



Investing in rural people

Nepal

Agriculture Sector Development Programme

Final programme design report

Main report and appendices

Contents

Currency equivalents	iii
Weights and measures	iii
Abbreviations and acronyms	iv
Map of the Programme area	vii
Executive Summary	viii
Logical Framework	xxii
I. Strategic context and rationale	1
A. Country and rural development context	1
B. Rationale	5
II. Programme description	7
A. Programme area and target group	7
B. Development objective and impact indicators	8
C. Components/Outcomes	8
D. Lessons learned and adherence to National and IFAD policies and the SECAP	23
III. Programme implementation	25
A. Approach	25
B. Organizational framework	28
Planning, M&E, learning and knowledge management	31
C. Financial management, procurement and governance	36
D. Supervision	39
E. Risk identification and mitigation	39
IV. Programme costs, financing, benefits and sustainability	41
A. Programme costs	41
B. Programme financing	42
C. Summary benefits and economic analysis	43
D. Sustainability	44
E. Environmental and social category (B)	44
F. Climate risk category (Moderate)	45
List of Figures	
Figure 1. Theory of change diagram	5
Figure 2. ASDP Flow Diagram	28
List of Tables	
Table 1. Main ASDP risks and mitigation measures	xiv
Table 2. Household coverage of HVAP and proposed ASDP Programme areas	7
Table 3. Breakdown of infrastructure financing	12
Table 4. Programme Costs by Component and Output	41
Table 5. Financing Plan by Component and Outcomes (USD)	42
Table 6 - Village and household participation assumptions	43
Table 7 - Household Net Incremental Income for Selected Value Chain Commodities	43

Appendices		
Appendix 1:	Country and rural context background	47
Appendix 2:	Poverty, targeting and gender	69
Appendix 3:	Country performance and lessons learned	91
Appendix 4:	Detailed Programme description	94
Appendix 5:	Institutional aspects and implementation arrangements	185
Appendix 6:	Planning, M&E and learning and knowledge management	215
Appendix 7:	Financial management and disbursement arrangements	227
Appendix 8:	Procurement	247
Appendix 9:	Programme cost and financing	267
Appendix 11:	Draft Programme implementation manual	383
Appendix 12:	Compliance with IFAD policies	385
Appendix 13:	Contents of the Programme Life File	387

Currency equivalents

Currency Unit	=	Nepalese Rupees
US\$1.0	=	NPR 102

Weights and measures

1 kilogram	=	1000 g
1 000 kg	=	2.204 lb.
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

Abbreviations and acronyms

ADS	Agriculture Development Strategy
AFEC	Agriculture, Forestry and Environment Committee
AIDO	Assistant IDO
ADB	Asian Development Bank
AGDP	Agricultural Gross Domestic Product
ANANDI	Area Networking and Development Initiatives
ASC	Agriculture Service Centre
ASDP	Agriculture Sector Development Programme
AWPB	Annual Work Plan & Budget
BCN	Brahman, Chettri, Newar
BFI	Banking and Financial Institutions
CAESC	Community Agricultural Extension Service Centres
CBS	Central Bureau of Statistics
CC	Climate change
CEA	cost efficiency analysis
CFUG	Community Forest User Group
COSOP	Country Strategic Opportunities Paper
DADO	District Agricultural Development Office
DA	Designated Account
DCC	District Coordination Committee
DCRN	district core road network
DfID	UK Department for International Development
DLSO	District Livestock Services Office
DoA	Department of Agriculture
DoF	Department of Forest
DoI	Department of Irrigation
DOLIDAR	Department of Local Infrastructure Development and Agriculture Roads
DoLS	Department of Livestock Service
DSTEP	Decentralised Science, Technology and Education Programme
DTMP	District transportation masterplan
EIRR	Economic internal rate of return
ENPV	Economic net present value
ENRM	Environmental Natural Resource Management
EoI	Expression of Interest
FAO	Food and Agriculture Organization of the UN
FCGO	Financial Comptroller General Office
FG	Farmers' Groups
FM	Financial management
FMAQ	Financial Management Assessment Questionnaire
FO	Farmer Organisations
GDP	Gross Domestic Products
GESISAP	Gender Equality and Social Inclusion Strategy and Action Plan
GESI	Gender Equality and Social Inclusion
GHG	Green House Gas
GoN	Government of Nepal
HH	Household
HRBA	Human Rights Based Approach
HSI	Helvetas Swiss Intercooperation
HVAP	High Value Agriculture Programme in Hills and Mountain Programme
ICB	International Competitive Bidding
ICIMOD	International Centre for Integrated Mountain Development
ICT	Information and Communication Technology
IDO	Institution Development Officer
ILO	International Labour Organisation
IFAD	International Fund for Agriculture Development
IP	Investment proposal

IPSAS	International Public Sector Accounting Standards
ISFP	Improved Seed for Farmer Programme
JT	Junior Technician
JTA	Junior Technical Assistant
JLG	Joint Liability Groups
KISAN	Knowledge-based Integrated Sustainable Agriculture and Nutrition (Programme)
LE	Lead enterprise
LIDP	Local Infrastructure Development Policy
LFLP	Leasehold Forestry and Livestock Programme
LFUG	Leasehold Forest User Group
LRN	Local Road Network
LRP	Local Resource Person
LSC	Livestock Service Centre
LSGA	Local Self Governance Act
MADC	Municipal Agriculture Development Committee
MAPs	Medical and Aromatic Plants
MFDB	Micro Finance Development Bank
MoAD	Ministry of Agriculture Development
MoC	Ministry of Co operatives
MoF	Ministry of Finance of GoN
MoFALD	Ministry of Federal Affairs and Local Development
MoLD	Ministry of Livestock Development
MoFSC	Ministry of Forest and Soil Conservation
MoSTE	Ministry of Science Technology and Environment
MoU	Memorandum of Understanding
MTR	Mid Term Review
MT	Metric Tonne
MWRD	Mid-Western Development Region
NACCFL	Nepal Agricultural Co-operative Central Federation Ltd.
NARC	Nepal Agriculture Research Council
NASDP	Nepal Agricultural Services Development Programme
NAS	Nepal Accounting Standards
NCB	National Competitive Bidding
NCDB	National Cooperative Development Bank
NGO	Non-governmental Organization
NHEICC	National Health Education, Information and Communication Center
NLSS	Nepal Living Standards Survey
NPR	Nepalese Rupees
NPV	net present value
NRB	Nepal Rashtra bank
NTFPs	Non-Timber Forest Products
OAG	Office of Auditor General
PAF	Poverty Alleviation Fund
PC	Programme Coordinator
PES	Payment for Environmental Services
PFI	Private Financial Institution
PFM	Public Sector Financial Management
PIM	Programme Implementation Manual
PCO	Programme Coordination Office
PO	Producer Organisations
PODF	Post Open Defecation Free
QCBS	Quality and Cost Based Selection
RMDC	Rural Micro Finance Development Centre
SAARC	South Asian Association for Regional Cooperation
SFACL	Small Farmers Agricultural Cooperatives Limited
SFDB	Small Finance Development Bank
SDC	Swiss Agency for Development and Cooperation
SHG	Self-Help Groups
SIP	Strategic Investment Plan

SIYB	Improve Your Own Business
SM	Social mobilizer
SME	Small and micro enterprise
SOE	Statement of Expenditure
SP	Service providers
SRN	Strategic Road Network
SSS	Single Source Selection
TA	Technical Assistance
TAG	Technical Advisory Group
ToR	Terms of Reference
ToT	Training of Trainers
TSA	Treasury Single System
UNDP	United Nation Development Programme
USAID	United States Agency for International Development
USD	United States of America Dollar
VAHW	Village Animal Health Worker
VAW	Village Agriculture Worker
VC	Value chain
VCF	Value Chain Financing
VDC	Village Development Committee
WEAI	Women's Empowerment in Agriculture Index
WEI	Women's Empowerment Index
VR	village road
WA	Withdrawal Application
WFP	World Food Programme
WoP	without project
WUA	Water users Association

Map of the Programme area



[IFAD maps](#)

Executive Summary¹

1. **Background.** IFAD has been amongst the Development Partners (DPs) engaged with the Government of Nepal (GoN) in the preparation of the 2014 Agriculture Development Strategy (ADS). The ADS sets a new and dynamic direction for driving agricultural sector growth in Nepal. IFAD and the GoN propose to apply the ADS principles to the development of the Agriculture Sector Development Programme (ASDP), building off the successful experience of the IFAD-financed High Value Agriculture Project (HVAP) and other government and donor-funded, market-oriented Programmes in Nepal. The ASDP will be implemented within the framework of Nepal's Federal states governance system, authorised under Schedule 4 of the new constitution adopted on 20th September 2015 and currently being established. These constitutional reforms involve a high level of State subsidiarity to a new municipal/ward structure, which will be responsible for agriculture and rural development in Nepal.

2. **Rationale.** The justification for the ASDP stems from a number of elements: (i) a favourable policy and institutional framework originated by the new Nepal constitution and the 2014 ADS, which places greater emphasis on market (value chain)-driven agriculture development; (ii) a significant stock of knowledge on value chain development produced by a number of projects, most of which will be completed during 2018, as a source of good practices and lessons learnt for this new operation; and (iii) the opportunity of scaling up the HVAP approach through (a) the replication of proven value chain interventions in a larger, including more remote, geographic area (enabled by improved rural infrastructure, notably the expanding district road corridors), (b) the institutionalisation of a pluralistic extension service aligned with the new Constitution and associated state federalisation process and implementation of constitutional provisions in agriculture and rural development, and the ADS (notably the Value Chain Development Program (VADEP) and Decentralized Extension, Technology and Education Program (DESTEP) flagship programmes); and (c) improving access to value chain financing, without which VC investments find difficulty with scaling-up.

3. The ASDP will commence at an important juncture in Nepal's shift to a federal-state structure under its new constitution. This process has seen the number of rural administrative units reduced by up to 80 per cent, the removal of districts as an administrative entity, a direct administrative line between provincial governments and rural and urban municipalities and direct budget transfers from treasury to municipalities². In line with this constitutionally-driven restructuring, and the recommendations of the ADS, the agricultural sector is likely to see the consolidation of its sector-specific ministries (agriculture, cooperatives, livestock and land) and a shift in the responsibility of the consolidated Ministry from service delivery to planning, policy formulation, regulatory control and monitoring and evaluation. This will be accompanied by increased farmer participation in the planning, decision making, implementation, and monitoring of the strategy. These developments are consistent with a more market-driven agriculture development approach as demonstrated under the HVAP, with increasing dependence on private rather than public input and technical support services. Overlaying these reforms are the challenges of the feminization of Nepali agriculture due to rural male exodus, a high level of malnutrition in rural areas and the growing climate risk.

4. With only a small proportion of agriculture production in Nepal flowing through structured value chains, including in the HVAP catchment districts, there is ample scope for adding value to farm products, improving productivity and quality and expanding markets. Building on HVAP successes,

¹. Mr Garry Smith, Team Leader; Ms Girija Srinivasan, Rural Finance Specialist; Mr Geoff Dyce, Economist, Mr Deep Joshi, Institutions and Communities Specialist; Mr Hari Dhakal, Procurement Specialist; Mr Sanjeev Shrestha, Value Chain specialist; Mr. Avinash Chandra, Economist; Ms Lakshmi Moola, IFAD Country Programme Manager. Mr Pradeep Shrestha advised the mission on financial management matters; Mr. Dilaram Bhandari, Joint Secretary, Policy and International Cooperation Coordination Division, MoAD; Mr. Rajendra Bhari, Joint Secretary and Project Manager HVAP, MoAD; Mr. Rudra Shrestha, Under Secretary, MoAD; Mr. Binod Bhattarai, Under Secretary, MoAD and Mr. Chitra Rokaya, Under Secretary, HVAP, MOAD.

² Except currently for Donor funded projects per the circular of the Ministry of Finance

the ASDP proposes to expand the HVAP Programme area from 6 to 10 districts in Province 6³, in parallel with an expanding district road network, while better integrating Programme processes into local administrative systems and public and private services. The Programme will also deepen/intensify engagement with more remote communities within the continuing 6 HVAP districts, linked to an expansion of formal and informal district and village roads and village trails in those districts. The holistic, value chain-led approach will facilitate the development of a shared understanding and common vision among the actors working in the same sub-sector, building trust among them and enabling more effective business relationships between agribusiness and producer groups and cooperatives, as well as building the capacity of these actors, across different value chains, to efficiently meet customers' quality and price expectations. This will be supported by modest risk-compensating, programme supported, co-investment that will be progressively replaced by financial services as banking and MFI lending capacity and innovative value chain-oriented loan and risk management products are developed with Programme support. Specific strategies will be implemented for poor household and landless rural resident participation in value chains, including improved access to rural infrastructure and finance and strengthened farmer-led institutions. Through co-financing of public and collective good market-oriented infrastructure (multi-use water supply, small-scale irrigation, village-to-farm and village-to-road head access, commodity storage, markets, etc.), the ASDP will avail rural households with the physical resources needed to engage in high value climate-adapted agriculture production and marketing. Programme support to the planned restructured extension system under the new Federal administrative system will empower communities to both coordinate public extension delivery and develop local, private fee-based advisory services, including farmer-to-farmer (F2F) and enterprise-to-farmer (E2F) advice. These developments will be enveloped by programmes supporting climate change adaptation and women's inclusion, with women forming 2/3^{rds} of beneficiaries, and improved household food access and nutrition awareness.

5. **Programme area and target group.** The Programme will be implemented in Surkhet, Dailekh, Salyan, Jajarkot, Kalikot, Jumla, **Mugu, Dolpa, Humla** and (western) **Rukum** districts in Province 6 of Nepal. The four highlighted districts are incremental to the HVAP area and will be integrated into the Programme in line with the development of the (i) Chhinchu-Jajarkot–Dolpa; (ii) Surkhet-Kalikot-Jumla-Mugu; (iii) Surkhet- Dailekh road corridors; and (iv) Mid-hills highway. The programme will commence immediately in the six existing HVAP districts and in Mugu and Rukum, with Dolpa and Humla being integrated into the Programme as road access improves. The Programme Coordination Office (PCO) will continue to be based at Birendranagar in Surkhet district, while three corridor-based coordination units will be established for technical backstopping, field level coordination and programme monitoring and supervision. Programme activities will be closely aligned with other donor financed projects in the Province⁴.

6. The programme will target smallholder producers and landless rural people⁵ (value chain labour, small livestock, etc.) interested to engage in targeted value chain activities. Women will form 2/3^{rds} of the Programme beneficiaries and disadvantaged households including *Dalits*, *Janajatis*, Muslims, youth, landless and other disadvantaged groups will be specifically targeted for Programme inclusion (25 per cent target). The Programme will develop specific mechanisms for poor households to be able to join appropriate value chains, however, poor and marginalised households will definitively benefit from expanding local agriculture employment opportunities associated with value chain-driven growth. It is expected that the ASDP will serve around 35,000 direct beneficiaries (producer households and agri-industry entrepreneurs and employees) and around an additional 40,000 indirect household beneficiaries (through public infrastructure, financial services and agricultural extension development). HVAP beneficiaries will not be eligible for grant co-financing under the ASDP.

³ One district, Acham, presently engaged under the HVAP, now falls in Province 7 and would not be included in the ASDP.

⁴ Including, *inter alia*, SDC-financed NASDP, NAMDP and Small Irrigation projects are also running in Kalikot, Dailekh and Jajarkot; DFID-financed RAP III, USAID-financed Suaahara II and Kisan projects

⁵ See Appendix 2 for a detailed analysis of the target population

7. **Partnerships.** IFAD has extensively consulted with partners during the design process, including bi-lateral meetings with SDC, USAID, DFID, DANIDA, EU, ADB, World Bank, WFP and FAO. Through these consultations, a collaborative partnership has emerged with the SDC funded NASDP, implemented by Helvetas Swiss Inter-Cooperation (HSI). SDC will support the ASDP, providing a grant of USD 3.0 million for TA implemented by HSI to expand the coverage of NASDP to ASDP impact areas in all 10 districts, with specific focus on organising and capacitating farmer groups and cooperatives and provision of pluralistic services to farmer's groups linked to the value chains selected under ASDP. SDC will transfer TA fund to HSI directly.

8. The **Goal** of the Programme is to: *Contribute to the achievement of Nepal's SDG 1 and SDG 2 targets by reducing poverty and nutrition insecurity amongst women and men in hill and mountain areas of Province 6.* The **Development Objective** is to: *contribute to the achievement of Nepal's SDG 8 target through sustainable improvement in the income and food security of smallholders and disadvantaged rural groups⁶ involved in commercially-oriented production and marketing systems in selected high value agricultural value chains.*

9. **Programme Components.** The Programme will have two components: (i) Value chain development, and (ii) Programme coordination.

10. **Component 1, Value chain Development** would include four sub-components (Outcomes): (i) Inclusive and sustainable agriculture value chains expanded and diversified; (ii) Market-oriented infrastructure functional; (iii) Rural financial services for value chain development strengthened; and (iv) Agriculture services sustainably support innovation and value chain development.

11. *Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified.* This outcome would include two outputs: (i) identify and assess profitable high-value agriculture value chains; and (ii) co-finance agricultural value chain development:

- *Output 1.1: Identify and assess profitable high-value agriculture value chains.* This output includes two activities: (i) Strategic investment plan (SIP); and (ii) DDC-convened Multi-Stakeholders Consultative Platform:
 - *Strategic investment plan:* To identify profitable, climate change adapted value chain development pathways, the Programme would conduct a comprehensive financial, economic and value chain analysis of both existing (to confirm their continuing financial and economic viability) and potentially new value chains and associated wholesale markets in the Programme districts. In addition to the 6 value chains established under the HVAP⁷, the SIP would also evaluate, milk, citrus fruit, walnut, seed potato, honey and high nutrition crop (grain legume, finger millet, buckwheat) value chains in Province 6. The SIP analysis of the goat and OSV value chains have been completed with both demonstrating financially and economically viable investments. Honey, milk and seed potato value chain SIPs will be prepared before Programme effectiveness. The Programme will avoid duplication with other value chain initiatives in Programme districts.
 - *DCC-convened Multi-Stakeholders Consultative Platform (MSP).* The Programme would facilitate the establishment of Multi-Stakeholders Consultative Platforms (MSP) to support specific value chain development. MSPs would also inform the selection of prospective new value chains and the SIP process. MSPs would bring together the key stakeholders, including farmer representatives, private sector actors (traders, processors, input suppliers, investors, finance institutions) and government actors (municipal governance, research, extension) engaged in the development of specific value chains, with a view to strengthening private and public-private relationships across the value chains, promoting innovation and providing a conducive environment/space for the brokerage of financial agreements between value chain stakeholders. While initially convened by the respective DDCs, MSPs would be assisted to become self-governing.

⁶ Dalits, Janajatis, Muslims, youth, landless, others

⁷ apple, ginger, goats, off-season vegetables (OSV), timur and turmeric

- *Output 1.2: Co-financed agricultural value chain development.* This output would include three activities: (i) co-investment both on farm and at agribusiness level; (ii) value chain-led participatory and applied production and processing technology development; and (iii) tailored multi-disciplinary capacity building.
- *Co-investment both on-farm and at agribusiness level.* The Programme would establish a competitively allocated Value Chain Development Fund (VCDF) providing risk-based co-financing to catalyze private investments by agri-enterprises and farm households into the SIP-prioritised value chains and associated wholesale markets, with particular attention paid to the inclusion of poor, disadvantaged and women-headed households in the value chain catchment area. The priorities for the investment agenda in each value chain would be identified through the associated MSP. Co-investment would be capped at USD 100,000 for agribusinesses, USD 10,000 for lowland/mid-hills farmer groups, USD 12,000 for mountain area farmer groups (inflation adjusted). Local Bodies would manage the selection of farmer groups and make recommendations to the PCO for financing. PCO-approved co-financing investments, to agribusinesses, exceeding USD 50,000 would require IFAD no-objection. Additional funding up to 250 per cent of these amounts could be exceptionally approved subject to IFAD and MoAD no-objection;

The level of co-investment would vary by location and purpose, priced to reflect the measured risk to the "innovator" investors, but set at levels that are unlikely to distort markets. For agribusinesses, co-investment would be set at 30 per cent of the total investment value in the mid-hill municipalities and 40 per cent in mountainous municipalities. Co-investment of farmer groups would be set at 50 per cent. Once "innovator" co-investments are proven to be commercially viable, co-investments for that value chain segment would be phased out, subject to improved access to rural financial services. The percentage of co-investment offered and other terms would be actively monitored and revised if necessary based on actual uptake. The competitive co-investment allocation process would reward enterprise and farmer group business proposals that offer higher levels of own contribution, better value addition and greater engagement of poor and disadvantaged people;

- *Value chain-led participatory and applied technology development.* The design missions have identified significant technical constraints in the targeted value chains. Up to 20 per cent of enterprise and farmer group co-financing could be used to support participatory action research and associated technology transfer, including farmer-to-farmer and enterprise-to-farmer advisory services. Additional funds are available to MSPs to address technical constraints and opportunities mutually identified by MSP stakeholders.
- *Tailored multi-disciplinary capacity building.* The Programme would provide value chain actors with specific training based on capacity building needs identified by the MSPs. This could include in-field and residential training courses; experiential regional study tours, etc.

12. *Sub-component 2: Market-oriented public and community infrastructure functional.* This outcome has one output: (i) co-financed community market infrastructure:

- *Output 2.1: Co-financed public and community market infrastructure.* In alignment with the SIP, the Programme would allocate funds for market-linked infrastructure investments that provide public good and collective⁸ benefits essential to targeted commodity value chain engagement and/or climate change adaptation. Public or collective market-linked infrastructure investment schemes would be identified and prioritized through: (i) participatory community planning; (ii) the MSP process; and (iii) their alignment with Municipality infrastructure plans. Investments could include, *inter alia*, village and farm access roads, commodity storage, market/collection centres, ponds, small-scale irrigation and multi-purpose village water supply. The Programme would be structured to cater for innovative demands as they emerge. For public infrastructure

⁸ Semi-public good

(village roads, trails, markets, etc.) funds would be advanced to Municipalities by the PCO on the basis of participatory Municipality investment plans incorporated into the ASDP annual work plan and budget. Collective good infrastructure would be primarily built through community action unless their scale or complexity required contracting. All infrastructure investments would be climate change adaptive.

Co-financing of construction costs of public and collective good infrastructure works would be in accordance with the accompanying table. PCO-approved co-financing investments exceeding USD 50,000 would require no-objection from IFAD. The Programme would, wherever practicable, use force account processes for community infrastructure investments, designed to create local jobs, while recognising that most major infrastructure investments would require some machine support.

