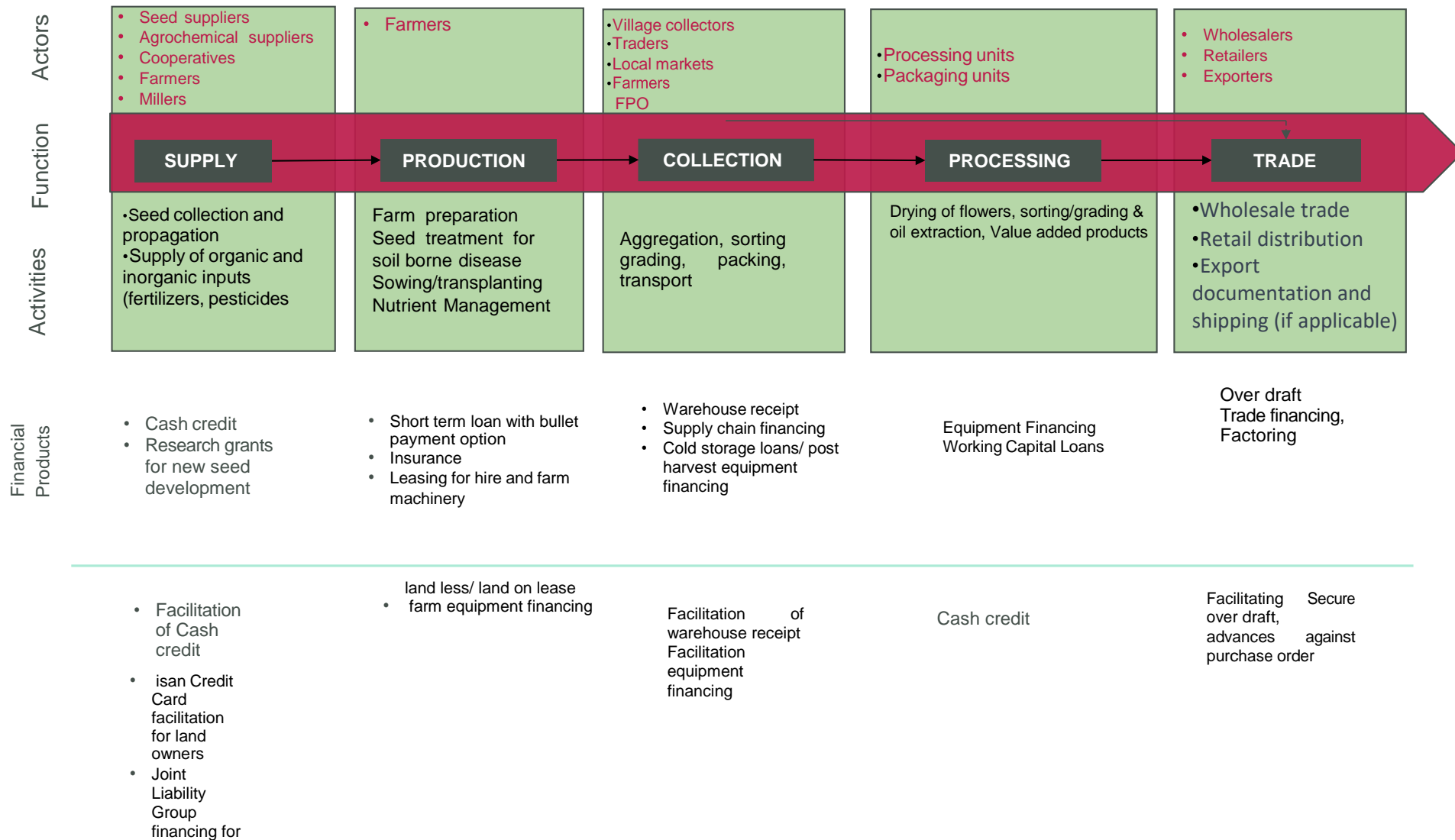
Identify and Review Climate Change Risk

Mains actors



Main Actors in the Lavender Value Chain

Mains actors



1. Quality Planting Material

- Issue: Unavailability of high-quality planting material can lead to suboptimal growth and yield.
- Impact: This can directly influence the overall quality and quantity of lavender produce, which can, in turn, affect market pricing and consumer trust.

2. Low Productivity & Quality

- Issue: Factors such as soil degradation, improper irrigation, pests, and diseases can lead to low productivity. Additionally, subpar farming practices can result in lower quality lavender.
- Impact: Low yield means reduced supply, which can elevate prices. Low quality can deter potential consumers and diminish brand reputation.

3. Cheap Synthetic Material in the Market

- Issue: The presence of cheap synthetic lavender substitutes can undercut genuine lavender products, making it challenging for genuine producers to compete on price.
- Impact: Consumers might opt for these cheaper alternatives, unaware of the possible inferior quality. This can diminish market share for authentic lavender products.

4. Branding & Marketing

- Issue: Inadequate or ineffective branding and marketing can make it challenging for lavender products to stand out in a saturated market.
- Impact: Limited market reach, reduced consumer recognition, and potential loss of sales.

1. Improved Distillation Methods, Including the Equipment

- **Rationale:** The quality and essence of lavender oil are largely determined by the distillation process. Using outdated or inefficient methods can lead to lower yields and inferior quality oil.
- **Expected Outcome:** Higher yield of lavender oil that retains its purity, fragrance, and therapeutic qualities. This can lead to better market prices and increased demand.

2. Setting up Nurseries for Production of Quality Planting Material

- **Rationale:** The foundation of a healthy lavender crop begins with the quality of planting material. Nurseries dedicated to producing superior lavender saplings can ensure consistent and optimized yields.
- **Expected Outcome:** Improved crop health, increased yield, and uniformity in lavender quality across farms.

3. Ensuring Quality Inputs

- **Rationale:** Beyond just planting material, the quality of inputs like soil, fertilizers, and pesticides can significantly impact lavender health and yield.
- **Expected Outcome:** Consistent and high-quality lavender production, leading to a trustworthy brand image in the market.

4. Strong Branding & Promotion of High-Quality Product

- **Rationale:** In a market inundated with synthetic substitutes and varying quality levels, effective branding can set genuine high-quality lavender products apart.
- **Expected Outcome:** Increased consumer trust, higher demand, and potentially premium pricing for genuine lavender products.