Activity	Financier (%)		
	IFAD Loan	Municipality	Beneficiary
Roads	65%	25%	10% (in kind)
Trails & trail bridges	65%	25%	10% (in kind)
Markets	50%	35%	15%
Water	85%	0%	15%
Design	100%	0%	0%
Supervision	100%	0%	0%

13. *Sub-component 3: Rural financial services for value chain development strengthened.* The mission has confirmed that there is adequate liquidity for agriculture sector finance in the Programme area, however, there are significant institutional and product shortfalls. Cooperatives require capacity development both as institutions and for dispensing agriculture credit. MFI loan products are poorly structured for agricultural lending and insurance as a risk management instrument is yet to reach rural producers and requires product development. This outcome would include two outputs: (i) Rural financial services development; and (ii) Support to credit access:

- *Output 3.1: Rural financial services development.* This output would comprise of three activities: (i) Product innovation for value chain financing and loan risk management; (ii) Capacity development of co-operatives; and (iii) Improving insurance uptake.
 - *Product innovation for value chain financing and loan risk management;* The Programme would provide technical assistance to MFIs/private banks intending to implement value chain financing solutions. This would include product development consistent with the prioritised value chains and developing protocols for products comprising size, rate of interest, collateral and repayment mechanisms. The Programme would also capacitate banks and MFIs through training & exposure to value chain financing products offered by regional financial institutions.
 - *Capacity development of co-operatives;* Co-operatives working in the Programme area would be facilitated to consolidate/amalgamate to improve their capacity to cater to member needs and also be credit worthy for wholesale bank loans. The capacity development would include institutional and business development training and on-site mentoring. Additional support for financial software installation and computing equipment would also be provided on a cost share basis. The Programme would engage national institutions such as NACCFL to support credit cooperative development.
 - *Improving insurance uptake;* The Programme would work with the Insurance Board and insurance companies to develop/modify insurance products and support the development of a rural insurance agent network, through local service providers, for distribution of appropriate insurance products to farm households.
- *Output 3.2: Support to credit access.* The HVAP-developed business literacy training programme would be expanded under the ASDP to include business skills, risk management, savings and loan management, insurance literacy and entrepreneurship. The Programme

would also provide financial mentoring to farm households or groups seeking co-financing. Financial literacy would be a prerequisite for farmer group value chain co-financing.

14. Sub-component 4: *Agriculture services sustainably support innovation and value chain development*. This outcome includes two outputs: (i) Participatory and pluralistic extension services and strengthened farmer groups; and (ii) Women's empowerment and household nutrition:

- *Output 4.1 Participatory and pluralistic extension services and strengthened farmers organizations*. Building on emerging positive trends in HVAP, the Programme, with SDC-financed HSI Technical Assistance (TA), would support the establishment and capacitation of MADC at the level of Local Bodies, and CAESCs at Ward level. Both would be chaired by elected officials and have strong agriculture sector stakeholder participation. These institutions would facilitate the delivery of extension services and the development of participatory planning processes that enable the MADC to represent farmers' interests in municipal and provincial planning processes. The MADC would provide feedback to the Municipal administration and through the Municipality to the District Coordinating Committee (DCC) concerning the provision of agriculture support services, assist in the formation of farmer associations, strengthen farmers' perspectives in evidence-based policy formation, and inform farmers about services and entitlements. MADC representatives would participate in MSPs for value chains operating in their area;

Through the MADC-CAESC network, the Programme would foster collaboration between public and private actors in the delivery of agricultural services, particularly in value chain production pockets and for food security (home gardens, nutrition sensitive value chains, multi-purpose water supply) amongst poorer households. This would be achieved through: (i) co-financing, in partnership with municipalities and communities, the development of CAESCs to enable them to facilitate pluralistic extension approaches, as envisaged in the ADS; (ii) the training of agricultural service managers at municipal level, public extension agents at ward level, and community-identified, certified lead resource persons (LRPs) in extension management and delivery methodologies and technologies relevant to food security and the value chains in the locality; and (iii) capacity building for agro-vet input supply management and staff. Rural Youth who are interested in becoming Junior Technician Assistants (JTAs) or agro-vet service providers would be provided with training and certification through accredited government approved courses. A women's quota of minimum 25 per cent would be kept for the vocational *trainings* and 15 per cent for disadvantaged groups⁹.

The sustainability of the outcomes of the programme depends, *inter alia*, on farmers' ability to remain profitably engaged with the value chains. Towards this, the programme would organise farmers into viable, self-managed groups and cooperatives so that they can continue to operate as sustainable and growing businesses and also become anchors for new farmers to join the value chains. Drawing on the HVAP experience of promoting farmers groups and cooperatives, and the extensive experience of developing groups and cooperatives in Nepal and other neighbouring South Asian countries, ASDP will support formation and strengthening of farmers' groups where such groups do not exist, strengthening and where necessary restructuring existing groups and consolidating mature groups into large scale commodity cooperatives to facilitate scale economies for sharing services and infrastructure, accessing credit and taking up viable value addition activities, such as sorting, grading, etc.

- *Output 4.2 Women's empowerment and household nutrition*. The Programme would train Business Literacy Facilitators (BLFs) to implement targeted interventions designed to empower women and adolescent girls, both within their households and in their wider communities¹⁰. Marginalised and female headed households would be given priority. In pursuit of improved nutrition, the Programme would support implementation of the government behavioural change

⁹ Dalits, Janajatis, Muslims, landless, etc.

¹⁰ The Programme would introduce the Household Methodologies approach to women's empowerment.

communication (BCC) initiative on post-open defecation free (ODF) villages and the nutrition awareness programme amongst Programme-targeted communities, including linking households in the Programme areas into the USAID funded Suaahara. Special emphasis would be given to the adolescent female children. Women construction workers would be paid on par with their male counterparts and there would be provisions for social safeguards for the community infrastructure. Simple drudgery reduction technology for women would be introduced to the agricultural groups.

15. **Component 2, Programme Management.** A PCO would be maintained in Birendranagar, Surkhet. The PCO would facilitate Programme implementation both by working through private and public-sector implementation agencies (MSPs, Municipalities, MADCs, CAESCs, Agro-vets, LRPs, etc.) and through more direct implementation for activities such as rural financial services. With SDC grant funding, HSI will be a co-implementer of the agricultural services programme. Key Programme staff, based at the Programme Coordination office in Birendranagar, would include a Programme Coordinator, a senior agriculture officer (deputed from the Provincial Agriculture office), a funds and contract manager, an account officer and support staff, a planning officer and technical staff covering value chain development, engineering, institutional development, rural finance, climate change, gender and nutrition, monitoring and evaluation (M&E) and knowledge management (KM), and information technology. The Programme would also establish field teams working along the four main road corridors having business, engineering, social/gender, finance institution and M&E/KM skills. An ASDP Liaison office would be maintained in Kathmandu. The Programme would be governed by a Programme Steering Committee (PSC), chaired by the Secretary, MoAD.

16. **Programme Risks.** Risks associated with the implementation of the proposed investment programme are summarised in **Table 1** below.

Table 1. Main ASDP risks and mitigation measures

Risks	Risk description	Probability of occurrence	Mitigation measures in Programme design	Comparative sensitivity analysis result (Proxy)
Economy	External shocks to macro economy	Medium	Higher productivity and reduced cost per unit of quality outputs	Costs +10% Benefits -10% Benefits lagged by 2 years EIRR 11.3%
Institutional	New provincial and municipal administrative systems take time to stabilize	High to Medium	Strengthen participatory planning for agriculture and rural development in Programme wards, build municipal agriculture staff capacities and support the establishment of farmer institutions (MADCs and CAESCs) for governance and delivery of municipal technical services, together with the emergence more pluralistic extension services.	Costs +10% Benefits -10% Benefits lagged by 2 years EIRR 11.3%
	Insufficient cohesion within farmer groups affect their success potential Ineffective coordination between provinces, municipalities and agribusiness undermining implementation progress	Medium	Clear criteria for identifying potential participating groups and sound group establishment, governance and member responsibility training for all group members Support the establishment of strong, self-governing MSPs.	Costs (base case) Benefits -10% Benefits lagged by 1 year EIRR 16.2%
	Sustainable use of Programme-financed civil works and Inadequate capacity for community-based O&M.	Medium	Community force-account procurement of local works to increase ownership of the beneficiaries; Community training provided on committee establishment, O&M, normal repair skills, as well as operation cost arrangement and tariff collection to support sustainable use of the Project-built works	Costs (base case) Benefits -10% Benefits lagged by 1 year EIRR 16.2%

Risks	Risk description	Probability of occurrence	Mitigation measures in Programme design	Comparative sensitivity analysis result (Proxy)
			Municipality co-financing of O&M expenses.	
	Elite capture/ disadvantaged groups able to participate effectively	Low to Medium	Pro-poor investment policies and planning; community empowerment, particularly women and youth; and close scrutiny and mentoring of all investments.	Costs (base case) Benefits -10% Benefits lagged by 1 year EIRR 16.2%
Market	Lack of technical capacity to respond to the identified needs	Medium	Market-led investment in appropriate technology; Development of farmer-group governed pluralistic advisory services MSP agreements link producers' groups to agri- businesses and markets	Costs +10% Benefits -10% Benefits lagged by 2 years EIRR 11.3%
	Lower market prices for commodities	Medium	Increased and diversified production and improved value addition and market access through co-financed grants	Costs (base case) Benefits -10% Benefits lagged by 1 year EIRR 16.2%
	Financial service providers not interested to invest in Programme- targeted value chains Borrowers divert loans for other purpose Insufficient historic weather data limits spread and quality of insurance products Cooperatives not interested in amalgamation and increased business efficiency	Medium	Development of new banking sector capacities and financial products; Co-finance only profitable, climate adapted production systems and VCs; Farmer joint and several liability group lending approach applied to most agriculture production loans; Support Department of Hydrology and Meteorology (DHM) expansion of automatic weather stations in key Programme areas; There are more cooperatives in the Programme area than the ASDP could possibly service so the Programme will invite cooperatives to compete for amalgamation services, while impending federal legislation is expected to force the amalgamation of cooperatives	Costs (base case) Benefits -10% Benefits lagged by 1 year EIRR 16.2%
Policy	Farmers not treated as clients, but as rights holders by government agencies and agri- business Climate change adaptation does not become underpin agricultural and rural development policies at municipal levels Poor municipal business environment does not provide incentive for agri- business investments	Medium	Empower of farmers through technical training and group and gender awareness. Train government agencies in participatory development and cultural awareness; Substantive and sustained investment in policy dialogue at municipal level, with strong CC adaptation emphasis within Programme knowledge management; MSPs, which include municipal agencies, work collectively to address investment constraints.	Costs (base case) Benefits -10% Benefits lagged by 1 yr. EIRR 16.2%
Others	Natural calamities including flood and drought lower output of farm production	High	Improvement of productive infrastructures and adoption of climate-smart technologies and varieties to advance production season will help ease the risk; Better farmer access to meteorological and market info	Costs +10% Benefits -20% Benefits lagged by 2 years EIRR 8.8%
	Damages to civil works built caused by natural disasters, like floods and	Medium	Ensuring climate adapted design and protection measures taken to avoid any predictable damages; Municipalities are responsible for the repair of unusual	Costs (base case) Benefits -10%

Risks	Risk description	Probability of occurrence	Mitigation measures in Programme design	Comparative sensitivity analysis result (Proxy)
	land sliding.		damage that is beyond the community's ability.	Benefits lagged by 1 year EIRR 16.2%

17. **Programme costs** The total amount of the programme, over a six-year implementation period is USD 68.2 million, of which USD 38.2 million (USD 28.2 million from 2016-18 PBAS and USD 10 million from cancelled funds of ISFP) would be financed by IFAD as a highly concessional loan; an IFAD grant of USD 1.8 million, an SDC grant of USD 3.0 million, GoN counterpart funds are estimated at USD 11.5 million (of which USD 8.3 million constitutes forgone taxes and duties); co-financing from Municipalities for infrastructure co-financing is estimated at USD 3.4 million; private sector co-financing is estimated at USD 3.5 million; farm beneficiary contributions (in cash and kind), is estimated at USD 6.7 million.

18. **EIRR and NPV.** The overall ASDP project economic net present value (ENPV) is USD 95.61 million at a 10% discount rate¹¹. The economic internal rate of return (EIRR) is 24 per cent. The benefit cost ratio (BCR) of 1.6 indicating a return of approximately 1.6 dollars for every dollar invested. Both results indicate that the project is a worthwhile investment¹².

¹¹ World Bank current practice in Nepal.

¹² Decision criteria: ENPV > USD 0; EIRR > 10% (discount rate) and BCR > 1

EFA Summary Pages

Table A – Household Net Incremental Income for Selected Value Chain Commodities

Project Year	Household Incremental Income Selected Commodities (NPR '000)					
	OSV Low Hills	Apple High Hills	Goats High Hills	Turmeric	Walnuts	Potato Mid Hills
PY1	-3	-20	22	-1	-6	3
PY2	-58	-11	-117	-32	-21	-48
PY3	38	29	25	10	-9	-33
PY4	60	65	32	23	-5	-20
PY5	91	58	57	36	-3	14
PY6	116	43	59	36	-3	51
PY7	181	86	95	36	-3	57
PY8	180	79	154	36	-3	63
PY9	173	63	176	36	42	69
PY10 +	256	107	181	2	47	76
NPV @ 10%¹	100	81	61	65	28	36

¹ 10% discount rate equivalent to a one year retail bank deposit rate, e.g. www.nibl.com.np 26 April 2017.

Table A.1 - Key Financial Parameters by Value Chain Commodity Household Types

VC Household Type	IRR %	NPV @ 10% (NPR '000) ¹	Returns per Family Day of Labour (NPR) ²	Returns per Family Day of Labour (USD) ²
Apple – Low Hills	73.7	562.24	2,926	29
Apple – High Hills	80.5	586.97	3,411	33
Ginger	50.5	309.09	1,304	13
OSV – Low Hills	54.9	358.49	1,270	12
OSV – Mid Hills	101.1	506.90	1,275	13
Orange – Mid Hills	86.8	566.79	2,288	22
Potato – Mid Hill	35.5	320.19	1,464	14
Potato – High Hills	35.2	325.45	1,592	16
Timur	23.1	109.50	1078	11
Turmeric	64.5	183.32	1,547	15
Walnuts – High Hills	28.2	179.21	2,397	24
Goat – Low Hills	100.1	1,026.94	1,978	19
Goat – High Hills	99.2	1,444.00	2,581	25
Milk – Mid Hills	78.0	3,332.78	3,535	35

Notes:

¹ IRR and NPV derived from Farmod's Farm Family Benefits After Financing cashflow see financial budgets Annex 2.

² Year 10 WP value.

Table B - Programme Cost and Indicators for Log Frame

Total Project Total Costs (USD m): 68.23		Base costs: (USD m): 56.33	PCO 1
Beneficiaries ^{\1}	People 131,250	Households 26,250	Groups: ~ 1,050
Cost per targeted beneficiary	USD 390 x person	USD 1,949 x HH	Participation rate: 75%
Components and Cost (USD M)		Selected Outcomes and Indicators	
Inclusive and sustainable agriculture value chains expanded and diversified	18.11	Inclusive and sustainable agriculture value chains expanded and diversified	26,250 value chain-linked farm households double their household income
Market-oriented infrastructure functional	15.43	Market-oriented infrastructure functional	60% of households in Programme area reporting improved physical access to markets, processing and storage facilities
Rural financial services	3.58	Rural financial services for value chain development strengthened	150% Increase in number of households reporting using rural financial services (savings, credit, insurance, etc.)
Agricultural services	13.05	Agriculture services sustainably support innovation and value chain development	70% of households in Programme area reporting adoption of new / improved inputs, technologies or practices

\1 Direct beneficiaries - assumes 5 persons per household and 70 per cent participation rate.

Table C – Financial Analysis Assumptions

Parameters				
Selected Outputs	Av. Yield ^{\1}	Price (NPR)	Selected Inputs	Price (NPR)
Apples – Grade A	10.8 t/ha	55 / kg	DAP	50 / kg
Ginger	16.0 t/ha	25 / kg	Urea	40 / kg
Turmeric - dried	2.6 t/ha	130 / kg	Potash	30 / kg
Walnut	4.0 t/ha	400 / kg	Lime	60 / kg
Milk	10 l/day	85 / kg	Hired Labour	1,000 / per-day

\1 Full development

Table D – Household, Beneficiaries and Phasing

	PY 1	PY 2	PY 3	PY 4	PY 5	PY 6
Total Households						
Incremental	3,500	7,000	11,900	11,200	1,400	-
Cumulative	3,500	10,500	22,400	33,600	35,000	35,000
Households participating ^{\1}						
Incremental	2,625	5,250	8,925	8,400	1,050	-
Cumulative	2,625	7,875	16,800	25,200	26,250	26,250
Beneficiaries participating ^{\2}						
Incremental	13,125	26,250	44,625	42,000	5,250	-
Cumulative	13,125	39,375	84,000	126,000	131,250	131,250

\1 Assuming 5 persons per household

\2 75 per cent adoption rate

Table E – Economic Analysis Main Assumptions

Parameter	Value	Remarks
Official exch. rate	102	USD 1 = NRS (August 2017)
Standard conversion factor	0.91	As commonly applied in recent projects designs in Nepal. As appropriate all financial costs are converted into economic costs through the elimination of subsidies, duties and taxes.
Value added tax	13%	Included in project costs and eliminated as appropriate for conversion to economic costs.
Foreign exchange	Various	Varies across expenditure account, accounted for in the conversion to economic costs
Shadow wage rate factor (SWRF)	0.85	Applied to unskilled wage rates to reflect the relative abundance of unskilled labor, though in some locations at some periods of year this may undervalue unskilled labor due to the temporary migration of labor to other parts of Nepal or abroad.

Table F - Programme Economic Cash Flow (USD '000)

Project Years (Selected)	Total incremental benefits	Total incremental econ costs	Net Benefits
PY 1	38	598	(560)
PY 2	155	1,435	(1,280)
PY 3	402	2,141	(1,739)
PY 4	838	2,505	(1,667)
PY 5	1,372	1,498	(126)
PY 6	2,047	1,468	579
PY 7	2,762	1,606	1,156
PY 8	3,529	1,700	1,829
PY 9	4,155	1,836	2,319
PY 10	4,698	2,002	2,697
PY 15	5,950	2,423	3,527
PY 20	5,946	2,406	3,540
PY 25	5,951	2,380	3,571

ENPV @ 10%	USD '000	9,752
ENPV @ 10%	NPR million	1,034
EIRR	%	24.1%
BCR	ratio	1.57

Graph G –Incremental Benefit Cash Flow

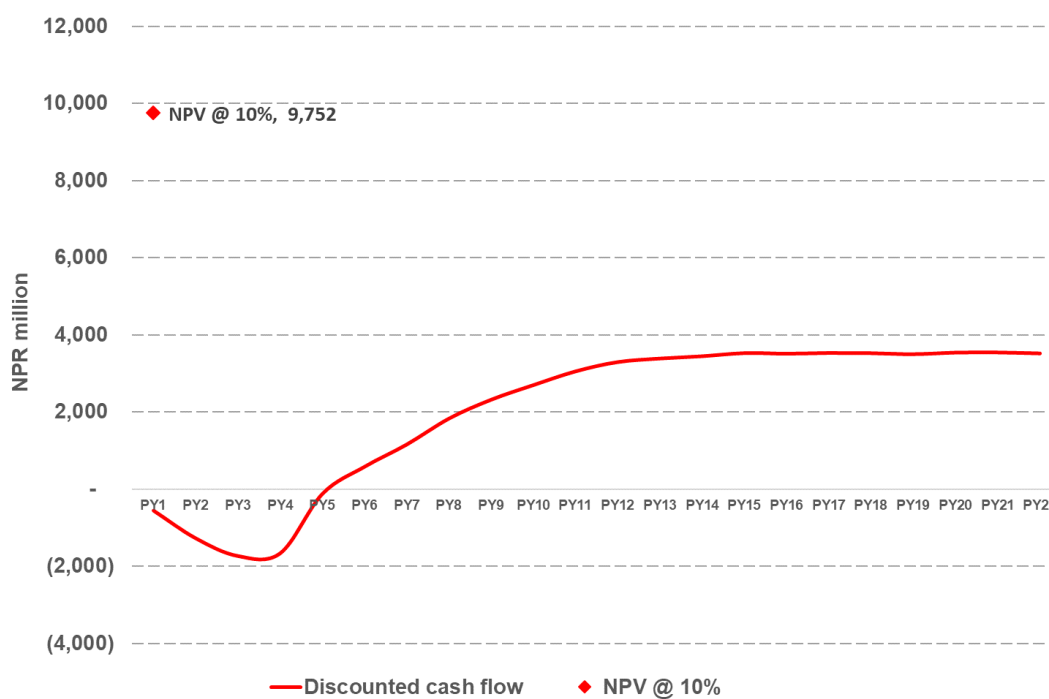
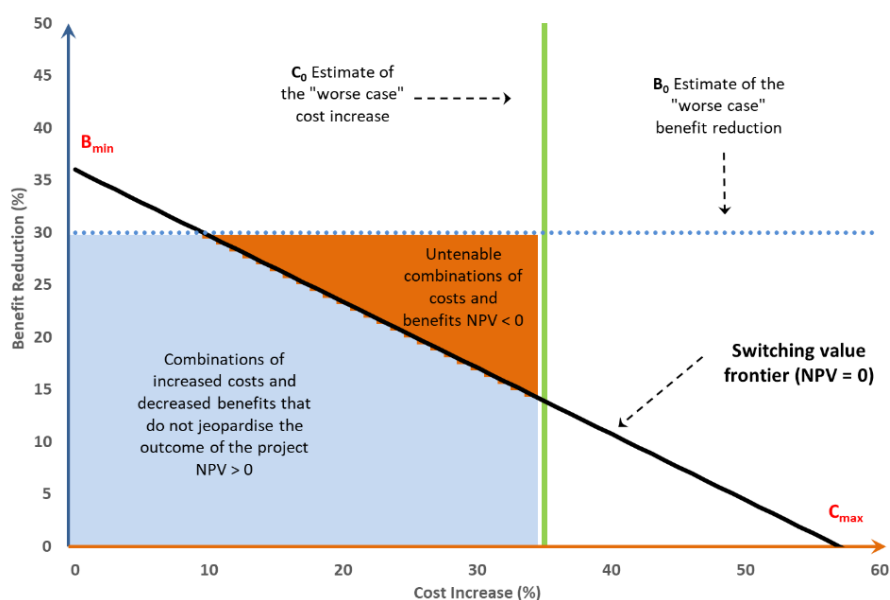


Table H - Sensitivity Analysis

Scenario			Link to Risk Matrix Issues	ENPV (USD '000)
Base Case				9,752
$\Delta\%$ to Base Case				
Project Costs	Incr'l Benefits	Benefits delayed by		
+ 10%			Increase in the cost of inputs.	8,049
+ 20%				6,346
	- 20%		Reduced producer prices / demand. Infrastructure investments are not directed to areas of highest production potential. Technical coordination is not responsive to the grassroots level needs.	4,396
	- 40%			(960)
+ 10%	- 10%		Combinations of the above	5,371
+ 20%	- 20%			990
Base Case	Base Case	1 year	Ineffective inter-institutional cooperation & dialogue on development issues means financing is not disbursed in a timely manner to support field implementation.	7,318
		2 years		5,104
		3 years		3,092
Base case	- 20%	1 year	Insufficient cohesion within farmer groups affect their success potential Ineffective coordination between provinces, municipalities and agribusiness undermining implementation progress Financial service providers not interested to invest in Programme-targeted value chains Borrowers divert loans for other purpose	745
		2 years		(1,025)
		3 years		(2,635)
+ 20%	- 20%	2 years	Climate-change and disaster impacts. External shocks to macro economy.	(2,728)
Switching Values ¹¹				
Costs		57 % C max in Graph H		
Benefits		-36 % B min in Graph H		

¹¹ Percent change in cost and/or benefit streams to obtain an ENPV of USD 0, i.e., economic viability threshold.

Graph I –Switching Value Frontier¹³



¹³ As per IFAD (2015) Economic and Financial Analysis of Rural Investment Projects – Internal Guide

Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ¹⁴	Mid-Term	End Target	Source	Frequency	Responsibility	
<p>Goal: To contribute to the achievement of Nepal's SDG 1 and SDG 2 targets by reducing poverty and nutrition insecurity amongst women and men in hill and mountain areas of Province 6</p>	<ul style="list-style-type: none"> 24,000 more women in Programme area of 15-49 years of age, consume at least 5 out of 10 defined food groups daily (disaggregated by ethnicity);^{15 16} 	Baseline score established through HVAP completion survey	+10,000	+24,000	Field survey	Mid-term and completion surveys	ASDP	
<p>Development Objective: To contribute to the achievement of Nepal's SDG 8 target through sustainable improvement in the income and food security of smallholders and disadvantaged rural groups¹⁷</p>	<ul style="list-style-type: none"> Reduction in poverty incidence amongst 35,000 Programme households (measured as a lower HFIAS¹⁸ score (disaggregated by gender and disadvantaged group)^{12:13} 	Baseline HFIAS score established through HVAP completion survey	-30 per cent	-60 per cent	Field survey	Mid-term and completion surveys	ASDP	<ul style="list-style-type: none"> Socioeconomic conditions remain reasonably stable in the Programme area and climatic disasters are

¹⁴ Baseline measures for several indicators will be established through the HVAP completion survey.

¹⁵ IFAD RIMS indicator

¹⁶ Agriculture Development Strategy indicator

¹⁷ Dalits, Janajatis, Muslims, youth, landless, others

¹⁸ Household Food Insecurity Access Scale (HFIAS), (http://www.fao.org/fileadmin/user_upload/eufao-fsi4dm/doc-training/hfias.pdf)

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ¹⁴	Mid-Term	End Target	Source	Frequency	Responsibility	
involved in commercially-oriented production and marketing systems in selected high value agricultural value chains.(number of beneficiaries <u>effectively</u> reached assuming a 75 per cent success rate)	<ul style="list-style-type: none"> 26,000 value chain linked farm households double their household income (disaggregated by ethnicity and female-headed households)^{12;13} 	0	10,000HH double income	26,000 HH double income	Field survey	Mid-term and completion surveys	ASDP	<ul style="list-style-type: none"> manageable (A) Macro-economy continues to improve (A) New provincial and municipal administrative systems take time to stabilize (R) Business regulatory system does not deteriorate with new Federal structure (R)
Sub-components (Outcomes): Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified	<ul style="list-style-type: none"> Amount of agribusiness and household investment leveraged by ASDP co-financing (USD million) (disaggregated by male and female-headed households and ethnicity)¹² 	0	6.0	10.0	ASDP records	Annual	ASDP	<ul style="list-style-type: none"> Municipal governments committed to participatory, market-led development (A) Elite capture/ disadvantaged groups unable to participate effectively (R)

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ¹⁴	Mid-Term	End Target	Source	Frequency	Responsibility	
Outputs: 1.1 Strategic Investment Plans prepared.	<ul style="list-style-type: none"> 12 commodity-based VC strategic investment plans prepared 	0	12	12	ASDP records	Annual	ASDP	<ul style="list-style-type: none"> Adequate skills available from local /national service providers (R)
1.2 Agricultural value chain development co-financed	<ul style="list-style-type: none"> Profitable new agriculture value chains operating in Programme area at project-end (IRR>12%)^{12,13} 	0	8	18	Field survey	Periodic surveys	ASDP	<ul style="list-style-type: none"> “Market gatekeepers” and farmers willing to invest in value adding agri-businesses in Programme area (A)
Sub-component 2: Market-oriented infrastructure functional	<ul style="list-style-type: none"> Percentage of households in Programme impact areas reporting satisfaction with Programme infrastructure development (disaggregated by male and female-headed households and ethnicity) 	0	70 per cent	80 per cent	Field survey	Mid-term and completion surveys	ASDP	<ul style="list-style-type: none"> Value chain infrastructure requirements align with municipal investment plans Municipalities are willing to co-finance Programme infrastructure needs
Outputs: 2.1 Co-financed public and community market infrastructure	<ul style="list-style-type: none"> Kilometres of rural roads constructed¹² 	0	30	70	ASDP records	Annual	ASDP	<ul style="list-style-type: none"> Timely implementation of Infrastructure maintenance (R)
	<ul style="list-style-type: none"> Hectares of small-scale irrigation established^{12,13} 	0	400	1,000	ASDP records	Annual	ASDP	

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ¹⁴	Mid-Term	End Target	Source	Frequency	Responsibility	
2.2 Marketable skills development.	Number of youth and women trained (disaggregated by ethnicity and sex) (Zero at project inception) ¹²	Youth; Women;	400 600	800 1,200	ASDP records	Annual	ASDP	Rural youth perceive better economic opportunities in urban environments (R)
Sub-component 3: <i>Rural financial services for value chain development strengthened</i>	Increase in number of households reporting using rural financial services (savings, credit, insurance, etc.) (disaggregated by ethnicity and female-headed households) ¹²	TBD at HVAP completion survey	120 per cent of base	150 per cent of base	Field survey	Periodic surveys	ASDP	No major change in financial climate, lending terms (A) Financial service providers not interested to invest in Programme-targeted value chains (R) Borrowers divert loans for other purpose (R)
Outputs: 3.1 Rural financial services development	Number of financial service providers delivering innovative financial products and services to Programme groups ¹²	0	10	20	ASDP and financial service provider records	Annual	ASDP, banks, MFIs, credit coops.	

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ¹⁴	Mid-Term	End Target	Source	Frequency	Responsibility	
3.2 Support to credit access	<ul style="list-style-type: none"> Number of persons in rural areas trained in at least two of the following capacities: (i) financial literacy; (ii) business development and (iii) use of financial products and services (disaggregated by ethnicity and female-headed households)¹² 	0	15,000	35,000	Field survey	Mid-term and completion surveys	ASDP	<ul style="list-style-type: none"> Insufficient historic weather data limits spread and quality of insurance products (R) Cooperatives not interested in amalgamation and increased business efficiency (R)
Sub-component 4: Agriculture services sustainably support innovation and value chain development	<ul style="list-style-type: none"> Percentage of households in Programme area reporting adoption of new / improved inputs, technologies or practices (disaggregated by ethnicity and female-headed households)^{12;13} 	0	50 per cent	70 per cent	Field survey	Periodic surveys	ASDP	<ul style="list-style-type: none"> Municipalities adopt ADS-recommended institutions and approaches for agricultural service governance and delivery (A)
Outputs: 4.1 <i>Participatory and pluralistic extension services and strengthened farmers organizations</i>	<ul style="list-style-type: none"> Number of CAESCs in Programme Wards delivering publicly and privately funded services to producers through pluralistic extension providers (disaggregated by funding source)¹² 	0	100	400	ASDP records	Annual	ASDP	<ul style="list-style-type: none"> Technical service support system is pluralistic and responds to the grassroots level needs (A)

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ¹⁴	Mid-Term	End Target	Source	Frequency	Responsibility	
4.2 Women's empowerment and household nutrition ¹⁹	▪ Number of new farmer groups linked to VCs ¹²	0	300	1,200	ASDP records	Annual	ASDP	▪ Programme-promoted methodologies for women's empowerment successfully applied (A)
	▪ 40 per cent improvement in Women's empowerment in agriculture index in Programme supported households. ¹²	Baseline score established through HVAP completion survey	110 per cent of base	140 per cent of base	Field survey	Mid-term and completion surveys	ASDP	

¹⁹ The IFPRI-developed Women's empowerment in agriculture index measures the roles and extent of women's engagement in the agriculture sector in five domains: (i) decisions about agricultural production; (ii) access to and decision-making power over productive resources; (iii) control over use of income; (iii) leadership in the community; and (iv) time use.

I. Strategic context and rationale

A. Country and rural development context

1. **Economic Development.** Economic growth began to slow in Fiscal Year (FY) 2013/2014, principally due to depressed agricultural production and low investment and then fell sharply to 0.6 per cent in 2015/16 due to the earthquake disaster and an economic blockade. It is now projected to pick up substantially to 4.6 per cent in 2016/17 and then to 4.8 per cent in 2017/18, due to both stronger agricultural sector performance and the ongoing reconstruction effort, which will also generate higher levels of investment and support domestic consumption²⁰. Agriculture accounts for almost 1/3rd of GDP. Agricultural sector growth in FY2012 reached 4.6 per cent, but sector performance then fell to 1.1 per cent in FY 2013 due to a combination of weak monsoons, inadequate supply of agricultural inputs during the peak planting seasons, rose slightly to 2.9 per cent in 2014 in response to better monsoon rains, and back to 1.9 per cent in 2015 due to the earthquake disruption. Agriculture is expected to grow in 2017 on the back of average monsoon rainfall. Growth in the industrial sector (which accounts for about 13 per cent of GDP) has historically been held back by a lack of adequate electricity and other supply-side bottlenecks. The 2015 earthquake further slowed industrial activities, with the severely affected districts accounting for about 20 per cent of total manufacturing establishments, manufacturing jobs, and manufacturing value-added in the country. Similarly, nearly a quarter of the total hydropower produced in the country is affected by the earthquake. Industrial growth in 2016 was projected to be -6.3 per cent. There has, however, been significant growth in the services sector in recent years, strengthened by the continuing growth in remittance transfers. It is projected that services output will grow by an average annual rate of 5.6 per cent in 2016/17 and 2017/18 as the sector recovers from the adverse effects of the 2015 earthquakes.

2. Strong consumption growth rather than investment is driving economic activities, with both public and private investment weak in 2016, with private sector investment particularly constrained by the high level of policy uncertainty. Private sector investment is expected to improve in 2017 and several large infrastructure Programmes are likely to accelerate economic growth in coming years²¹. Despite the timely approval of the budget, key capital Programmes have not moved as anticipated, demonstrating shortcomings in preparation and implementation that affect the broader capital Programme portfolio of the government. Owing to high spending pressures, the budget will remain in deficit in fiscal years 2016/17 and 2017/18 (July 16th-July 15th). However, improving revenue collection will keep the budget shortfall at a manageable level. Consumer prices will rise by an average of 8.4 per cent a year in 2017-18, as food price pressures will remain high. Supply disruptions, owing to the country's poor road infrastructure and the impact of the 2015 earthquakes, will continue to put upward pressure on prices. Import price inflation will also be strong in the forecast period.

3. The World Bank has advised government that, for growth to accelerate, government will have to reduce constraints to public and private investment. Their key recommendations include: (i) addressing systemic weaknesses in the budget preparation and execution processes, including a closer alignment between policy priorities and budgetary allocations; (ii) amplifying good governance initiatives, including more independent audits and strengthened parliamentary processes; (ii) developing strategic infrastructure, particularly in the transport sector; and (iv) initiating reform in the power sector.

4. **Agriculture development.** Nationally, agriculture suffers from low investment, and inadequate commercialization and modernization. Two-thirds of people in the labour force are engaged in agriculture production, but the majority are unskilled and lack knowledge on updated cultivation

²⁰ Economist Intelligence Unit: Nepal Country Report, 1st Quarter 2017

²¹ China will fund a US\$1.6bn hydropower project in western Nepal. The West Seti River project, approved by the Nepali authorities in April 2015, will be the largest ever scheme financed by foreign direct investment in Nepal, with completion expected by 2022. China also plans to extend its Tibet railway to the Nepali border by 2020.

practices. The sector largely depends on the monsoon, while access to modern inputs and extension service is limited and relatively poor in quality. Underemployment is a serious problem with many young people leaving farming for foreign employment. Nepal, as a result, has become a net food importer.

5. An Agricultural Development Strategy (ADS), supported by a broad donor coalition, which aims to guide the agricultural sector of Nepal over the next 20 years, was approved in 2014. The ADS envisages a profound shift in the Nepalese economy, from one primarily based on agriculture to an economy that derives most of its income from services and industry. The strategy envisages “A self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security.” This will be achieved through substantial growth in the sector and agro-based exports, underpinned by four strategic pillars of agriculture development: governance, productivity, commercialization and competitiveness, while promoting: (i) inclusiveness (both social and geographic); (ii) sustainability (both natural resources and economic); (iii) development of the private and cooperative sectors, and connectivity to market infrastructure (e.g. agricultural roads, collection centres, packing houses, market centres); (iv) information infrastructure and ICT; and (v) power infrastructure (e.g. rural electrification, renewable and alternative energy sources). Over a 20-year period it envisages agricultural growth rising from the current 3 per cent, to 6 per cent per annum, driven by a 400 per cent expansion in irrigated area, a 400 per cent improvement in soil organic matter and associated 50 per cent reduction in degraded land, a 250 per cent expansion in agricultural land productivity and a significant increase in women’s ownership of land (from 10 per cent to 50 per cent). This growth is expected to lead, over 20 years, to: a 5 per cent surplus in food grain self-sufficiency from a 5 per cent deficit; an 800 per cent increase in agricultural exports; the more than doubling of returns to agriculture labour; and a reduction of rural poverty from 35 per cent to 10 per cent.

6. **Climate risk.** The climate of Nepal varies significantly from one region to the next because of the wide variation in altitude. The variable geo-climatic conditions, unplanned settlements, degradation of natural resources and growing population pressure make the country increasingly vulnerable to extreme climate events and climate change (CC). Climate model projections indicate that the average annual temperature in Nepal will rise and will vary both spatially and temporally. The annual mean temperature is expected to increase by an average of 1.2° C by 2030, 1.7° C by 2050 and 3° C by 2100 compared with the pre-2000 baseline. Several studies show higher temperature increment projections for winter than for the monsoon season. There is also evidence of more frequent intense rainfall events, more flood days, more variable river flows, erosion and landslides. Warmer winters, particularly at higher altitudes, may mean that less precipitation falls as snow, further accelerating glacial retreat but also reducing soil moisture and accelerating erosion and, therefore, having an impact on winter crops. Warming also leads to early blossom of fruits trees and higher parasite/pest attacks, but increases the altitude at which vegetables can be grown. Greater unreliability of dry season flows poses a potentially serious threat to water supplies in the lean season. These projected changes are consistent with a range of climate models and are predicted to continue.

7. Poor and marginalized people are especially vulnerable to climate variability and change. They generally are the least able to cope with disaster, live in the most at-risk areas and have limited information, knowledge and resources to help reduce their level of risk. The predicted impacts of climate change (CC) will intensify existing vulnerabilities, inequalities and exposure to hazards. In the agriculture sector, smallholder producers face the greatest risk. They tend to own few livelihood assets such as land and livestock, receive a low income, and have a low level of education and limited access to community and government services. They are also likely to be dependent on rain-fed agriculture and occupy land that is prone to floods, drought and landslides. Many of Nepal’s poor farmers occupy small parcels of land that barely produce enough food for the family. They rely more on local natural resources such as forests and water and will therefore suffer the most from the drying up of local water sources and changes in vegetation cover.

8. The Government prepared its National Adaptation Programme of Action (NAPA) in 2010, which led to the formulation of the Local Adaptation Plan of Action (LAPA) framework in 2011. The Nepal NAPA describes 9 priority activities, including: (i) promoting community-based adaptation through integrated management of agriculture, water, forest and biodiversity; (ii) building and enhancing adaptive capacity of vulnerable communities; (iii) community-based disaster management for facilitating climate adaptation; (iv) Glacial Lake Outburst Flood monitoring and disaster risk reduction; (v) forest and ecosystem management in supporting climate-led adaptation innovations; (vi) Adapting to climate challenges in public health; (vii) ecosystem management for climate adaptation; (viii) empowering vulnerable communities through sustainable management of water resource and clean energy supply; and (ix) promoting climate-smart urban settlements. The preliminary estimate for NAPA implementation is about USD 350 million.

9. Nepal has prepared a national framework for development of Local Adaptation Plans for Action (LAPAs), which supports the operationalization of the NAPA priorities by facilitating the integration of CC resilience into development planning processes and outcomes from local-to-national levels. The LAPA's purpose is to: (i) enable communities to understand the changing and uncertain future climatic conditions and effectively engage them in the process of developing adaptation priorities; (ii) implement climate-resilient plans that are flexible enough to respond to changing and uncertain climatic conditions (no regrets approach); and (iii) inform sectoral programmes, and catalyse integrated approaches between various sectors and sub-sectors. The LAPA ensures that the process of integrating CC resilience into national planning is bottom-up, inclusive, responsive and flexible. Diverse entry points including agriculture, forestry, public health, water and sanitation, watersheds and micro-finance are used to assess the ways climate resilience can be strengthened.

10. **Rural poverty.** Poverty in Nepal is primarily a rural problem, and it is strongly associated with gender, ethnicity, caste and region. It is highest in the mid-western and far-western development regions, though there are pockets of poverty nationwide. The Human Poverty Index (HPI) value for Nepal in 2011 is 31.12. Nationally, the HPI fell by 8.5 points between 2001 and 2011, or 21.4 per cent. There are variations by rural and urban residence, and by ecological and development regions. Urban-rural differences are considerable, with rural poverty nearly 1.8 times higher than urban poverty. Among ecological regions, the HPI is lowest in the Hills at 29.20 and highest in the Mountains at 38.51. Among the development regions, the value is lower than the national average only in the Western region at 27.20 and the Eastern region at 29.22. The Mid Western region has the highest rank at 36.63, which is 1.3 times higher than that of the Western region (Province 6). High levels of human poverty in the Mid-Western and Far Western regions reflect deprivations in health, education and sanitation. Dailekh, Kalikot, Jajarkot and Salyan, in the Mid-West are amongst the poorest districts.

11. The Human Development Index (HDI) score for Nepal in 2011 was 0.458, the lowest ranking among the countries of the South Asian Association for Regional Cooperation (SAARC), aside from Afghanistan. Despite Nepal ranking second in terms of life expectancy at birth and improvements in education indicators, the country's HDI score is depressed by the low level of per capita income. HDI calculations among the ecological regions show the Hills as having the highest HDI value at 0.520, compared to the Terai at 0.468 and the Mountains at 0.440. Within the development regions, the Central region, at 0.510, ranks at the top, followed by the Western, Eastern, Mid-Western and Far-Western regions. The Far-Western region at 0.435 and the Mid-Western region (Province 6) at 0.447 have the lowest HDI values, reflecting very low scores in all three dimensions of life expectancy, education and income. Within the mid-west (Province 6), Kalikot, Jajarkot and Rolpa districts have HDI scores below 0.4, while Dailekh, Rukum and Salyan have scores below 0.449. The 2011 urban-rural gap in HDI, at 19.7 per cent, is large, reflecting persistent discrepancies in income and education between urban and rural areas.

12. Inequalities in human development by gender, caste and ethnicity have been noted since the first Nepal Human Development Report in 1998. These remain pronounced, despite some evidence that they may be reducing over time. Among the four major caste and ethnic clusters — the

Brahmans/Chhetris, the Janajatis, the Dalits and the Muslims — the Brahmans/ Chhetris rank at the top with an HDI value of 0.538, followed by the Janajatis (excluding the Newars) at 0.482, the Dalits at 0.434 and the Muslims at 0.422.

13. Food insecurity remains a key concern, with 38 per cent of children under 5 years old stunted, and 11 per cent wasted. Malnutrition rates vary geographically. There are more stunted children in rural areas than in urban ones. All rates are highest in Province 6, with 50 per cent stunting, 37 per cent underweight and 11 per cent wasted. The target on the first Millennium Development Goal (MDG) on hunger (goal 1, target 1C) was further out of reach in Nepal than the targets for any other MDGs²².

14. Despite this scenario, Nepal has made significant progress in achieving its MDGs. The majority of health-related MDGs have already been achieved, or are on track to being achieved, except two indicators in MDG 5, the contraceptive prevalence rate and the unmet need for family planning, and one in MDG 6, the proportion of the population with advanced HIV receiving antiretroviral combination therapy (ART). The targets related to poverty and hunger, universal primary education, gender equality and women's empowerment, are also likely to be achieved by 2015, and though the targets concerning environmental sustainability and global partnership are unlikely to be achieved in totality, lessons to facilitate their achievement have been learnt.

15. **Gender and Development.** In Nepal, the Gender Development Index (GDI) is highest for the Hills at 0.515, followed by the Terai at 0.458 and the Mountains at 0.430. Among the development regions, a picture similar to that of the HDI emerges. The Central region, at 0.503, has the highest GDI value, followed by the Western region at 0.491 and the Eastern region at 0.481. The Far-Western and Mid-Western regions have the lowest values at 0.423 and 0.442, respectively, primarily due to low life expectancy and adult female literacy. Nationally, there is an 18 per cent improvement in the Gender Development Index (GDI) score between 2001 and 2011. GDI improvement is above the national average in the Mountains at 34.1 per cent, the Mid-Western region at 29.3 per cent and the Far-Western region at 27.5 per cent. The value of the Gender Empowerment Index (GEM) for Nepal for 2011 is 0.568. Among ecological regions, the Mountains has the lowest value at 0.483, while the Hills has the highest at 0.572. Among development regions, the Eastern region has the highest GEM at 0.575, followed by the Central and Western regions. This pattern varies from that of the GDI, with the Far-Western region (Province 6) having the lowest GEM value of 0.523, primarily due to its low share of women in administrative and professional positions.

16. **Poverty and gender.** Women are becoming the leading labour force in agricultural production and they are actively involved in rural development, with or without recognition. Women headed households now form 26 percent of rural households. Despite recent progresses made in their socio-economic conditions, women are among the most vulnerable as they are most likely the ones staying home to take care of elders and children, farming and other duties while their husbands migrate and work outside Nepal. Women suffer structural discrimination due to a lack of access and control over means of production, space and voices in the policies and program planning, and implementation, monitoring processes of State provisions. Women constitute more than 60 per cent of the agricultural labour force, but have limited access to land, production technology and training. Many rural women live in extreme poverty without any means of improving conditions for themselves and their families. A significant gap remains between women and men in terms of access to health care, nutrition, education and participation in decision-making. Illiteracy is far more prevalent among women than men, particularly in rural areas.

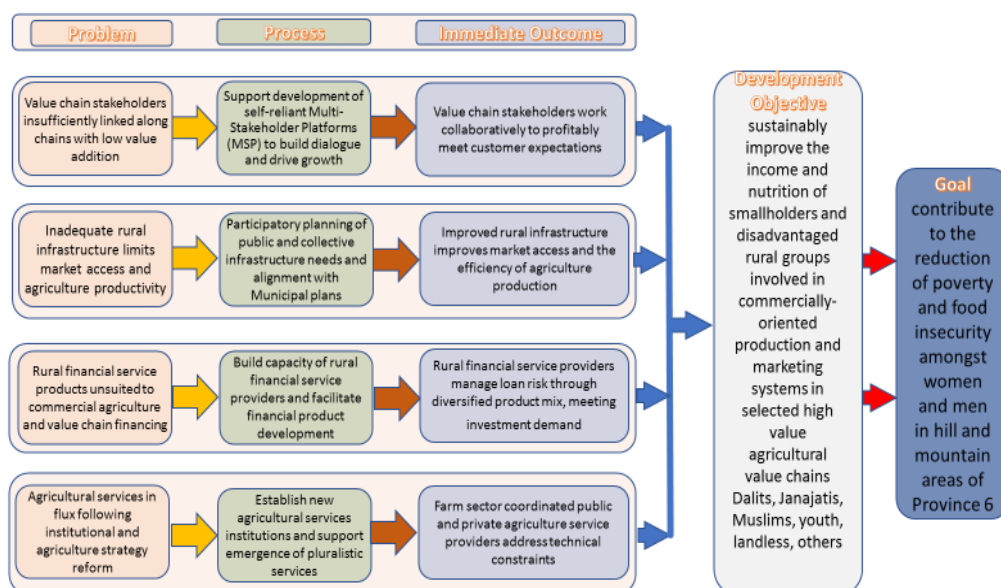
²² This report refers to Nepal's achievement of the MDGs, which were replaced by Sustainable Development Goals (SDGs) January 2016. Nepal's baseline SDG report was published in June 2017 and no progress against SDGs is yet available. The Programme will deliver inputs relevant to Nepal's attainment of SDG 1 (No poverty), SDG 5 (Gender equality), SDG 8 (Decent work and economic growth), and SDG 9 (Industry, innovation and infrastructure, and, to a lesser extent SDG 13 (Climate action).

B. Rationale

17. The justification for the ASDP stems from a number of elements: (i) a favourable policy and institutional framework originated by the new Nepal constitution and the 2014 ADS, which places greater emphasis on market (value chain)-driven agriculture development; (ii) a significant stock of knowledge on value chain development produced by a number of projects, most of which will be completed during 2018, as a source of good practices and lessons learnt for this new operation; (iii) the opportunity of scaling up the successful HVAP approach through its replication of proven value chain interventions in a larger, including more remote, geographic area (enabled by improved rural infrastructure, notably the expanding district road corridors) and by further expanding the outreach of the activities underway, while ensuring the sustainability of development results.

18. The “theory of change” of the ASDP (Figure 1) is based on a fundamental premise that a market-driven approach is needed to help smallholder producers sustainably increase their income and improve their livelihood (food security and nutrition). It is also underpinned by the evidence from HVAP that the “additionality” of investor co-financing leads to investments that are larger in scale, of a higher quality, take place more quickly, take place at targeted locations, or takes place at all as a result of intervention. The development hypothesis, therefore, is that smallholder producers and disadvantaged rural groups involved in commercially-oriented production and marketing systems, through tailored technical, infrastructural, financial and organisational support will benefit from being included in a sustainable and profitable way in selected, profitable and sustainable agriculture value chains through business relationships with other private actors (traders, processors, exporters etc.) in order to meet market demands and, overall, contribute to national agricultural growth. This is operationalized by: (i) facilitating a process through which the actors operating in the same sub-sector (private agribusiness, more or less organized farmers, service providers, public sector) and related value chains can develop a common vision, build trust among them and identify concrete business proposals in response to clear market opportunities; (ii) strategically combining public and private sector funds and advice to address smallholders’ and agribusiness needs in terms of access to market, technology, organization and scale, good agricultural practices, and affordable credit; (iii) reducing production and transportation costs and post-harvest losses through expanded and improved network of trails and village/farm roads, irrigation facilities and community-based market infrastructure; and (iv) developing the capacity of service providers at the local level to make timely quality services available to value chain actors.

Figure 1. Theory of change diagram



19. The ASDP will commence at an important juncture in Nepal's shift to a federal-state-municipal structure under its new constitution. This process has seen the number of rural administrative units reduced by up to 80 per cent, the removal of districts as an administrative entity, a direct administrative line between provincial governments and rural and urban municipalities and direct budget transfers from treasury to municipalities. In line with this constitutionally-driven restructuring, and the recommendations of the ADS, the agricultural sector is likely to see the consolidation of its sector-specific ministries (agriculture, livestock) and a shift in the responsibility of the consolidated Ministry from service delivery to planning, policy formulation, regulatory control and monitoring and evaluation. This will be accompanied by increased farmer participation in the planning, decision making, implementation, and monitoring of the strategy. These developments are consistent with a more market-driven agriculture development approach as demonstrated under the HVAP, with increasing dependence on private rather than public input and technical support services. Overlaying these reforms are the challenges of the feminization of Nepali agriculture due to rural male exodus, a high level of malnutrition in rural areas and the growing climate risk.

20. The proposed investment will benefit from and support the new constitutional framework. The identification of potential value chain investments will be made in close collaboration with agribusiness investors, smallholder farmer producers, local service providers and municipal and ward governance, through the HVAP-proven Multi-stakeholder Platform convened by the elected District Coordination Committee. The identification of value chain "gatekeeper" investors and participating clusters of farmers will be based on those value chain actors' preparedness to invest in its development, but will be closely aligned with municipal and ward development plans and the national Agriculture Development Strategy. Once key stakeholders (agri-businesses, smallholder producers, and technical and financial service providers) have committed to investing in a value chain, the ASDP would work through municipal and ward governing bodies to co-finance the establishment of supporting infrastructure and public/private service provision, which would be built around their respective annual and medium-term investment plans. While MoF regulations require that the loan financing of resulting investments flow through the ASDP, the Programme will revise its disbursement strategies in accordance with prevailing GoN regulations, including devolution of conditional funding for activities implemented by the municipality, on completion of a fiduciary due diligence of the municipality as a cost center.

21. With only a small proportion of agriculture production in Nepal flowing through structured value chains, including in the HVAP catchment districts, there is ample scope for adding value to farm products, improving productivity and quality and expanding markets. Building on HVAP successes, the ASDP proposes to expand the HVAP Programme area from 6 to 10 districts in Province 6, in parallel with an expanding district road network, while better integrating Programme processes into local administrative systems and public and private services. The Programme will also deepen/intensify engagement within the continuing 6 HVAP districts to more remote communities, linked to an expansion of formal and informal district and village roads and village trails in those districts. The holistic, value chain-led approach will facilitate the development of a common vision among the actors working in a same sub-sector, building trust among them and enabling more effective business relationships between agribusiness and producer groups and cooperatives, as well as building the capacity of these actors, across different value chains, to efficiently meet customers' quality and price expectations. This will be supported by modest risk-compensating, Programme supported, co-investment that will be progressively replaced by financial services as banking and MFI lending capacity and innovative value chain-oriented loan and risk management products are developed with Programme support. Specific strategies will be implemented for poor household and landless rural resident participation in value chains. Through co-financing of public and collective good market-oriented infrastructure, the ASDP will avail rural households with the physical resources needed to engage in climate-adapted high value agriculture production and marketing (multi-use water supply, small-scale irrigation, village-to-farm and village-to-road head access, commodity storage, markets, etc.). Programme support to the planned restructured extension system under the new Federal administrative system will empower communities to both coordinate public extension

delivery and develop local, private fee-based advisory services, including farmer-to-farmer (F2F) and enterprise-to-farmer (E2F) advice. These developments will be enveloped by programmes supporting climate change adaptation and women's inclusion, with women forming 2/3rds of beneficiaries, and improved household food access and nutrition awareness.

II. Programme description

A. Programme area and target group

22. The Programme will be implemented in Surkhet, Dailekh, Salyan, Jajarkot, Kalikot, Jumla, **Mugu, Dolpa, Humla** and (western) **Rukum** districts in Province 6 of Nepal. The four highlighted districts are incremental to the HVAP area and will be integrated into the Programme in line with the development of the (i) Chhinchu-Jajarkot–Dolpa; (ii) Surkhet-Kalikot-Jumla-Mugu; (iii) Surkhet-Dailekh road corridors; and (iv) Mid-hill highway. The programme will commence immediately in the six existing HVAP districts and in Mugu and Rukum, with Dolpa and Humla being integrated in to the Programme as road access improves. The PCO will continue to be based at Birendranagar in Surkhet district, while three corridor-based coordination units will be established for technical backstopping, field level coordination and programme monitoring and supervision (See road corridor map in Appendix 2, Annex 3).

23. The programme will target smallholder producers and landless rural people (value chain labour, small livestock, etc.) interested to engage in targeted value chain activities. HVAP experience indicates that this is a very inclusive process with most households in HVAP-supported hamlets and villages progressively participating in value-chain linked production and processing activities. Women will form 2/3rds of the Programme beneficiaries and disadvantaged households including Dalits, Janajatis, Muslims, youth, landless and other disadvantaged groups will be specifically targeted for Programme inclusion (25 per cent target). The Programme will develop specific mechanisms for poor households to be able to join appropriate value chains, however, poor and marginalised households will also benefit from expanding local agriculture employment opportunities associated with value chain-driven growth. It is expected that the ASDP will serve around 35,000 direct beneficiaries (producers households and agri-industry entrepreneurs and employees) and around 40,000 indirect household beneficiaries (through public infrastructure, financial services and agricultural services development). HVAP beneficiaries will not be eligible for grant co-financing under the ASDP. The Programme year 3 and 4 will see a surge in the interventions when the maximum number of groups will be formed or included. Table 2 below provides the household coverage of HVAP and the new Programme areas (additional districts in italics).

Table 2. Household coverage of HVAP and proposed ASDP Programme areas

District	Total Households	HVAP covered households				Proposed new ASDP households
		Dalits	Janajati	Other Caste	Total covered	
Acham	9,703	158	37	690	885	0
Dailekh	48,590	213	94	1,506	1,813	5,040
Jajarkot	30,488	777	477	1,535	2,789	5,100
Jumla	19,291	127	5	13,35	1,467	2,250
Kalikot	22,738	189	1	1,618	1,808	3,210
Salyan	45,958	193	286	655	1,134	4,920
Surkhet	72,863	860	1,182	2,731	4,773	3,840
<i>Dolpa</i>	7,466					1,560
<i>Mugu</i>	9,600					3,210
<i>Humla</i>	9,455					1,530
<i>Rukum</i>	42,588					4,500
TOTAL	318,740	2,517	2,082	10,070	14,669	35,160

B. Development objective and impact indicators

24. The **Goal** of the Programme is to: To contribute to the achievement of Nepal's SDG 1 and SDG 2 targets by reducing poverty and nutrition insecurity amongst women and men in hill and mountain areas of Province 6.

25. The indicator of Programme success at goal level is:

- 24,000 more women in Programme area of 15-49 years of age consume at least 5 out of 10 defined food groups daily (disaggregated by ethnicity);

26. The **Development Objective** (DO) is to: *contribute to the achievement of Nepal's SDG 8 target through* sustainable improvement in the income and food security of smallholders and disadvantaged rural groups²³ involved in commercially-oriented production and marketing systems in selected high value agricultural value chains.

27. The indicators of Programme success at DO level are:

- Sixty per cent reduction in poverty incidence in 35,000 Programme households (measured as a HFIAS²⁴ score of 7.0 or lower (disaggregated by gender and disadvantaged group);
- 26,000 value chain linked farm households double their household income (disaggregated by ethnicity and female-headed households).

C. Components/Outcomes

28. The Programme will have two components: (i) Value chain development, and (ii) Programme coordination.

Programme Components

29. Component 1, Value chain Development, will include four Sub-components (Outcomes): (i) Inclusive and sustainable agriculture value chains expanded and diversified; (ii) Market-oriented infrastructure functional; (iii) Rural financial services for value chain development strengthened; and (iv) Agriculture services sustainably support innovation and value chain development. Component 2, Programme Coordination, will have a single outcome: Stakeholders manage and integrate Programme outcomes creatively, efficiently and effectively.

Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified

30. This sub-component (outcome) will identify financially and economically profitable agricultural value chain investment opportunities in the Programme area and provide risk-based co-financing and institutional, technical and capacity building support to strengthen value chain cohesion and stakeholder profits. The indicator of successful Programme intervention is:

- Amount of agribusiness and household investment leveraged by ASDP co-financing (USD million) (disaggregated by male and female-headed households and ethnicity).

31. This outcome will include two outputs: (i) identify and assess profitable high-value agriculture value chains; and (ii) co-finance agricultural value chain development:

32. Output 1.1: *Identify and assess profitable high-value agriculture value chains*. This output includes two activities: (i) Strategic investment plan (SIP); and (ii) DCC-convened Multi-Stakeholders Consultative Platform:

²³ Dalits, Janajatis, Muslims, youth, landless, others

²⁴ Household Food Insecurity Access Scale (HFIAS), (http://www.fao.org/fileadmin/user_upload/eufao-fsi4dm/doc-training/hfias.pdf)

- *Strategic investment plan*: To identify profitable, climate change adapted value chain development pathways, the Programme will conduct a comprehensive financial, economic and value chain analysis of both existing (to confirm their continuing financial and economic viability) and potentially new value chains and associated wholesale markets covering both additional products in the existing HVAP districts and key agricultural products in the new Programme districts. As part of this analysis, constraints to private sector investment in the region will be assessed with a view to improving competitiveness and the environment for doing business. For each selected commodity, a SIP will be prepared, including all potential activities within the value chains inherent in that commodity segment. In addition to the 6 economically and financially viable value chains established under the HVAP²⁵, the SIP will also evaluate, *inter alia*, milk, citrus fruit, walnut, seed potato, honey and high nutrition crop (grain legume, finger millet, buckwheat) value chains in the province.

The SIP process will involve 7 steps including: (i) background research on the chosen commodity/crop by reviewing websites and other secondary sources of information; (ii) identification of the preliminary MSP stakeholders for the value chains being tested; (iii) mapping of the commodity/crop sectors in Province 6 municipalities; (iv) prepare, with MSP support, a table listing the structural and dynamic factors in the value chain including identifying a scaling up strategy; (v) identifying supporting rural infrastructure and financial, technical and social services required to underpin value chain development; (vi) prepare a financial and economic analysis of each of the key value chains; and (vii) in partnership with the respective MSPs, conduct workshops to vet the findings of the analysis and discuss potential strategy addressing constraints and facilitating competitiveness. The SIP process will include a robust gender analysis and an assessment of constraints to private sector investment in Province 6, with a view to improving provincial competitiveness and the environment for doing business. The selected commodities/value chains will be chosen based on their having: (i) significant potential for involving rural households, particularly disadvantaged households, in incremental production, value addition and job creation; (ii) available technologies for improved productivity; (iii) reasonably assured national or regional markets; and (iv) potential for export and/or import substitution. (See Appendix 4, Annex 1 for detailed ToRs).

- *DCC-convened Multi-Stakeholders Consultative Platform*. The strength of a value chain is largely determined by a shared vision and effective communication between the value chain stakeholders. The Programme will facilitate the establishment of MSPs to support the development of specific value chains. MSPs will also inform the SIP process. MSPs will bring together the key stakeholders, including farmer representatives, private sector actors (traders, processors, input suppliers, investors, finance institutions) and government actors (municipal governance, research, extension) engaged in the development of specific value chains, with a view to strengthening private and public-private relationships across the value chains, promoting innovation and providing a conducive environment/space for the brokerage of business and financial agreements between value chain stakeholders. While initially convened by the DCC, MSPs will be assisted to become self-governing and to align with Provincial and Municipal institutions as they establish.

33. *Output 1.2: Co-financed agricultural value chain development*. This output will include three activities: (i) co-investment both on farm and at agribusiness level; (ii) value chain-led participatory and applied technology development; and (iii) tailored multi-disciplinary capacity building.

- *Co-investment both on-farm and at agribusiness level*. The Programme will establish a competitively allocated Value Chain Development Fund (VCDF) providing risk-based co-financing to catalyse private investments by agri-enterprises and farm households into the SIP-prioritised value chains, with particular attention paid to the inclusion of poor, disadvantaged and women-headed households in the value chain catchment area. The level

²⁵ apple, ginger, goats, off-season vegetables, timur and turmeric

of co-investment will vary by location and purpose, priced to reflect the measured risk to the "innovator" investors, but not set at levels that are likely to distort markets. Once "innovator" co-investments are proven to be commercially viable, both in hilly and mountainous environments, direct incentive co-investments for that value chain segment will be phased out. The percentage of co-investment offered and other terms will be actively monitored and revised if necessary based on actual uptake. The competitive co-investment allocation process will reward enterprise and farmer group business proposals that offer higher levels of own contribution, better value addition and greater engagement of disadvantaged people. The Programme will work closely with province and municipal authorities to align VCDF co-financing with other GoN support for value chain-driven agri-business development.

Agri-business co-financing. The VCDF agri-business facility will co-finance, on a competitive basis, up to 30 per cent of total investment cost of SIP-identified and PCO/IFAD approved agribusiness investment proposals, with the remaining investment being contributed by the benefitting business. VCDF co-financing will be awarded for capital investments in civil works, equipment (processing, packaging, energy generation or environment protection), transportation and marketing, related directly to the core activity of the investor. Up to 20 per cent of VCDF co-financing awards will be available for the purchase of supporting services (business development services (BDS), legal, technical, marketing, standards, farmer extension, etc.) for the planned value chain investment. Co-financing will start at USD 15,000 as a minimum and reach up to USD 100,000 as the maximum. In cases where the potential export/import substitution and social impact of the proposed Programme is extremely high and/ or the investment is pivotal for developing the respective commodity in the province, the maximum VCDF co-financing could, with IFAD approval, be up to 250 per cent of the aforementioned cap. In the case of production of new commodities, the PCO could approve production trials using less than USD 15 000 co-financing, but otherwise follow the same requirement as the mainstream VCDF investments. The enterprise in-kind contribution should not exceed 50 per cent of total enterprise contribution (i.e. 50 per cent of 70 per cent) with the balance paid in cash or through a line of credit. The ASDP will provide approximately USD 5.0 million (including 70 per cent beneficiary co-financing) for agri-business financing.

VCDF applications with higher levels of own contribution, that target higher numbers of poor, near poor or women-headed households and are climate-change responsive will be assessed as more competitive. Only legally registered cooperative societies and companies of at least 12 months standing will be eligible to apply for VCDF agri-business co-financing. Entities that are the subject of bankruptcy, criminal investigation, fraud or corruption or are in default of contractual agreements will be ineligible. VCDF supported agri-business investment must be within Province 6.

Investment proposals will be accepted throughout the year. The VC team will be responsible for the preliminary assessment and short-list of the eligible proposals based on the pre-defined criteria and arranging field verification. Plans involving ASDP co-financing of less than USD 25,000 will also be assessed by the VC team against defined selection criteria (See Appendix 4, Annex 2) who will make a recommendation to the Project Coordinator for Programme financing. Respective DCCIs and also line departments will be invited for consultation where required. Co-financing applications for >USD 25,000. will be referred to a Business Plan Assessment Panel consisting four independent experts, who will prepare a recommendation for financing to the Programme Coordinator (PC). For co-financing awards >USD50,000, the PC will seek IFAD no-objection to the co-financing, contingent on which the PC will approve the disbursement.

Farmer group co-financing. Farmer groups, together with eligible cooperatives, will be entitled to apply for competitively allocated, value chain-linked co-financing supporting both: (i) the alignment of their agriculture production systems with emerging value chains; and

(ii) the adoption of climate adapted technologies and practices. Farmer group co-financing could cover: (i) initial capital investment costs; (ii) upgraded farming inputs through revolving working capital mechanisms; and/or (iii) required technical assistance. Co-financing will focus on innovative production, climate change adaptation, risk reduction or value addition investments. This could include investment in, *inter alia*: afforestation, irrigation management, climate-resistant crop varieties and management systems, forage production, biogas and other by-product utilisation including bio-fertilisers, minimum tillage and organic agriculture. The Programme will support both gender specific and gender disaggregated farmer groups. To be eligible for the ASDP competitive co-financing, the membership of farmer's groups must, in aggregate at ward level, include: (i) at least 60 per cent of members from poor and near poor households; and (ii) at least 60 per cent female members. All participating farmer groups/cooperatives will receive training in group formation, participation, leadership and governance.

The maximum VCDF grant of USD 350 per group member and USD 10,000 for one farmer group/cooperative in the mid-hills municipalities and USD 400 per group member and USD 12,000 for one farmer group/cooperative in mountainous municipalities. The co-financing will cover up to 50 per cent of the total cost of each investment, with beneficiaries financing at least 50 per cent including a minimum 25 per cent in cash and the balance in kind. For very poor members who wish to join groups, the co-financing can, based on agreements reached by the group, be increased to up to 60%, with at least 5% contribution in cash by such members and the rest in kind. The very poor members will be identified by the community themselves. Up to 20 per cent of each grant could be used by the group for procurement of technical support services, including LRP support coordinated by ward CAESC. All such service provision will be through standardised output based contracts between the service provider and the group. LRP advisors will be certified under an ASDP developed and GoN managed training and certification scheme, providing both technical and pedagogic skills. The Programme will also provide business literacy and entrepreneurship training to group members, participation in which will be a condition of Programme support to their respective groups. Groups requiring small-scale irrigation (OSV, apple, walnut, potato, ginger, turmeric etc.), both at household and group level, will have access to an additional grant of up to USD 20,000 per group with a community contribution of 15 per cent. These funds will be released by the PCO from the Sub-component 2.

- *Value chain-led participatory and applied technology development.* The design mission has identified significant technical constraints in the targeted value chains. Programme co-financing would be available to support applied and participatory research and associated technology transfer, including farmer-to-farmer and enterprise-to-farmer advisory services, to address technical constraints and opportunities mutually identified by value chain actors through their MSP. Beneficiary enterprises and farmer groups could apply up to 20% of their investment co-financing for participatory action research into identified production or processing constraints related to their value chain. The VC MSPs will also have access to additional funding for participatory action research. The Nepal Agriculture Research Council (NARC), universities and technical institutes would be pre-approved to compete for outcome-based participatory action research contracts.

Local communities in upland areas of Nepal are experiencing major changes in climate, which have manifested in terms of reduced water availability, rising temperatures, and a shift in growing seasons – which impact agricultural production. Climate change is a major threat to poor upland communities, especially women, who have limited assets and influence in the public sphere and experience discrimination on the basis of gender, caste, and ethnicity. The Programme will address these issues by, *inter alia*, (i) in consultation with IFAD's ASHA project, preparing Ward-level Local Adaptation Plan for Action (LAPA) where they are not already available; (ii) testing climate change adaptation with all SIPs; (iii) diversifying household income through VC development; (iv) adopting climate resilient technology

including plastic houses for OSV production and fodder production for stall-fed goats; (v) financing farmer group, agri-business and MSPs led participatory action research; and (vi) investing in climate-proofed infrastructure that reduces climate risk (e.g. small-scale and drip irrigation).

- **Tailored multi-disciplinary capacity building.** The Programme will provide value chain actors with specific training based on capacity building needs identified by the MSPs. This could include in-field and residential training courses; experiential regional study tours, etc. Members of farmer groups receiving “innovator” investment co-financing will be required to initiate business literacy training before the release of the co-financing funds. Additional entrepreneurship training will also be available to agri-business managers and agriculture group members.

Sub-component 2. Market-oriented infrastructure functional

34. This sub-component (outcome) will support the construction of market-oriented infrastructure in the Programme area. It has one output – *Co-financed public and community market infrastructure*. The indicator of successful Programme intervention is:

- Percentage of households in Programme impact areas reporting satisfaction with Programme infrastructure development (disaggregated by male and female-headed households and ethnicity).

35. **Output 2.1. -Co-financed public and community market infrastructure** In alignment with the SIP, the Programme will allocate loan funds for market-linked infrastructure investments that provide public good and collective²⁶ benefits essential to targeted commodity value chain engagement and/or climate change adaptation. Public or collective market-linked infrastructure investment schemes will be identified and prioritized through: (i) participatory community planning; (ii) the MSP process; and (iii) their alignment with Municipality infrastructure plans. Investments could include, *inter alia*, village and farm access roads, commodity storage, ponds, small-scale irrigation and multi-purpose village water supply. As this is a demand driven process, there is the likelihood that communities, MSPs and SIPs will identify the need for other types of infrastructure that have not been anticipated here. The programme will be structured to cater for innovative demands as they emerge. For public infrastructure (village roads, trails, markets, etc.) funds will be advanced to Municipalities from the PCO budget for municipalities to implement with Programme-contracted infrastructure design and construction supervision support. Collective good infrastructure will be primarily built through community action unless their scale or complexity required contracting. All infrastructure investments will be climate change adaptive. In line with the Local Infrastructure Development Policy LIDP, infrastructure development shall follow the following process: identification, selection, prioritisation, implementation, operation and maintenance. This process has been developed further by HSI for farmer managed irrigation systems development. The same approach, with modifications, will be used for all types of Programme local infrastructure.

36. Co-financing of construction costs of public and collective good infrastructure works will be in accordance with the accompanying table. Individual infrastructure investments exceeding USD 50,000 will require no-objection from IFAD. The Programme will, wherever practicable, use force account

Table 3. Breakdown of infrastructure financing

Activity	Financier (%)		
	IFAD Loan	Municipality	Beneficiary
Roads	65 per cent	25 per cent	10 per cent (in kind)
Trails & trail bridges	65 per cent	25 per cent	10 per cent (in kind)
Markets	40 per cent	35 per cent	15 per cent
Water	85 per cent	0 per cent	15 per cent
Design/supervision	100 per cent	0 per cent	0 per cent
Supervision	100 per cent	0 per cent	0 per cent

²⁶ Semi-public good

processes for community infrastructure investments, designed to create local jobs, while recognising that most major infrastructure investments will require some machine support.

37. Infrastructure construction will use a mix of labour intensive methodologies and machinery as appropriate. Local government and design engineers will determine the best mix of community labour and machinery, as allowed by law. The selection of irrigation and water supply development will occur in the high potential pockets/cluster areas and will depend on technical feasibility. Rehabilitation and upgrading of irrigation schemes will be prioritised depending on the: (i) number of beneficiaries; (ii) value of crops to be grown; (iii) number of disadvantaged communities benefitting; (iv) linkage with a commercial trader to buy the produce and (v) availability of road access. Improved water governance will be a key input for sustainable irrigation management.

38. Under the ASDP, rural transport infrastructure will include motorised and non-motorised traffic focussing on market access and village roads that are less than 5 km in length and justified through linkage to significant production clusters/pockets of targeted high value commodities. It is anticipated that the cost of development will be about \$100,000/km. All roads will fall under the jurisdiction of the local municipality, which will be responsible for managing their construction. Priority will be given to upgrading roads from fair weather access to all year access, whilst new roads may be included. All village roads to be upgraded or new development will be part of the district/municipality transport master plan. The municipality will make an undertaking to co-finance the construction and maintain the road after construction, as part of condition for selecting the road. Trails and trail bridges will be owned by the municipality, which will co-finance their construction in partnership with the beneficiary community, who will also contribute to their maintenance. Public infrastructure user committees will be formed for all village roads, trails and trail bridges. The committees will work together with the municipality and ward governments to ensure that infrastructure maintenance is carried out.

39. The ASDP will invest in new and existing farmer-managed small-scale irrigation systems. Existing small-scale systems will be rehabilitated and upgraded using modern technologies that promote water use efficiency and crop productivity. Plastic tunnel drip irrigation will be preferred wherever feasible. Where potable water is not available, irrigation development will include improved domestic water supply systems for the community. The Programme will promote the use of water filtration systems that are appropriate for the areas selected for potable water supply.

40. The Programme will also finance the development of marketing infrastructure, according to the needs identified in the SIP and in line with local government priorities. This will include municipality-owned markets of different sizes depending on location and identified need. These markets will be owned by the municipality, but managed by a registered Market Management Committee. Markets will have women-friendly and safe spaces. The Market Marketing Committee will be assisted to organise for optimal operation and maintenance of the market. Community-based collection centres are also proposed to be developed in line with the needs of traders. The collection centres will be farmer organisation owned and operated. The farmers who own a collection centre will be legally registered.

41. Climate proofing of transport infrastructure will be considered at each step of the implementation process, starting at the selection stage. All potential transport infrastructure will be screened for climate risks in order to select only sites where risks can be mitigated within available resources. The Programme will undertake a detailed climate risk assessment immediately after site selection using the LAPA framework with intensive involvement of User Committees to ensure that local knowledge and users' needs and concerns are properly addressed. Critical points of the proposed alignment would be identified along with possible alternatives with less impact if any. Risks to be taken in account would include: erosion and slope collapse, drainage, borrow and deposit areas for earthen materials. The Programme would also assess and enhance capacity and prior experience of contractors in terms of bio-engineering and other preventive measures to improve climate resilience of infrastructures. Contracted works supervision will include detailed terms of reference to prevent and mitigate climate risks, both during construction and at operation and maintenance (O&M) stage. To that end, on-the-job-training of contractor staff and voluntary labour will be provided. Bioengineering has played a major role in stabilizing the slopes of hills in different parts of Nepal. It is a cost effective, environmentally friendly and sustainable method that has proven to be successful in solving road

weathering and blockage caused by landslides and with stabilising ponds and water canals in Nepal and will be implemented by the Programme.²⁷ Bioengineering can also be a useful tool for agro-industry environment impact mitigation.

Sub-component 3. Rural financial services for value chain development strengthened

42. Under this Outcome, the Programme will facilitate financial linkages for agriculture producers and agri businesses in value chains, including for each sub-project under Sub-component 1. The Programme will work with cooperatives and microfinance development banks (MFDB) for financing of producers, and the commercial banks for facilitating credit linkages for agri businesses. Commercial banks will also be supported for new product development. A primary reason for including this sub-component is to providing existing and new value chain stakeholders, at all levels of the chain, with access to finance to provide scope for post-project sustainability and scalability of ASDP and HVAP supported and for new value chain development. The indicator of successful Programme intervention is:

- Increase in number of households reporting using rural financial services (savings, credit, insurance, etc.) (disaggregated by ethnicity and female-headed households).

43. This outcome will include two outputs: (i) Rural financial services development; and (ii) Support to credit access.

44. *Output 3.1. Rural financial services development.* This output will be comprised of three activities: (i) Product innovation for value chain financing and loan risk management; (ii) Capacity development of co-operatives; and (iii) Improving insurance uptake.

- *Product innovation for value chain financing and loan risk management.* It is expected that about 5 commercial banks will develop value chain financing arrangements with the Programme and introduce trade and production financing. About 20 value chain financing agreements covering about 10,000 primary producers in different value chains are expected to be put in place. The Programme will convene a MSP for each commodity value chain, which will help develop a common understanding among the stakeholders on financial requirements. Through the MSP and Programme interventions, value chain agreements will be forged between agribusinesses and farmers with clearly established channel relationships, contracts and formal agreements. This will form the basis of value chain financing. The Programme will provide technical assistance to banks intending to implement value chain financing solutions (see Appendix 4, Annex 3 for ToRs). Product innovation could include:
 - *Value chain financing arrangements for different value chain commodities could include:* (i) agro vet/agro supplier input financing (for seeds and inputs, animal care nutrients and medicines); (ii) processor financing (for turmeric, ginger, dairy, honey, apple); and (iii) trader financing (vegetables, apple, millets). The Programme will also draw on the development of the products under Sakchyam, UNNATI etc. and the proposed loan guarantee fund mechanism under the active consideration of donors in Nepal. Alternatively, government or DPs may offer a first loss buffer fund to banks to enable them to reduce their collateral requirements and leverage additional agro-enterprise lending. Both the options of financing production activities of farmers through wholesale lending through these agri businesses with transparent contracts, and directly to individual farmers with the guarantee of agri businesses to ensure repayments from the cash flows between the parties will be explored. The consultants will also carry out a risk assessment of the Value Chain Financing (VCF) that can be used by the bank in understanding the VCF risks and devising the product(s). Thereafter, joint consultations among agri-businesses, farmer groups and bank will be

²⁷ District Road Support Programme (DRSP). (2011). Bioengineering for Slope Stabilization in Rural Road Construction in Nepal. Swiss Agency for Development and Cooperation (SDC). Ministry of Local Development, Government of Nepal.

held to determine the contours of financing and ensuring loan repayment. Tripartite agreement among banks, agri business and farmers that define the terms of financing will be established – amount, rate of interest, repayment period, etc.;

- *Financing of agri businesses* - Consultants will explore the feasibility of discounting of trade bills and finance against purchase contracts in the case of trade finance. In particular, the focus will be short duration loans that are required in commodity trade. Part of the value chain finance requirements will be in infrastructure for storage, grading, processing, packing, etc. for agri businesses. These also will be examined as part of value chain finance requirements and suitable financial products will be developed. TA will facilitate development of banks' credit policies towards VCF including risk assessment tools, due diligence exercise, loan monitoring and early warning systems;
- *Training and exposure visits* - Bank senior managers, branch managers, credit managers and other key staff of branches of banks in Province 6 interested to develop value chain financing products will be provided training on the SIP-approved value chains to understand the information flows, cash flows and the risks and their mitigation mechanisms. The Programme will also organize two study tours to India to financial institutions such as, Yes Bank, HDFC Bank and Samunnati Finance to study their value chain financing products. Programme key staff and relevant stakeholders will also be part of the study tours.
- *Capacity development for cooperatives*. This activity has two parts: (i) MFDBs and provincial cooperatives develop agriculture lending products; and (ii) Capacity development of municipal co-operatives.
 - *MFDBs and provincial cooperatives develop agriculture lending products*. MFDBs have a wide presence in municipalities, but their products are not suitable for agriculture lending. The Programme will engage with the larger MFDBs based in the Programme municipalities and assess their interest to cater to new market segments and develop new products. There are also large cooperatives functioning across the province and some are keen to develop agriculture lending products. The Programme will work with these cooperatives to build their capacity for lending to value chain members. The capacity development support will include: (i) TA for agri lending product development; (ii) information technology support for improving monitoring and efficiency; and (iii) staff training for agri lending.

Cooperatives fulfilling the following criteria will be chosen for product development: (i) good governance; (ii) 65 per cent members saving regularly; (iii) at least 50 per cent members have availed loans in the last year; (iv) repayment rate of more than 95 per cent during last year; (v) functional MIS system with data accuracy; and (vi) assured sources of funding for offering agricultural loans. The Programme will enter into a MoU with these institutions specifying the nature of the Programme support and expected outputs.

Technical assistance will be provided to these institutions in their development of agriculture loan products. Individual national consultants will be hired to develop suitable products, assist in rolling them out and facilitating any modifications necessary (see Annex 3 for ToRs). Agriculture loans will address the financing of the sub-Programmes of groups and cooperatives where partial co-financing will be made available from the Programme. The loan products that will be needed include loans for irrigation, tools and equipment, crop/plantation production costs and livestock financing. The staff of the cooperatives (both head office and branch staff) will also be provided training on agriculture lending. Some cooperatives are keen to improve their management information systems for better monitoring and cost efficiency through

information technology such as mobile, tablets, etc. Proven systems and technologies will be supported on a 50:50 co-financing basis.

- *Capacity development of municipal co-operatives.* About 200 municipality cooperatives are expected to be supported by the Programme. Co-operatives working within the municipalities of the Programme area will be facilitated to consolidate/amalgamate to improve their capacity to cater to member needs and be credit worthy for wholesale bank loans. While strengthening existing cooperatives will be the primary focus, commodity value chain specific aggregation (input supply and output sales) will also require the formation of new cooperatives. These cooperatives will initially consist of value chain group members and expand the scope of membership to include more producers of same commodity. The Programme will select the cooperatives based on the following criteria: (i) operational for at least 3 years; (ii) functional board; (iii) at least 75 members; (iv) savings regularity of members at least 85 per cent; (v) repayment rate on loans above 95 per cent; (vi) at least 50 per cent of members have borrowed in the last year; and (vii) preferably agri producer cooperatives so that input and output marketing will be feasible. The capacity development support will include training, on site mentoring, automated MIS and equipment and facilitated access to wholesale credit. The Programme will engage the services of national institutions like Rural Microfinance Development Centre (RMDC), [Nepal Agricultural Co-operative Central Federation Ltd.](#) (NACCFL) or a similar institution for capacity development of co-operatives for a period of 3 years. A management fee up to 10 per cent of the costs will be provided to the institution. Support will include: (i) training on institutional development and business development; (ii) quarterly on site visits for on the job mentoring; (iii) cooperatives with more than 400 members will be facilitated to improve their accounting and portfolio monitoring through software-based monitoring system on a 33 per cent cost sharing basis; (iv) facilitation of need-based credit linkages; (v) negotiation with banks on access to wholesale credit; and (vi) access to improved insurance facilities.

The Programme will work with the Insurance Board, municipal and provincial agriculture department to develop/modify insurance products. TA service providers will carry out field based studies on the existing products and propose modified features/processes to suit the requirements of Programme area/ farmers, including weather-based insurance. The Programme will facilitate study tours for Insurance Board and select insurance company managers as well as Government officials to India, where weather index based insurance products have been in operation for more than a decade. Up to 100 LRPs will be trained in insurance products and licenses as insurance agents. LRPs acting as insurance agents at local level, will lead to better distribution and improved on time claims filing. Building on HVAP's business literacy training model, the Programme will also include modules on insurance literacy for improving farmers' awareness and knowledge of insurance.

45. *Output 3.2: Support to credit access.* In all, about 1,000 facilitators will be trained who, in turn, will train the value chain farmer group members. It is assumed that about 70 per cent of the 35,000 value chain farmer stakeholders will need and undergo this training. This output has one activity: Business and financial literacy for value chain members. HVAP is facilitating business literacy class for women, especially from marginalised sections such as Dalit, Janajati and the poorest households with the aim of commercialising agriculture. Well trained business literacy facilitators, chosen from the groups, deliver the training at village level on social dynamics, technical aspects of value chain they are participating in, basic numeracy and business aspects of the commodity. This initiative will be scaled up under the ASDP, enlarging the scope of the training to include financial literacy aspects as well.

Sub-component 4. Agriculture services sustainably support innovation and value chain development

46. In line with the provisions of the new Constitution and the ADS, ASDP will support the development of participatory, pluralistic extension and service delivery systems for agriculture and livestock sectors at the municipal and ward levels. It will involve setting up and activating sustainable mechanisms at appropriate levels in the municipality for governance, active farmer participation and the engagement of the private sector in service delivery. This outcome also proposes to build off HVAP achievements on women's development by further empowering women, particularly in their households and by translating improved household income into improved nutrition. Sub-component 4 will be supported by SDC-financed TA implemented by HSI. The indicator of successful Programme intervention is:

- Percentage of households in Programme area reporting adoption of new / improved inputs, technologies or practices (disaggregated by ethnicity and female-headed households)

47. This outcome includes two outputs: (i) *Participatory and pluralistic extension services and strengthened farmers organizations*; and (ii) Women's empowerment and household nutrition.

48. *Output 4.1 Participatory and pluralistic extension service development. This output will have two activities:* (i) extension service development; and (ii) farmer group development.

49. Extension service development: This activity aims to *facilitate the establishment of a sustainable, pluralistic and participatory institutional mechanism for the delivery of extension services to farmers at the local bodies level in consonance with the provisions of the new Constitution and ADS 2014*. The strategy will be to draw on the new constitutional provisions pertaining to local bodies, those of the LSGA 1999 pertaining to decentralised participatory extension and service delivery and the proposals outlined in ADS 2014 under the Decentralised Science, Technology and Education Programme (DSTEP), and the HVAP experience of linking farmers to service providers and businesses. The SDC-supported NASDP is being implemented by HSI in nine districts across four provinces, including three (Dailekh, Jajarkot, Kalikot) in ASDP districts in Province 6. The ASDP initiatives proposed here are similar to those included in the NASDP. The actions proposed under the activity include: (i) establish MADCs²⁸ at municipal level; (ii) establish CAESCs²⁹ at ward level; and (iii) Private sector engagement in agriculture extension and service delivery.

- *Establish MADCs at municipal level:* The MADC is being proposed as a sectoral committee of the municipal executive³⁰ and will have five to seven members from among the members of the municipal executive, including the Chair³¹ and at least two women and one

²⁸ The Constitution does not specify any committees as part of the Municipalities or Wards. It is expected, however, that the Municipalities would have a governance and oversight structure for the agriculture sector (as well as other sectors in its domain), such as to recommend policies, plans and budgets to the Municipal Executive Committee for presentation to the Municipal Assembly and for management and oversight as the subject has been placed in their domain by the Constitution. As is the normal practice at municipal levels, such structures take the form of a sub-committee of the municipal executive committee. In the course of interactions with the newly elected Mayors/Chairpersons in Province 6, it was suggested that a committee should be set up exclusively for agriculture (perceived by them to be a key sector for the development of the region) so that it receives undivided attention. The precise nomenclature is likely to be known when an Act is passed by the Government of Nepal regarding the management procedures at the Local Level, the name tentatively proposed is Municipal Agriculture Development Committee (MADC).

²⁹ ADS 2014 had proposed CAESCs to be set at the VDC level as a key measure to promote pluralistic, decentralised and farmer-responsive extension system. ADS is undergoing revision to align itself with the new Constitution. However, in line with the policy of decentralisation, CAESCs are likely to remain as a part of the policy, regardless of eventual nomenclature.

³⁰ The Municipal Executive has directly elected Chairperson/Mayor and Vice-chairperson/Deputy Mayor, all ward Chairs, four women members from wards and two members from *Dalit*/Janajati nominated by the Municipal Assembly.

³¹ As per the Regulations pertaining to LSGA 1999, has prescribed the Agriculture, Forestry and Environment Committee (AFEC) (as other Sectoral Committees of the VDC) was to have been chaired by one of the ward members of the VDC. AFECs were established under NASDP by HSI in some of VDCs in the nine NASDP districts but most VDCs do not have AFECs. The same arrangement may be followed as the Chairperson/Mayor has other

Dalit/Janajati nominated by the municipal executive, and heads of the sectoral departments at the municipality. At least 50 percent of the members of MADC will be women. It will be responsible for the agriculture, livestock and forestry sector activities in the municipality. Specifically, it will develop policies for approval by the Municipal Assembly, develop the agriculture extension and service delivery systems within the municipality, identify potential value chain and agri-business development opportunities, facilitate engagement with various stakeholders/service providers in the sector, exercise oversight over the sectoral function, engage with the national and regional agricultural research institutions to influence their research priorities, recommend budgets to the municipal Executive Council, and register, monitor and backstop the CAESCs to be set up at each ward in the municipality. Actual implementation of extension and service delivery strategies will be by the CAESCs. ASDP will initially work with about 60 municipalities in Province 6³², 50 in the first and second years and 10 in the third year, to establish MADCs and subordinate CAESCs. The following steps are envisaged: (i) *Orienting stakeholders on MADC roles and responsibilities*: a two-day workshop will be conducted in each of the 10 districts for the municipality Chairpersons/Vice-chairpersons, Mayors/Deputy Mayors, ward chairpersons, administrative officers and technical staff in the selected municipalities to deliberate on the Constitutional provisions regarding the concept of the MADC; (ii) *Assessment of technical staff capacity at the Municipality*: the Programme will support an assessment of Agriculture Service Centre (ASC) and Livestock Service Centre (LSC) technical staff, (including organic agriculture, climate adaptation), extension (including issues of inclusion/exclusion, the provisions regarding agriculture extension under the new Constitution), ICT and value chain knowledge and capacity development needs, identified through a participatory process; (iii) *Resourcing Municipal technical staff*: budgetary support will be provided to the MADC to enable the municipal technical staff to engage with the value chain development processes; (iv) *Building the capacity of municipal technical staff*: Based on the assessment of the capacity development needs of the municipal technical staff a capacity development plan will be prepared and updated periodically; (v) *Support for enabling farmer access to technology*: based on the policies and priorities set by the municipalities, resources will be provided to the MADC to augment support provided by them to CAESCs at the ward level for providing technology extension services based on the latter's plans on a yearly basis.

- *Establish CAESCs at the ward level*: A CAESC will be established at each of the wards with farming households and a budget for agricultural extension³³ in each of the selected Municipalities, broadly along the lines proposed in the ADS 2014³⁴ and guided by the policies and priorities set by the municipalities. It will be a membership organisation with membership open to farmers, private sector/freelance service providers and agro-enterprises in the ward. Thus, while the MADC is part of the governance structure at the municipality, the CAESC is a community based membership organisation (CBO) that will both contribute to policy and programming at the municipality level through the MADC and facilitate/source service delivery³⁵. The CAESC will elect a Board/Executive Committee of seven to nine members with not less than 50 per cent representation of women farmers, and proportional representation of small and marginal farmers and *Dalits* and *Janajatis*. The

responsibilities and may not be burdened with committee responsibilities. That would also ensure the neutrality of the Chairperson/ Mayor with respect to deliberations in the committees.

³² There are in all 82 municipalities (26 urban and 56) in the 10 districts, including 8 (6 rural) in Dolpa and 7 (6 rural) in Humla, districts to be taken up later.

³³ While municipalities have been classified as urban and rural, wards have not been so classified. Many urban municipalities have rural settlements as is evident from the HVAP experience where about 46 percent of the 14,500 project households are from VDCs now included in urban municipalities. It is expected that urban municipalities will provide budgets for agricultural extension in wards with farming households. Since CAESC is at the level of wards, ASDP will include all wards that have provision for agricultural extension in selected municipalities.

³⁴ ADS 2014, pp 158

³⁵ Guidance for the structure of the CAESC will be provided by the municipality based on the recommendations of the MADC.

CAESC will be registered at the Municipal level. ADS will work with about 480 wards across the 60 chosen municipalities³⁶ to establish CAESCs. The Programme will facilitate the establishment of CAESCs through: (i) *Orientation of stakeholders to the concept of CAESC and its roles and responsibilities*: this activity will sensitize stakeholders (farmers, their groups, cooperatives, service providers, women, youth, agri-business, etc.) about the need for a multi-stakeholder forum to develop and manage sustainable and responsive farmer services - following the orientation, CAESCs will be formed; (ii) *CAESC establishment fund*: CAESC will be assisted to develop work plans for its area of operation, including sources of funds and likely partners. Based on a viable plan, the CAESC will be provided seed capital³⁷ for minor equipment and supplies and to support pluralistic extension services in the ward. The recurring costs of CAESC will be met through budgetary subventions from the municipality³⁸ via the MADC, membership fees and fees for services charged by the CAESC; (iii) *annual CAESC participatory planning*: the CAESC will be assisted to develop a participatory planning process to identify priorities for agriculture and livestock extension and services in the ward and the modalities for their delivery; (iv) *Pilot a voucher system for provision of extension services*: ASDP will, in selected municipalities, pilot an ADS-proposed voucher system under which users (farmers' groups/farmers) will buy the vouchers from the CAESC at a price representing their contribution to the cost of services. The redemption value of the voucher will comprise of contributions from CAESC out of its extension budget, a contribution from the traders/aggregators linked to their contract with producers and the users' contribution. The service provider will receive the redemption value from CAESC upon presenting the voucher. In case the farmers do not use the voucher, they will receive a refund of the price paid by them. Details of the system will be worked out by HSI following further consultations in the field as ASDP implementation gets underway.

- *Private sector engagement in agriculture (including livestock) extension and service delivery*: In harmony with the strategies outlined in the ADS and guided by the policies and priorities set by the *municipality* on the basis of MADC recommendations, support will be provided to develop the capacity of the private and cooperative sectors to deliver agricultural extension and services, both as embedded services as well as standalone businesses. ASDP will support one such enterprise in each of 25 rural municipalities³⁹ chosen through MSP guidance. Support will be provided on the basis of viable business plans to agro-vets⁴⁰ to set up extension and service (including inputs) delivery enterprises in the selected municipalities. The following activities are proposed: (i) *Training of Agro-Vets in entrepreneurship* - support will be provided to train up to two potential Agro-Vet candidates in each of the 25 selected municipalities from among youth (women and men) who have already undergone training as village agriculture worker (VAW), village animal health worker (VAHW) or JTA; (ii) *Investment support to Agro-Vets*: Support will be provided to Agro-Vets to cover 30 per cent of their establishment investment, based on a viable business plan; (iii) *Support for LRPs to be engaged by Agro-Vets* - Support will be provided to Agro-Vets to engage up to three LRPs, each including at least one woman as their sales persons and extension agents. Support will be on a declining basis against pre-set performance benchmarks for three years with second and third year of engagement contingent upon signing a tripartite contract between the CAESC, the Agro-Vet and the LRPs; and

³⁶ The likely number of rural wards.

³⁷ Similar to the seed capital proposed under DSTEP in ADS 2014. The ADS had proposed that seed money would be provided only under the condition that it leverages larger investment by the VDC and the community/cooperatives/private sector for the establishment of the CAESC. Following the same principle, ADSP contribution would be on a matching basis with contributions from the municipality and stakeholders in the CAESC.

³⁸ A GoN Directive requires that at least 15 per cent of the local block grants should be allocated to agricultural development and services and it has been attached with the Minimum Condition Performance Measure.

³⁹ More municipalities may be included at Mid-term based on implementation experience.

⁴⁰ The term agro-vet is used to denote suppliers of various inputs and services, such as seeds, fertilizers, equipment hire, livestock health services, veterinary medicines, etc.

(iv) *Training of Agro-Vets and LRPs* - support will be provided to train the contracted Agro-Vets and up to three LRP per Agro-Vet.

50. *Farmer group development.* The objective of the activity is to organise farmers into sustainable, self-managed producer groups and commodity cooperatives so that they can *remain* engaged with value chains as growing and profitable producer businesses. This activity includes five key actions:

- *Orienting Governments at the Province and in Municipalities to ASDP* – to ensure that key individuals in governments at the Province and selected municipalities fully understand the ASDP concept, design and activities. The following activities are proposed: (a) *programme orientation at the Province*: A two-day PCO-implemented workshop will be conducted for the heads and key officials of the departments of agriculture, livestock, forestry, irrigation and cooperatives and the Department of Local Infrastructure Development and Agriculture Roads (DOLIDAR); (b) *programme orientation at municipalities* - a two day orientation workshop will be conducted in each of the 10 districts to orient the Chairperson and Vice-chairperson of the DCCs, the Members Secretary of the DCC, Chairpersons/Mayors, Vice-chairpersons/Deputy Mayors, Administrative Officers and all Technical Officers (up to 4 per municipality) of the selected municipalities;
- *Developing farmer institutions* - the mobilisation of farmers, organising groups where groups do not exist and developing their capacities in cluster areas for SIP-identified value chains would be done through participatory processes by local NGOs selected jointly by the PCO and HLEVETAS and contracted by the PCO, one per district. Prior to floating of EOIs to seek investment proposals as described in output 1.2, the potential for the development of the selected commodity chains in each selected ward would be ascertained for focused publicity regarding the EOIs. Based on the EOIs shortlisted for participation, selected groups would be restructured to meet value chain requirements and unorganised farmers integrated into existing or new groups. Training would be provided for the sensitization for men in producer organizations and related institutions to support rural women's leadership;
- *NGO orientation to market-led development*, Most NGOs in the country, especially the smaller ones working locally in or around the district of their registration⁴¹ operate from contract to contract and do not have their own stable programmes. Most, with the exception of a few larger ones registered in Kathmandu and engaged in consulting and partnerships with multiple donors, have only one or two regular staff. Staff are recruited against Programmes, typically for social mobilisation roles. The Programme coordinators and social mobilisers recruited by the NGOs will therefore need to be oriented to the concept, design and implementation modalities of ASDP and their staff. ASDP will support separate orientation events for the NGO coordinators and chief executives and staff members;
- *Strengthening farmer groups*: Once mobilised, groups require capacity building not only function effectively without external props and financial support but also to grow over time to attain larger goals for their members. This pertains to functions such as accounting and keeping minutes that promote transparency and trust; group dynamics, such as setting group norms, articulating values, defining a shared purpose, conflict resolution and rules of governance that stimulate solidarity and cohesion; strategic capacities, such as building a shared vision for the future, networking and business development and advocacy to create value for their members. Group development and training schedule and training materials will be developed through TA support and include: (i) *membership training* to stimulate behaviours among group members that enhance group cohesiveness, solidarity and efficiency; and (ii) *leadership training* to develop strategic capabilities of groups; develop resource persons in groups; introduce ideas of participatory planning, vision building and decision making; build capacity for conflict resolution, negotiation, networking and advocacy;

⁴¹ All NGOs in Nepal have to register with the District Administrative Office of the district where they are Headquartered under a 2034 (1977) law applicable to all kinds of civil society organisations. They can work outside the district of registration by setting up a project office or registering a local branch with a local executive committee.

knowledge of relevant government/regulatory policies; leadership rotation and good governance practices;

- Consolidation of groups into commodity cooperatives: In order to realise scale economies and enhance bargaining power, the groups will be consolidated into cooperatives, commodity-wise. It is proposed to form cooperatives with 150 to 200 members, with possibility of expansion in future as more households join the respective value chains. Consolidation will be initiated when groups have stabilised and expanded as more groups mature in the specific commodity. Consolidation around commodities is proposed as services, market linkages, credit delivery and value addition (sorting, grading, packaging) opportunities will be commodity-specific. Cooperative formation will begin in the second year, expand as new clusters/groups develop and will be completed by the fifth year so that the last of the cooperatives have time to settle down before Programme completion. Small lump-sum support will be provided to each cooperative to meet initial establishment expenses and training costs.

51. **Output 4.2. Women's empowerment and household nutrition.** The objective of this output is to empower women, particularly within their household, and, through that process, to enable them to better manage *household* agricultural development, growth and family nutrition. This output has two activities: (i) women's empowerment; and (ii) household nutrition

- Women's empowerment. Socially, women and girls in Nepal are disadvantaged by traditional practices like the dowry system, early marriage, son-preference, stigmatization of widows, seclusion of women (purdah), family violence, polygamy, and the segregation of women and girls during menstruation (chhaupadi, which has recently been banned). Women face an onerous triple burden as their role of caretaker is taken for granted and thus their economic contribution goes largely unnoticed. The Programme will begin to address these issues through the following actions:
 - *A Gender and social inclusion (GESI) action plan* will assess the overall situation of women farmers, evaluate disaggregated information on the extent of agriculture extension service outreach, and assess the existing institutional mechanism and capacity needs of the executing agencies/implementing agencies on GESI;
 - *Drudgery reduction technology*: The Programme will carry out a study assessing the various technologies that are available for reducing women's drudgery to provide with simple and reasonably priced technologies that can be distributed as a pilot Programme to some women's groups. The Programme will also, where identified as a community need, construct multipurpose water infrastructure to serve the irrigation, washing and safe drinking water needs of the community, thereby decreasing the time adult and young women spend in fetching water;
 - *Household Methodology*: The Programme will implement the Household Methodology (HHM) as a pilot in about 4,000 households. The HHM approach assists household members to realize that inequalities in gender roles and relations can be part of the reason they stay poor. The HHM approach, which will be tailored to fit cultural norms in the Programme, will: (i) assist household members to define their own strategies for developing and improving their livelihoods, based on their goals, strengths, opportunities and assets; (ii) empower individuals or groups to make choices and to transform those choices into desired actions and outcomes by placing them (women and men of all ages) in the driver's seat of the development process; and (iii) ensure that women and men, as well as youth, people with disabilities and other vulnerable groups, have an equal voice in setting the household vision and equal access to development opportunities, productive assets, decision-making and benefits;
 - *Gender training, capacity building and communication*: The Programme will adopt the following guidelines for making trainings and capacity building gender sensitive:

- (i) adapt programmes to women's needs and skills; (ii) ensure that the training venue is accessible and safe for women and can accommodate children who are under their care if required; (iii) allow sufficient time to enable women to acquire new skills and adjust schedules to fit women's existing workloads; (iv) adapt the time of the trainings to the time availability of the women; (v) ensure that the language is simple and catered towards the understanding levels of the participants; (vi) make all teaching methods and learning approaches inclusive, participatory and “gender transformative” in order to ensure women's full and equal participation;
- *Women in construction*: The Programme will ensure the safety and security of women who will work as construction workers in the ASDP-financed infrastructure development (Sub-component 2). Prior to building the infrastructure, a robust social and environmental assessment will take place, which will consider all gender concerns and map out social constraints. A set of guidelines⁴² that will be developed to be applied when implementing the infrastructure component.
- Household nutrition. The Multi-Sectoral Nutrition Plan (MSNP) 2013-2017 serves as a common results framework for improving nutrition outcomes; and setting out plans of action for implementing nutrition-sensitive policies and strategies for key sectors, including agriculture. The Programme proposes to support supply side nutrition interventions through homestead gardens for disadvantaged households and the implementation of nutrition-sensitive value chains (goat meat, milk, apple, walnut, highly nutritious crops) and the demand side through farmer nutrition schools and nutrition BCC.
 - *Supply-side nutrition interventions*: The Programme will support poor Dalit and women-headed households to develop *homestead gardens* producing traditional food crops like nettles, garden cress, traditional tubers, etc. that can be grown in small patches of land to supplement diets⁴³. Where required, this will be supported by multi-purpose water supply. The Programme will, as part of the SIP process, also evaluate the market potential for goat meat, milk, apple, walnut and nutritious crops including buckwheat, minor millets, upland beans and the orange-fleshed sweet potato.
 - *Demand-side nutrition interventions*: HVAP value chain beneficiaries have doubled their household income. The Programme will support the regional training and health information departments to expand and intensify their implementation of BCC activities, established under the MSNP. The BCC programme, which will target women and adolescent girls, *will* be supported by household “nutrition schools,” held every two months, which will be facilitated by ASDP gender, nutrition and social mobilisers and the GoN health department. Those nutrition schools will cover nutritious food production and collection, and food preparation storage and processing to retain nutritional value and assure food safety. This will be supported by a pilot No Junk Food Campaign, to be conducted in a number of villages with the technical support of the health department.
 - *Partnerships*: In addition to supporting the implementation of the national MSNP, the ASDP will work closely with the USAID-financed Suaahara II⁴⁴ health and nutrition project which is operational in six Programme districts (Rolpa, Salyan, Rukum, Surkhet, Jajarkot and Dailekh).
- Youth interventions in ASDP. Presently there is a thrust to increase the skills in vocational training across the country and led by the government through various donors. Youth targeting will be a two-pronged approach. The interventions will target both educated and

⁴² https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Checklist_per_cent20for_per_cent20Gender_per_cent20Maintstreaming_per_cent20in_per_cent20the_per_cent20Infrastructure_per_cent20Sector.pdf

⁴³ HSI has developed and successfully applied this model in Nepal.

⁴⁴ <https://www.usaid.gov/nepal/fact-sheets/suaahara-project-good-nutrition>

uneducated male and female youths. The Programme will identify such training where employment will be easily available in the rural areas. If required, the Programme will also re-design training curriculums to suit the demands of the profession eg: for the Junior Technician Assistants (JTAs) or agro-vet. A sub course on entrepreneurship will enable the trainees to become more business oriented.

D. Lessons learned and adherence to National and IFAD policies and the SECAP

52. The Programme is aligned with the key lesson's learned cited in the 2013 COSOP, including: (i) new projects should include measures to strengthen local government capacities to provide responsive and inclusive services to the rural population; (ii) new projects should build more on *partnerships* with non-governmental players, including NGOs and the private sector; (iii) grass-roots groups are not sustainable when created for the sole purpose of channelling project services; (iv) the organization of support services and project activities must be compatible with women's time constraints and preferences; (v) M&E should become a management tool, complemented by knowledge management; and (vi) project management should involve mixed teams composed of hired staff supporting civil servants.

53. The 2013 Country Programme Evaluation recommended a two-pronged strategy in Nepal, combining a strong commercial agriculture approach with the second prong focused on a 'basic needs *paradigm*', where the realistic ambition would be to alleviate poverty and meet basic needs during a long-term process in which youth gradually leave the communities. It also identified the importance of adopting a demand rather than supply-driven project approach, noting the "supply-driven culture of government agencies, where the focus was on delivering the activities and outputs targeted in annual workplans, rather than on working on household demand and ensuring sustainable impact". The evaluation also noted the need to: (i) focus on developing commercially viable rural enterprises/groups/cooperatives; (ii) develop partnerships with private service providers, buyers and input suppliers; (iii) work in targeted areas and on high-value commodities; (iv) improve access to rural financial services, avoiding project-targeted credit; and (v) avoid too ambitious policy agendas, with IFAD and the Government instead jointly identify relevant policy issues and imbedding them within the design and implementation of Programmes.

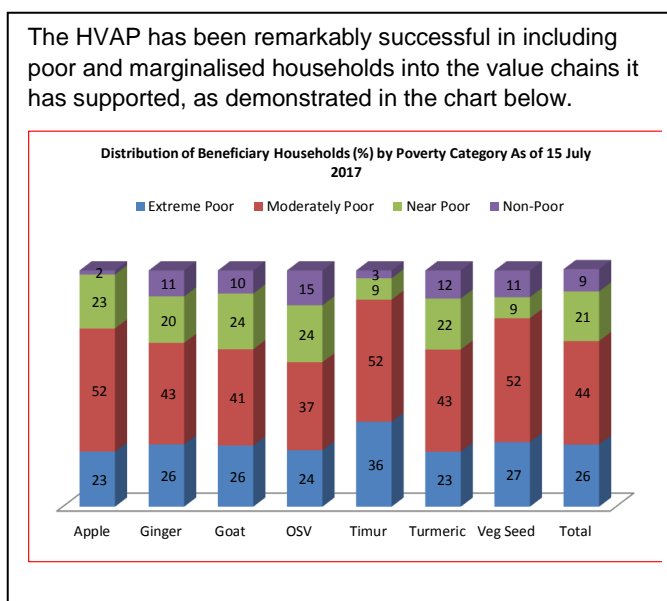
54. More contemporarily, the Programme design mission explored lessons learned from the on-going portfolio of value chain-focused Programmes in Nepal⁴⁵. They include:

- Programme-supported value chain development should be preceded by detailed value chain analysis and strategic investment planning validated through participatory multi-stakeholder platforms;
- agriculture value chain development should be led by the private sector, namely by key "gatekeepers" to customer access, typically private agribusinesses and supermarkets, not government agencies;
- incentive payments for business-oriented behavioural change at industry and producer levels should be designed and priced to mitigate associate risk and not serve as a credit substitute;
- investment incentive payments must ensure "additionality" — the extent to which an activity (and associated outputs, outcomes and impacts) is larger in scale, at a higher quality, takes place quicker, takes place at a different location, or takes place at all as a result of intervention;⁴⁶

⁴⁵ High value agriculture project (IFAD), UNNATI Inclusive Growth Programme (Danida), High mountain Agribusiness and livelihoods Improvement (ADB), Raising Incomes of Smallholder producers (ADB), Project for Agriculture Commercialization and Trade (WB), and Nepal Agriculture Market Development Programme (SDC).

⁴⁶ Donor Committee for Enterprise Development (DCSD)

- once a desired behavioural change has been profitably demonstrated in an agroecological zone, and financial markets developed, value chain financing should be supplied through financial markets;
- initial value chain development is typically driven by middle income farmers who can more easily meet the market requirements in terms of quality and quantity of products, but often draws in poor household once perceived risks have been mollified and transaction costs reduced;
- inequalities are embedded in the rural society and are difficult to level. Marginalised people’s role in decision making is still secondary to prominent people (community and group leaders) who communicate and respond positively to development interventions and embrace economic opportunities;
- farmer groups and agribusinesses are willing to pay for quality private services as a part of a viable business plan;
- market-linked infrastructure development is an integral part of inclusive value chain establishment and growth promotion, but must be well designed, sustainable and climate adapted;
- rural financial services institutions (Banks, MFIs, cooperatives etc.) need capacity building, risk management strategies and more diversified loan products to adequately service agriculture value chain financing; and
- In the absence of appropriate rural financial services, agriculture value chain investments are unlikely to be scalable.



55. **Adherence to national policies.** *The Tenth Plan 2002-2007 (Poverty Reduction Strategy Paper)* and current 5 years Plan (2014-2018) call for sustained and inclusive growth to allow poor, marginalized and climate vulnerable communities to benefit more substantially from economic growth and socio-economic development. The ADS action plan and roadmap propose a vision of a “reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security”. The ADS envisages accelerated agricultural sector growth being achieved through four strategic components related to governance, productivity, profitable commercialization, and competitiveness while promoting inclusiveness (both social and geographic), sustainability (both natural resources and economic), the development of the private and cooperative sectors, and connectivity to market, power and information infrastructure. The resulting inclusive, sustainable, multi-sector, and connectivity-based growth is expected to result in increased food and nutrition security, poverty reduction, agricultural trade competitiveness, higher and more equitable income of rural households. The National Adaptation Programme for Action (NAPA) has identified integrated management of agriculture, water, forests and biodiversity as some of its priority areas of development, along with climate adaptation capacity building for the vulnerable communities and households. The objective of the Multisector Nutrition Plan 2103-2017 is to significantly reduce chronic malnutrition so that it no longer becomes an impediment to improving human capital and for overall socio-economic development. In the agriculture sector, it focuses on the development of

micronutrient-rich food crops and animal protein. The ASDP adheres to the basic tenants of these four key national strategies/plans.

56. **Adherence to IFAD Policies and the SECAP.** The ASDP is strongly aligned IFAD's overarching objective, as detailed in the IFAD Strategic Framework 2016 – 2025, that: "poor rural people overcome poverty and achieve food security through remunerative, sustainable and resilient livelihoods." The Programme takes into account key IFAD policies and strategies relating to targeting, gender, land, ethnic peoples and CC and contributes to both the overarching objective of the strategic framework and its three Strategic Objectives: (i) increase poor rural people's productive capacities; (ii) increase poor rural people's benefits from market participation and (iii) strengthen the environmental sustainability and climate resilience of poor rural people's economic activities. Key areas of the Strategic Framework's thematic foci that the ASDP addresses include: (i) diversified rural enterprise and employment opportunities; (ii) rural investment environment; (iii) rural producers' organizations; (iv) rural infrastructure; (v) access to agricultural technologies and production services; (vi) climate change; and (vii) nutrition. Consistent with the strategies "principles of engagement", people from marginalized groups, in particular women, indigenous peoples and young people will be proactively supported and empowered to enable their equal participation in Programme economic activities. Women's labour burden will be reduced, inclusive, effective and sustainable rural groups and institutions will be established or strengthened and their access to the assets, technologies, services and profitable markets enhanced, while the market-oriented VC approach, when combined with supporting infrastructure, financial and technology services, provides a pathway to sustainability and scalability (see Appendix 12 for detailed discussion).

57. The SECAP describes a Programme area that features a great diversity of socio-economic, physical, natural and climate conditions. Programme districts have a high poverty incidence, offer challenging conditions for agricultural production and are relatively isolated from the rest of the country, hindering access to services and markets for the rural population. Linkage to transport networks is an essential component of successful development. In the target districts, per capita income, education and life expectancy are among the lowest in Nepal. More than 69 groups of various cast/ethnicity are present in the area with Chhetri and Kami the most represented groups in all 10 districts. Comprising middle hills, high hills and mountains, with mostly relatively poor soils for agriculture production, the Programme area is biologically and environmentally diverse and highly susceptible to climate change. The Programme will address these constraints by targeting profitable commodities and production areas where road infrastructure either exists or is under development through community-driven initiatives aligned to municipal master plans. It also adopts an inclusive, community-driven and commercialized approach to farmer group development and agricultural service delivery. All Programme technology and infrastructure investments will be climate adapted and new agricultural institutions emerging from the constitutionally-driven change process will be community-governed and Programme supported.

III. Programme implementation

A. Approach

58. The ADS envisages accelerated agricultural sector growth through four strategic components related to governance, productivity, profitable commercialization, and competitiveness, while promoting inclusion, sustainability, connectivity and private/cooperative development. The ASDP approach follows a parallel path, though it will be less engaged in sector governance, which is being strengthened through European Union (EU) TA to the four MoAD ADS Flagship Groups⁴⁷. The Programme will identify financially and economically viable agricultural commodities with market growth and value addition potential across the main agri-ecosystems in Province 6. This process will be facilitated by ASDP-convened Multi-Stakeholder Platforms (MSP) for each commodity, designed to

⁴⁷ Decentralised Science, Technology and Education Flagship, Food and Nutrition Security Flagship, Innovation and Entrepreneurship Flagship, and Value Chain Development Flagship

link key stakeholders along potential value chains. MSPs, which, over time will be empowered to become self-governing, will include farmer representatives, private sector actors (traders, processors, input suppliers, investors, finance institutions) and government actors (research, education, extension). In addition to building value chain partnerships, MSPs will also identify opportunities and technical and capacity constraints that then can be addressed through Programme supported, outcome-based training and research. The Programme, in partnership with MSPs, will invite national and international agri-businesses and entrepreneurs to co-invest in key processing infrastructure for the development of the respective commodity value chains. The confirmation of such “market gatekeeper” investment will trigger Programme support to stakeholders along the value chain, including traders, transporters and commodity producers. More than one “market gatekeeper” could be identified for a particular commodity. In general, the Programme will support investors who (i) require the least co-financing as a percentage of the total investment; (ii) show the highest profitability and value addition; and (iii) have business strategies/plans that better include disadvantaged groups and areas. The Programme will not support commodity production where there is no clear access to profitable markets.

59. To ensure access to the service required for value chain development, the Programme will strengthen infrastructure, financial and technical services along value chains. Value chain “production products” will be carefully selected based on agro-climatic conditions, production infrastructure, population density and access to markets. Production pocket areas will be progressively expanded through access to improved public (village roads, trails and trail bridges, markets and collection centres, etc.) and collective (small scale irrigation, local storage, multi-purpose water supply, etc.) infrastructure. Those infrastructure investments will be identified through a Local Body-led participatory planning approach that matches value chain and community-identified needs with municipal plans. Investments, depending on their type, will be co-financed in various combinations by the Programme, value chain stakeholders and the municipality.

60. The Programme will also build value chain stakeholder access to financial services. This will be achieved by strengthening grass-roots cooperatives and MFIs and providing them and banks and insurance companies with a broader range of financial and insurance products better suited to value chain financing. Where possible, the Programme will link rural financial service providers with products and financing being developed/offered by other financial service development projects and private banks in Nepal. Rural cooperatives and MFIs will be invited to improve their services through institutional reform, including amalgamation to meet minimum scale requirements, capacity building and financial information system software upgrading. The Programme will recruit specialised national service providers to support cooperative and rural MFI strengthening under performance-based contracts.

61. In accordance with the ADS and the NASDP, the Programme will establish MADCs and CAESCs at municipal and ward levels respectively. These measures are seen contributing to the decentralised agriculture development process as provisioned in the constitution of Nepal. Originally envisaged as a VDC-level institution that is now replaced by the ADS-sponsored CAESC and its board, and with the cessation of the district as an administrative centre, the Programme proposes the establishment of the MADC at municipal levels as the entry point for agriculture development activities in the municipality. MADC’s will be chaired by the municipal vice-chairperson and include elected municipal representatives and representatives of farmer and agri-business organizations in the municipality. Women will be not less than 50 per cent of CAESC members. The CAESC will become the nodal point of decentralised and pluralistic extension and research at the local level through: (i) institutional and individual capacity development at municipal and at ward levels; (ii) support to the formulation of guidelines, bylaws on decentralised and pluralistic extension and research at local level with increased accountability; (ii) organising joint stakeholder monitoring, peer monitoring and cross district exchanges for learning and exchange; and (iv) mobilising local service providers to develop specific strengthening activities.

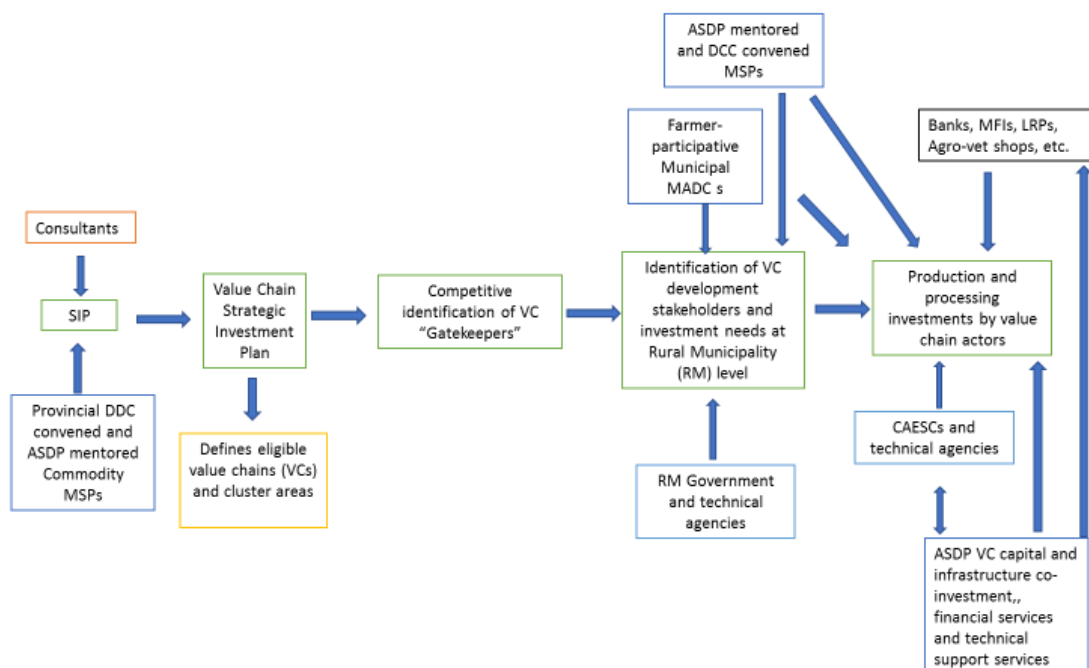
Through awareness and capacity building activities initiated by the municipal officers for agriculture, agriculture, forestry and livestock, and HSI support, the Programme will facilitate the establishment of CAESCs in each Ward. The CAESC will be formed by local communities and will be governed by a board including representatives of local communities, cooperatives, farmer organizations, and agri-enterprises. Women will be not less than 50 per cent of board members). Initial funding of the CAESC will be provided by a combination of ward and municipal funding (using the 15 per cent guideline for agriculture investment⁴⁸), seed funding from the ASDP, and contributions of the different groups of stakeholders represented in the board. Each CAESC will be fully managed by its board and will recruit its own extension workers. The management of the financial and human resources of the CAESC will be fully dependent on the board of the CAESC. The flagship Decentralized Science, Technology, and Education Program (DESTEP) will provide the overall guidance for the development of CAESCs. The recurrent and programme costs of the CAESC will be borne by the ward and the community centres themselves. The CAESCs will be linked to municipal, provincial and national extension systems through information exchange, training, and technical backstopping (see

⁴⁸ A GoN Directive requires that at least 15 per cent of the local block grants should be allocated to agricultural development and services and it has been attached with the Minimum Condition Performance Measure.

62. Figure 2).

63. The Programme, with HSI support, will apply a Human Rights Based Approach (HRBA) that focuses on accountable service delivery (fulfilment of rights or entitlements) by supporting the duty bearers to fulfill their obligations and strengthening the rights holders (beneficiaries) to claim the services and entitlements responsibly. This will include: (i) applying the principle of Rule of Law; (ii) empowering the rights holders and duty bearers; (iii) ensuring equality and non-discrimination; promoting the participation and inclusion of the rights holders and ensuring accountability of the duty and responsibility bearers i.e. role analysis. This will be applied across the Programme, but will be particularly relevant to Sub-component 4, Output 4.1.

Figure 2. ASDP Flow Diagram



B. Organizational framework⁴⁹

64. The overall responsibility for ASDP will be assumed by the MoAD, which is the lead Programme agency. It will establish a PCO at Birendranagar in Surkhet district of Province 6 to coordinate Programme implementation and a PSC, which will assist the MoAD in leading government agencies, NGOs, Service providers (SPs), the private sector and communities at all levels to ensure achievement of the Programme objectives.

65. **Programme Steering Committee.** The PSC is established by the MoAD to inform them on overall execution of Programme implementation and ensure effective coordination/integration/cooperation among parallel government and donor-funded Programmes. The PSC will be chaired by the Secretary, MoAD and be comprised of Under-Secretaries of concerned line-departments, Technical head of the Agriculture Division/Department for Province 6, and representatives of NGOs and private sector entities related to the Programme (See Appendix 5, Annex 1 for details). The PSC will inform the MoAD/Province 6 on matters concerning the strategic management of the Programme, including the decisions such as appointment of the Programme Coordinator (PC), approval of the PIM, AWPB, and other decisions related to Programme coordination, orientation and mobilization of resources. The PSC will meet each semester (alternatively in Kathmandu and Province 6) to coordinate Programme implementation, guide planning, review progress, and make recommendations for any modifications of AWPB as needed. In addition to the MoAD-chaired PSC, the PCO will be guided by a Province 6-chaired Technical Advisory Committee (TAC) that combines provincial, municipal and national technical expertise.

66. **Technical Advisory Group (TAG)** A Province 6-led TAG, chaired by the Technical head of the Agriculture Division/Department for Province 6 and comprising federal, provincial and municipal (rotating basis if needed) agriculture, livestock, forestry, agri-business and food technology/safety experts would be established to advise the PCO on technical aspects of programme implementation. The TAG would meet annually in Birendranagar to review (i) technical aspects of progress of

⁴⁹ The Programme organizational framework assumes that the MoAD will remain as a federal ministry under the ongoing constitutionally-driven downsizing of federal ministries. Should agriculture and livestock development become a provincial responsibility, then Province 6 would assume the chairpersonship of the PSC.

implementation, (ii) the ASDP AWPB before submission and (iii) to liaise with MSP groups (which include municipality representatives) to discuss technical constraints to efficient VC development. The group would advise the MSPs and PCO on technical solutions to identified problems or on the development of participatory action research to identify solutions.

67. **Programme Coordination Office.** A PCO will be established at Birendranagar in Surkhet district of Province 6 to assist the PSC in coordination of the participating line agencies and municipalities and wards in actual management of GoN and IFAD resources. The PCO would facilitate Programme implementation both by working through private and public-sector implementation agencies (MSPs, Municipalities, MADCs, CAESCs, Agro-vets, LRPs, etc.) and through more direct implementation for activities such as rural financial services. The PCO will be under the MoAD ADS Coordination Unit for the sake of management and action efficiency. The PCO will report directly to the PSC, acting as its Secretariat, and as an advisory body of the Secretary, MoAD. The MoAD Decision on the establishment of the PCO and TORs of the PCO should ensure that the PCO functions on behalf of the Secretary, MoAD. The PCO will include a management team of government-deputed officers, including an agriculture officer deputed from Province 6, a technical team of externally recruited experts, and support staffs hired by the PCO.

68. The mandate of the PCO will be to ensure: (i) coherence of the Programme approaches and strategies, and integration among Programme activities in order to produce the Programme outcomes, outputs and impact; (ii) coordination and synergy of the co-implementing agencies and technical service providers, and the municipal level agencies, and grassroots communities; (iii) contracting of suitable service providers to undertake various forms of research, studies, technical assistance and training; (iv) accountable management of IFAD and Government's resources, including preparation of the PIM, AWPBs, procurement plans, selection of technical assistance and audit service providers, establishment and operation of M&E and MIS systems, and other functions of the operational and financial management of the Programme; and (vi) knowledge sharing in collaboration with co-implementing agencies.

69. PCO staffing. Key Programme staff would include a Programme Coordinator, a senior agriculture officer (deputed from Province 6), a funds and contract manager, an account officer and support staff, a planning officer and technical staff covering value chain development, engineering, institutional development, rural finance, climate change, gender and nutrition, monitoring and evaluation (M&E) and knowledge management (KM), and information technology. The Programme would also establish three field teams working along the four main road corridors having business, engineering, social/gender, finance institution and M&E/KM skills. An ASDP Liaison office would be maintained in Kathmandu. The Programme would be governed by a Programme Steering Committee (PSC), chaired by the Secretary, MoAD. With SDC grant funding, HSI will be a co-implementer of the agricultural services programme.⁵⁰

70. Municipal-level Programme Implementation Coordination⁵¹. Municipal Assemblies and Municipal Councils will have overall responsibility for the Programme in their respective municipality. Each participating municipality will have municipal-staffed agriculture and livestock officers who, with the support of the Programme mobile teams and PCO specialists will facilitate Programme implementation in their municipalities. An MADC will be established in each municipality (see para. 61). A District Coordination Committees (DCC) will provide oversight for municipal programmes within district boundaries.

71. Elected Ward Committees (WCs) will be involved in the Programme implementation in the targeted wards. The Ward's CAESC board (see para. 0) will be the focal point for coordinating the overall implementation of Programme interventions and activities by the related implementing agencies at ward level.

⁵⁰ HVAP model.

⁵¹ There are both Urban and Rural Municipalities, the latter defined as "Village" in some communications. As the Programme is expected to work across both types of Municipalities no distinction is made in this document between the two types of municipality.

72. **Gender in the Organisation:** Unlike HVAP, this programme will ensure that at least 20 per cent women are recruited to middle and senior management levels. There will be additional scores for women in the recruitment process. If women candidates are found to excel in the recruitment process, they will be recruited and paid on par with their male colleagues. The Programme will maintain the maternity leave rule as applicable to all government establishments. If it is seen, that there are a number of small children of women staff within the PCO, the Programme will establish/or recruit the services of a crèche and the provision of a nanny. The operation and maintenance of the crèche can be equitably shared by the Programme and the staff. The Programme will deem to have flexi working hours to accommodate household and child care chores that the women staff members have to carry out in their personal life. The Programme will set up a Sexual Harassment Committee to address any complain of sexual harassment across all levels of the Programme and will also include the social mobilisers recruited by the NGOs. All programme staff will be provided with training on sexual harassment at workplace on a yearly basis. There will be, on a yearly basis, a gender sensitisation and gender in value chain training for all staff across all levels.

73. **Partnerships.** The mission has met with development partners supporting GoN in the implementation of market- led agriculture development and rural financial and technical services delivery with the aim of aligning the ASDP with lessons learned from those programmes, seeking complementarities and partnerships where possible. SDC has agreed to fund HSI to manage the ASDP extension service development and value chain stakeholder alignment. The mission has also reached an understanding with the ADB concerning its planned support for district road construction; the DFID's RAP III on community infrastructure development and with both Sakchyam and Kisan II projects for financial services to VC stakeholders. Other points of collaboration will be identified during Programme implementation.

74. *Government partners.* The Lead Implementing Agency - MoAD is currently the regulatory body mandated to implement the ADS in Nepal. The ADS provides the overall strategic guidance framework for agriculture sector development, however, its implementation poses a range of technical and cultural challenges for MoAD management and staff. The Programme will work with the ADS Coordination Unit within the MoAD to support a change in service delivery from its current top-down and public-sector service delivery modality to one where MoAD coordinates, technically supervises and monitors a pluralistic extension system largely delivered through municipalities, MADCs and CAESCs. The Programme will also strengthen government partner skills in the fields of Programme management, M&E, gender mainstreaming, climate change adaptation and knowledge management.

75. HSI is implementing the SDC-supported NASDP in nine districts across four provinces, including three (Dailekh, Jajarkot, Kalikot) in Province 6. The ASDP initiatives proposed here are similar to those included in the NASDP. SDC will support the ASDP, providing a grant of USD 3.0 million for TA implemented by HSI to expand the coverage of NASDP to ASDP impact areas in all 10 districts, with specific focus on organising and capacitating farmer groups and cooperatives and provision of pluralistic services to farmer's groups linked to the value chains selected under ASDP. SDC will transfer TA fund to HSI directly.

76. *NGOs and implementation support.* Under the on-going constitutional reforms, municipalities will become the key administration and development entity in Nepal. Given that this reform is just beginning, it is anticipated that municipalities will need strong support for effective Programme implementation. The Programme will work closely with NGOs of proven competence and sustainability, particularly in supporting and capacitating the decentralised extension system, community participatory planning, cooperative and MFI institutional reform and gender development and nutrition support at municipal level.

77. *Private sector.* Private enterprises, cooperatives, farmers' organizations, lead farmers and farmers' groups engaged in commodity production, the supply of goods and services, commodity processing, marketing or related fields will participate in Programme implementation as co-financiers and/or service providers. Free standing MSPs will support coordination along value chains

78. *Academic and research organizations.* The Programme will, through MSPs, engage academics and research organizations under performance-based contracts for capacity building of value chain stakeholders and technical problem solving along value chain processes.

79. *MADCs and CAESCs.* The establishment of MADCs under Municipal Councils and CAESCs under Ward Committees will strengthen the grassroots-level management and operational capacity, fostering community-governed and equitable representation and participation of the vulnerable groups in community decision making structure.

80. *Community-level farmers' organizations.* Support to the farmers' organizations in the forms of groups or cooperatives, and the establishment of beneficiary self-managed O&M committees will foster grassroots organization of rural women and men, through sustainable, self-governed mechanisms, established in pursuit of enhanced self-development, management, and climate adapted production and marketing.

Planning, M&E, learning and knowledge management

Planning

81. **Annual Work Plans and Budgets.** The 14th Periodic Plan 2016 – 2019 is the principal GoN development planning document. Successful ASDP implementation requires the Programme AWPB planning process to effectively articulate the views of various public institutions (government and line agencies), private entities, people's and communities' organizations and groups.

82. The ASDP budget process will be conducted in line with national procedures, which require consultation with all stakeholders, including beneficiaries. In the first year, the PCO will provide training workshops on the Programme strategy and approaches, AWPB, and procurement procedures for key stakeholders. This will ensure an accurate and shared understanding of the Programme strategy, procedures and information needs.

83. Investment planning at the community level will be through participatory processes engaging farmer's groups and communities participating in Programme-supported value chains. This process will ensure the inclusion of disadvantaged groups, who may be provided with an independent forum to develop and express their opinions if required. The participatory process will, with Programme and HSI support, be coordinated at ward level by the CAESC board and staff.

84. In accordance with current MoF decisions, the PCO would be the "**Cost Centre**" for disbursement of funds to beneficiaries and/or implementing agencies. **The Programme will revise its disbursement strategies in accordance with prevailing GoN regulations, including devolution of conditional funding for activities implemented by the municipality, on completion of a fiduciary due diligence of the municipality as a cost center.**

85. The approval of ASDP IPs by Local Body Executives would be based on the recommendations of the Municipal Agriculture Development Committee (MADC) in response to competitive farmer group IPs that have undergone a bipartisan Field Evaluation by the Ward-level Community Agriculture Extension Service Centres (CAESCs) and PCO/HSI technical/administration teams⁵². Once Ward-level IPs have been prioritised and approved by the MADC in accordance with the budget limits set by the PCO, that committee would forward the IPs to the Local Body Executive for no-objection and subsequent request to the ASDP Project Coordinator (PC) for financing. The IPs would be included in the ASDP annual work programme and budget (AWPB), and, upon MoF approval, the PCO would prepare a quadripartite contract (Municipality, Ward, beneficiary and PCO) on which basis the PC would advance ASDP funds to contract-identified beneficiaries.

86. The PCO will be responsible for the generation of investment plans not directly derived from the municipality-related investments under Sub-component 2 and Sub-component 4. PCO budget

⁵² Staff of the PCO, ASDP mobile teams, and HSI.

planning responsibilities will include co-financing of agri-business co-financing investments under Sub-component 1, the provision of PCO specialist support, TA and training under Sub-component 1 and Sub-component 3, and the requirements for Programme Management. The PCO will ensure coordination of these activities between other government agencies and externally financed Programmes in the Programme area. The Programme level RO-AWPB will explain key issues, objectives, focus of the annual work plan and budget, rationale for setting specific targets, and the planning process in a narrative text. The RIMS indicators are required to be included in the RO-AWPB so that this becomes the basis for preparing the annual RIMS report. It may be noted that the RO-AWPB template is a planning tool at the beginning of the year, monitoring tool during implementation and a reporting tool at the end of the year. At the end of the fiscal year, the RO-AWPB - duly completed with annual and cumulative achievements will be annexed to the Annual Progress Report. Thus, a link will be created between the annual planning exercise, the M&E activities and the annual reporting exercise. The PC will be ultimately responsible for preparing the draft RO-AWPBs in an accurate and timely manner.

87. The draft RO-AWPBs will be submitted to the PSC for review and approval. The approved draft RO-AWPB will then be transmitted to IFAD for comments and no objection no later than sixty days before the beginning of the relevant Programme year. The GoN budget approval process will follow national procedures and will be in accordance with the country system. The ASDP-approved budget will be transmitted to MoAD for review and discussion. After MoAD approval, the budget will be transmitted to MoF and the National Planning Commission (NPC); MoF will review and approve the funding, NPC will review and approve the activities. An Annual Stakeholder Review and Planning Workshops at which Annual Performance Report findings and management implications will be discussed will support the AWPB preparation process.

Monitoring and evaluation

88. Building off the HVAP M&E/MIS system, the M&E and KM Officer will assist the PCO to maintain a central data system to compile overall monitoring and evaluation information, and conduct studies to measure overall impacts. The M&E system will monitor performance and assess the impact of Programme activities. Monitoring will focus on activities/inputs, outputs, outcomes and performance and risks, while evaluation will assess the relevance, efficiency, effectiveness and impact on poverty reduction, agri-business environment and growth and environment, empowerment and partnership, sustainability, replicability, lessons learned, and knowledge up-take. The M&E system will cover both the operational and financial aspects of the Programme. To a large extent, the M&E system will be participatory, involving the supported farmer groups, wards and municipalities in data collection and management.

89. The PCO will develop a specific M&E Plan within two months of Programme start up. It will define the data gathering sources and methods, and roles and responsibilities of different stakeholders. The M&E Plan, will build off the existing HVAP M&E processes and be informed by the following principles that derive from lessons learnt from previous IFAD funded Programmes/Programmes in Nepal: (i) simple M&E processes and methods; (ii) clear roles and responsibilities for stakeholders; (iii) harmonization of information and reporting requirements of the stakeholders through alignment to the existing planning, monitoring and reporting processes; (iv) sufficient capacity building on gender responsive M&E and KM through targeted trainings; and (v) strong linkages between planning, M&E and knowledge management.

90. The HVAP M&E has three distinct tools: (i) Result and Impact Management System (RIMS), (ii) Programme log frame and (iii) Donor Committee for Enterprise Development Standard (DCEDS) which has been developed for all enterprise related Programmes by donors and looks mainly at the results chain. These tools will continue to exist and will be built upon to address the nuances of the new Programme. The Standard IFAD Monitoring and Evaluation System (SIMES) will no longer apply. The Programme will be responsible for identifying COSOP related indicators in its logframe. In conjunction with the trimestral reports, the Programme will report against these indicators (in addition

to reporting on the RIMS indicators) to the IFAD country office in Nepal. The nutrition and women's empowerment indicators will be developed at the pre-Programme stage with the help of the TA specialists who will be recruited by the Programme to develop and implement the two indices. The Programme will identify the relevant indicators for the DCEDS that they have to monitor and periodically report against. These indicators will be included in the MIS to facilitate collection and analysis.

91. The Programme will assess any gaps in the current HVAP MIS and progressively refine it in the light of experience during the first Programme year. It will be based on the Logical Framework, which, together with the MIS, may be modified at Programme Mid-term Review (MTR) to adjust the Programmes to changing circumstances. The preparation of reporting formats for use by implementing agencies, particularly the participating municipalities and other partners will be part of the overall upgrading of the HVAP MIS.

92. **Monitoring.** Monitoring will be an integral part of the Programme coordination role. All staff will be involved in strengthening Programme progress and performance monitoring in their particular areas of responsibility. A large part of the monitoring will be collected and communicated by the Programme beneficiaries. The monitoring will provide triannual and annual feedback on the extent to which the Programme is achieving its outputs, implementing the activities, identifying potential problems at an early stage and proposing possible solutions. The accessibility of the Programme to all sectors of the target population, as well as the technical and financial efficiency will be monitored and possible improvements suggested.

93. Monitoring indicators have been selected for each of the Programme's outcomes as detailed in the Logical Framework. Programme results and impacts will be reported in sex and ethnicity disaggregated formats, and gender monitoring tools will be integrated into the M&E process, which also includes a women's minimum dietary diversity index. The Programme will involve target groups in data collection through the maintenance of farm management diaries, individual interviews, focus group discussion and case studies. To assist the collection and entry of data, the Programme will introduce an internship component, whereby young educated youth who have either passed high school or who are in school can be paid a small stipend to collect Programme data. This could also be done by the LRPs, Junior Technician Assistants (JTAs), etc. for a fee.

94. Programme training will be competency-based. The performance of training activities will be monitored through pre- and post-training knowledge tests with a further test 6-12 months post-training to determine knowledge retention and adoption. It will not be possible to monitor all training events at this level; however, random competency monitoring will be applied to all typologies of training events across the Programme life.

95. The M&E and KM staff will ensure that information and analyses developed by the Programme is fed back to relevant stakeholders.

96. **Evaluation:** Programme evaluation will include: (i) annual outcome/impact evaluations and (ii) thematic evaluation. At the same time, full reviews at mid-term and Programme-end will be conducted by IFAD and GoN.

97. **Impact evaluation:** Programme impact will be measured from the baseline data, at mid-term and at Programme-end. The HVAP completion survey will be modified to provide the ASDP baseline and a platform of information from which the follow-on surveys could reveal changes in the households' livelihoods. Similarly, the Mid-term Survey and the Completion Survey will be carried to inform the MTR and PCR. These follow-on surveys will be carried out in the same manner as the Baseline Survey, visiting the same geo-referenced households so that developments in the course of Programme participation can be measured, and household members who have left the Programme area as a result of finding employment elsewhere will be captured as well. These three surveys will be carried out in conformity with IFAD's Results and Impact Management System (RIMS) reporting requirements. They will use the standard RIMS questionnaire form to collect key beneficiary data, including household assets and base data used to establish the prevalence of child malnutrition in

participating households, adjusted to reflect the characteristics of the Programme area and activities. The RIMS surveys will also be adapted to include data related to extra indicators from the Programme logframe. The participating households will be randomly selected from the Programme wards.

98. As the Programme will be establishing investments using business principles and business plans, there is the opportunity to use data generated during the planning and operation of such investments to provide for impact assessment. The intention is that the pre-Programme baseline and the operational data (profit and loss, return on investment, returns to labour etc.) will provide the impact assessment at the micro-economic level. (See Monitoring Framework for detailed indicators).

99. **Thematic studies:** The PCO will contract or carry out thematic studies that will look at the impact of activities under Programme Outcomes. These thematic will, *inter alia*: (i) measure more regularly the positive or negative changes/outcomes taking place at the household level to provide early evidence of Programme success or failure; (ii) provide timely performance information so that corrective actions may be taken if required; and (iii) assess targeting efficiency. Specifically, such impact assessment will include an analysis of the effectiveness of: poverty impact of commodity-specific market support activities; Public and Private Partnership in poverty reduction; impact of micro credits on women; effectiveness of collective economic models; and the effect of SME development on the availability of jobs for the poor. The topics for these thematic studies will be identified in consultation with relevant government departments during Programme implementation, taking into account ADS policies, but could include, *inter alia*, the effectiveness of the pluralistic extension model, agriculture institutional reform in Local Body organizations, the financial and economic impacts of VC co-financing, the impact of increased income and BCC on household nutrition, HHM and women's empowerment, etc. The Monitoring Framework provides the indicators, collection methods and the usage of the processed data.

100. **Mid-term Review and Completion Review:** The Programme will use the HVAP completion survey to establish its baseline status. A Mid-term Review will be organised in the beginning of PY3 of the Programme jointly between IFAD and the Government. A Completion Review will be organised towards the end of PY6. The Review will cover, among other things: (i) physical and financial progress as measured against the Programme's AWPBs; (ii) performance and financial management of contracted implementing partners; (iii) an assessment of the efficacy of technical assistance (iv) the relevance of the Programme components to livelihoods in the Programme area and as a means of attaining Programme objectives (v) the efficacy and efficiency of implementing arrangements (vi) expected impact of the Programme on livelihoods, social aspects, gender, nutrition and environment (vi) the sustainability and risks associated with the Programme and (vii) recommendations to improve expected outcomes and impact (viii) propose changes in the components and activities to reflect the findings of the assessment of performance and impact. In addition, it is expected that the Review will look at the experience gained from Programme support on the policies and regulatory frameworks for its implementation. The Programme completion process will include stakeholder workshop(s) to give Programme stakeholders the opportunity to: (i) evaluate the performance of the Programme; (ii) to promote accountability; and (iii) to identify factors and responsibilities to increase the likelihood of sustainability, together with key success factors and shortcomings.

101. **Progress Reporting:** The PCO Coordinator will be responsible for the preparation of trimester and annual progress reports for submission to the PSC and IFAD within a month from the end of the reporting period. The implementing agencies will be required to provide their progress reports as an input for PCOs to prepare a report that will be submitted to IFAD and Government in a timely and accurate manner. These reports will include the narrative report as a harmonised source of key data and ensure the trends are highlighted. The reports will record the financial and physical progress against RO-AWPB targets. The Knowledge Management Officer will prepare a report on KM survey and analytical work, with a tabular appendix showing the progress against the Programme indicators. Programme implementing agencies will - within 2 weeks from the end of the reporting period - submit trimester progress reports to the PCO as a condition for release of funds for the ensuing period.

102. **Annual Results and Impact Reporting:** The PCO will report separately to IFAD on the Programme indicators that overlap with IFAD's COSOP. The information contained in these Annual Results and Impact Reports will be drawn from the Programme MIS, and set in relation to the targets contained in this Report and those in the RO-AWPB.

Learning and knowledge management

103. The Programme's knowledge management will be an essential element for delivery of Programme objectives, especially for learning related to poverty reduction through commodity development. The ASDP will focus on studying and researching the outcomes and impacts of the Programme investments. Knowledge, Attitude and Practice (KAP) studies will form part of the KM strategy to assess all capacity building and knowledge product use. This new strategy considers KM to permeate staff's tasks at every level, constituting a different approach to the tasks to be carried out by all, rather than a specific set of assignments that will be the sole responsibility of a person dedicated to carrying the strategy out. This philosophy implies the need for buy-in from all staff, and requires them all to be provided with the tools and capacity that will enable them to contribute to the strategy's implementation as a whole. Geo-tagging of all programme interventions will be a requirement, including for all field visits by PCO staff and contractors.

104. The ASDP knowledge management activities will focus around five areas relevant to IFAD's investment portfolio in Nepal including: (i) private sector investment in hill-area value chains; (ii) poor households' responses to agriculture business opportunities; (iii) the establishment and sustainability of pluralistic extension services; (iv) sustainable rural financial services; and Programme impacts on women's empowerment and household nutrition. In order to develop and manage the knowledge and information of the Programme, the following learning activities will be conducted:

- (a) A consolidated **Annual Programme Review** will be carried out towards the end of each fiscal year, in addition to the annual reviews. It shall assess performance in the achievement of physical and financial progress against annual targets. A review of progress towards development objectives as reflected in the Outcome Surveys will also be done, assessing success and failures and reasons thereof and lessons learned. In order to get feedback from beneficiaries on the Programme's relevance, effectiveness and quality of interventions and their impact, the Annual Review Workshops could be conducted at the provincial level beginning from the end of the 1st year of Programme implementation. The Annual Review Workshops should also go beyond merely being an assessment of Programme performance and become truly information sharing and learning events.
- (b) **Annual knowledge pieces.** The PCO will produce at least two knowledge pieces per year (e.g. research paper, audio-visual, or verbal presentation) on some aspect of one of the aforementioned themes that relates directly to its work. The pieces will be derived from Programme implementation experiences related to the KM themes and will be evidence-based. The precise topic of the pieces will, within the aforementioned framework, be determined by the PCOs and will depend on the nature and stage of the Programme. The method or format for documenting the knowledge and the means of communicating it will also be determined by the programme as a function of the knowledge it wishes to share and the audience that it will like to benefit from that knowledge.
- (c) **Documenting lessons learnt, best practices and cases of success:** The M&E and KM Officer will collect all available relevant information to document lessons learnt, best practices and cases of success. It could be based on information collected from: progress reports, meetings and interviews, monitoring and evaluation reports, outputs evidence provided by targeted groups, market and value chain entities and other involved parties.
- (d) **Learning Conferences:** It is recommended that Conferences/ Seminars/ Workshops at the National Level be organised at mid-term and end-Programme term respectively, at which the learnings, experiences and impacts of the Programme as also of other similar governmental and donor supported Programmes can be shared. This will facilitate

acquisition and dissemination of knowledge as well as institutionalisation of participation-promoting processes and procedures.

- (e) **Developing and delivering a lesson's learnt study:** Based on the information collected along Programme implementation, the M&E and KM Officer will develop an end of Programme Lessons Learnt Report, analysing the documented lessons learnt, best practices and cases. It will be first submitted to IFAD and, once feedback has been incorporated, if any, the report will be shared widely.
- (f) **Development of material for dissemination:** The M&E and KM Officer will produce communication materials summarizing some of the success stories to be distributed through networks and policy dialogue. Based on analysis of the documented information, and the reports, material for dissemination will be produced at the end of the Programme; a mid-term Lessons Learnt Report might be developed. A short film about the Programme combining before and after footage will be shared with target groups, policy makers and other stakeholders. Recommendations and actions for market and value chain development will be developed.

C. Financial management, procurement and governance

105. **Financial Management.** The PCO will be responsible and accountable to GoN and IFAD for the proper use of funds apportioned to them, in line with the respective legal agreements, any subsidiary financing agreements and contractual arrangements for service providers. It will provide detailed financial statements of the operations, resources and expenditures related to the Programme for each fiscal year prepared in accordance with standards and procedures acceptable to IFAD and deliver such financial statements to IFAD within four months of the end of each fiscal year.

106. Overall, ASDP will be operating in a relatively high inherent risk environment due to the persistence of some weaknesses in the public sector financial management systems as outlined in the Public Expenditure and Financial Accountability (PEFA) analysis. The proposed financial management arrangements for the programme incorporate measures intended to reduce such risks to acceptable levels and ensure that: (i) the programme funds are used for intended purposes in an efficient and effective way; (ii) reliable and timely financial reports are prepared; and (iii) programme assets and resources are safeguarded from unauthorized or wasteful use. Financial risk mitigation measures are detailed in Appendix 7, Table 1.

107. ASDP financial management procedures and record maintenance at all level will be properly documented in the PIM and consistently applied. The PIM shall include specific provisions regulating the setting up of internal controls, effective monitoring and review of transactions, accounting software requirements and include all other FM practices with guidance notes. A system of joint signatory for approving Treasury Single Account (TSA) disbursements, WA submissions, DA transactions will have to be continued. Detailed procedures for adequate recording, management and safeguard of programme fixed assets will be disclosed in the PIM.

108. *Government financial management system.* There are three elements to the GoN budget management system: (i) the *Budget Management Information System* (BMIS), run by the MoF for consolidating budget requests; (ii) the *Financial Management Information System* (FMIS) which incorporates the TSA system and is run by the Financial Comptroller General Office (FCGO), under the MoF; and (iii) the *Aid Management Platform* (AMP), hosted by the International Economic Cooperation Division of the MoF, an on-line platform that provides public access to information on all donor-funded development Programmes in Nepal. At ministerial and Programme-level, there is extensive use of TSA, while the accounting and reporting functions are run autonomously by all entities using proprietary software and applying government accounting rules.

109. The ASDP budget preparation process is described under planning (paras. 81 to 87). Upon approval of the budget published in the Red Book and budget allocation to the PCO cost centre, the ASDP approved budget will be inserted into the FMIS by FCGO. Budget allocation will be available

real time at the district branch of FCGO, the District Treasury Controller Office (DTCO) for ASDP use. The Red Book would specify the budget codes and funding source. The ASDP should adhere to the GoN budgeting/accounting rules as well as the percentage of financing of activities from the various financiers.

110. *The Office of the Auditor General (OAG)* conducts financial audits in the public sector (including IFAD funded Programmes) using international Standards of Supreme Audit Institutions (ISSAI) issued by the International Organisation of Supreme Audit Institutions (INTOSAI), usually within 8 months after financial year end. Audit reports are submitted to the parliament, through the President's Office, within 9 months after the end of the period covered. The annual audit will be performed in accordance with ISSAI. The statutory ToRs of OAG may be integrated with specific requests from IFAD. The auditors will issue separate opinions covering the financial statements, statements of expenditures and the management of designated accounts. The audited financial statements and audit reports will be submitted to IFAD within six months after the end of each fiscal year and after the Programme closing date. In addition, the auditors will also issue management letters outlining any internal control weaknesses.

111. *Flow of funds arrangement.* IFAD will make funds available to the GoN under the terms and conditions of the Financing Agreement. Programme funds will flow from IFAD via a single Designated Account (DA) held by the ASDP as authorized by MoF and established in the Nepal Rastra Bank. Government funds will flow using TSA.

112. *Designated Account (DA).* In accordance with the Financing Agreement and Section 4.04(d) of the General Conditions, immediately after entry into force of the Financing Agreement, the GoN shall open and thereafter maintain in the Nepal Rastra Bank, an account denominated in US dollars for the purpose of financing the Programme, the "Designated Account". The DA will be held by the Ministry of Finance (MoF), or ASDP as authorized by the MoF, and will be protected against set-off, seizure or attachment on terms and conditions proposed by the Borrower and accepted by IFAD.

113. *Initial Deposit into the Designated Accounts (Authorized Allocation).* Upon the entry into force of the IFAD loan and the Borrower's request, IFAD will make a withdrawal of USD 2.5 million in the aggregate, from the Loan Account and USD 0.5 million in the aggregate from the grant account on behalf of the Borrower and deposit such amounts into the DA to carry out the Programme.

114. *Counterpart government contributions payments* will be made from the Federal budget by arrangement of the MoF, and be used specifically for the Nepalese contributions to the Programme. These contributions will be received annually/trimester in accordance with normal budget procedures.

115. *Withdrawal Applications (WAs)* WAs) would be made on a trimester basis requesting the replenishment of the DA. Such WAs shall be prepared in accordance with IFAD requirements with *Statement of Expense (SOE)* thresholds fixed at USD 50 000 for all cost categories. All expenditures above the established thresholds shall be accompanied by related supporting documentation, as well as all expenditures of every amount related to contracts of value exceeding USD 50 000. The PCO shall prepare and submit the WA to IFAD on a timely basis and within 30 days after the end of each trimester starting from the first trimester after the first disbursement is made or anytime when the DA falls below USD 1 million.

116. **Accounting systems, policies, procedures and financial reporting.** Accounting would be done using the national chart of accounts, based on cash basis of accounting, and using the accounting software developed by ASHA for IFAD projects to meet accounting and reporting requirement of GoN and IFAD. This software, developed by local software developer and being tested for the ASHA and suitable for other IFAD funded projects, will, allow the categorization of expenditures by categories, components, financier and by percentage of financing. In addition, it will automatically prepare WAs, monitor expenditures against approved budget and annual work programmes, generate trimester financial reports and annual financial statements in a format acceptable to IFAD.

Internal Auditing would be performed in accordance with GoN rules and procedures. The District Treasury Comptroller Office⁵³ (DTCO) would perform internal audit missions to ASDP on trimester or semi-annual basis. The DTCO's mandate requires the internal audit team to check the background documentation related to vouchers to ensure compliance with budget allocation, annual work programme and prevailing Laws, effectiveness of internal control system, use of the financial resources in economical, efficient and effective manner, check actions taken to settle the previous internal audit observations and subsequent payment orders presented to DTCO office for issuance of checks. At the end of the mission an internal audit report containing audit observations and relevant recommendations would be issued.

117. In order to have more specific support and approval of MoF, ASDP, on a six-monthly basis, will contract a private internal audit firm to perform internal controls review, propose improvements and issue recommendations. Main duties to be stipulated in the TORs will include monitoring and review of the financial systems and procedures, their application and adherence to the PIM, support the introduction of administrative efficiencies. It will be a good practice to brief OAG audit team on the programme components, methods of implementation, monitoring arrangements, etc. so that they could deliver the reports effectively. Reports prepared by the internal audit firm will be submitted to the attention of the Programme Steering Committee and forwarded to IFAD.

118. Considering the GoN procedures, annual financial statements in accordance with GoN criteria and format will need to be finalized within 35 days after the closure of the financial year (by August 20th). DTCO will perform its regular internal audit and ensure all observations are duly settled before issuing its report and approve annual financial statements (by the end of September of each year). OAG team will visit ASDP after the completion of DTCO work to perform the external audit and will issue the preliminary audit report by the end of the month of October of each financial year.

119. Between the months of October and November ASDP finance team will complete the annual financial statements to be submitted to IFAD and will request OAG to issue its audit opinion by the end of December of each financial year. These arrangements will ensure timely submission of annual financial statements audit reports to IFAD.

120. *Financial management.* As custodians of funds in the Programme Account, the PCOs will undertake the following financial management tasks:

- (a) Ensure that Programme expenditure items and practices are consistent with those of the Government and IFAD;
- (b) Ensure that Programme suppliers and locally paid staff are paid promptly and adequately through liaison with MoF and the IFAD Country Office finance staff;
- (c) Ensure that Programme expenditure is being coded correctly and consistently and that Programme funds are used solely for the purposes for which they were granted and in accordance with relevant IFAD guidelines;
- (d) Establish an asset register for all assets purchased by or provided to the Programme in line with standard IFAD policies;
- (e) Maintain register of contracts and contract payment monitoring form to monitor contract management of all procurement;
- (f) Check monthly Programme financial report for accuracy and appropriateness, and ensure the PCO Senior Accountant is current with events concerning financial reporting issues, errors, trends, payment delays and related matters; and,
- (g) Monitor expenditure monthly against the approved RO-AWPB in order to prepare and send timely fund withdrawal applications to IFAD and review expenditure projections to ensure that expenditure stays within budget. Significant actual or anticipated expenditure variances against the budget should be included in the monthly report to line management together with any recommendations for changes to the budget.

⁵³ The final design mission will review the role of the DTCO in the emerging new Federal structure and, if necessary, reprise its relationship with the ASDP.

121. The Chief Accountant of the PCOs will be responsible for the actual management of these tasks, and will report to the Programme Coordinator.

122. *Governance.* MoF regulations currently require international loan funds to flow through the relevant investment project. Value chain investments co-financed by the ASDP will be identified through a process of rigorous financial and economic evaluation (SIP) led by a MSP convened by the elected DCC and will only proceed to investment following the identification and financial commitment of key private sector investors (agri-businesses, smallholder producers and technical and financial service providers). The ASDP will co-finance supporting public and community market-oriented infrastructure and public/private technical services at municipal and ward level in accordance with agreed ASDP budget allocations and Local Body contributions. Those investments will be identified by participating communities and municipal and ward Local Bodies in accordance with identified value chain development needs and local level strategies and plans and be financed by the ASDP at the request of the Municipal Chairperson, following standard municipal approval processes. Municipal-approved investments would be included in the ASDP AWPB and, following MoF budget approval, will be advanced to municipalities and wards for disbursement against agreed outcomes. Municipalities will submit their disbursement accounts to the Programme on a trimester basis (see para. 115), on the basis of which further advances would be made. Municipalities and wards would be fully responsible for the management of these funds and achievement of the agreed outcomes. Should GoN regulations concerning the disbursement of loan funds change, the programme would revise its disbursement arrangements accordingly. Should GoN regulations concerning the disbursement of loan funds change, the Programme will revise its disbursement strategies in accordance with prevailing GoN regulations, including devolution of conditional funding for activities implemented by the municipality, on completion of a fiduciary due diligence of the municipality as a cost center.

123. *Taxation:* The proceeds of the IFAD financing may not be used to pay taxes which will be part of the contribution of GoN to the programme. Considering the current taxation scheme for VAT at 13 per cent, GoN contribution to all categories of expenditures foreseeing the purchase of goods and services will be fixed at least at 15 per cent. Social security benefits (employee's portion) and income tax (employee deductions) are eligible for IFAD financing.

124. *IFAD Policy on Anti-Corruption and Fraud:* It is IFADs policy to require that the staff of IFAD, (including beneficiaries of IFAD loans) as well as all bidders, suppliers, contractors and consultants under IFAD-financed contracts observe the highest standard of ethics and integrity during the procurement and execution of such contracts. Mechanisms for whistle-blowers to access IFAD systems are provided at the following link: <http://www.ifad.org/governance/anticorruption/how.htm>.

D. Supervision

125. The Programme will be directly supervised by IFAD, in accordance with the on-going arrangements in Nepal. The IFAD Country Office will manage the supervision, IFAD staff and consultants will attend the Programme start-up workshops, and specialist consultants and staff will continue to be involved in supervision and implementation support. The initial supervision and implementation support mission will take place soon after Programme commencement. Further supervision missions will be undertaken annually and complemented by short and focused follow-up missions as appropriate. Supervision will be based on IFAD's operational modalities and practices. As far as possible, the identity of personnel engaged in supervision and implementation support will not be changed frequently unless there are compelling reasons to do so. The frequency and composition of supervision missions will be determined in light of actual requirements and in accordance with agreements between IFAD and the Government.

E. Risk identification and mitigation

126. The main identified risks for this Programme are identified in Table 1.

127. At the Programme Goal Level, the risk of external shocks to the macro-economy has the greatest prominence. This risk is ever present in a relatively small and politically volatile economy such as that of Nepal, particularly with the on-going constitutional change process. This is a significant risk for the Programme. At the national level, sound macro-economic policies and the maintenance of the Nepal rupee fix to the Indian rupee are the main means of mitigation of this risk. The main mitigation measures at the Programme and enterprise levels are the emphasis on sound financial analysis of sub-Programmes, with emphasis on quality, high productivity and low cost per unit of output value.

128. At the Development Objective Level, key risks are associated with that of the maintenance of stable socio-economic conditions in the Programme area, with business regulatory systems and with the effective communication of nutrition messages. Province 6 is enjoying economic growth leading to reduced poverty, with the biggest socio-economic risk associated with climatic disaster. The Programme will advance the national agenda for climate change adaptation and will ensure that all Programme-financed interventions are climate change adapted. The relatively weak private business environments in the provinces is a significant risk and the newly formed Province 6 and its municipalities will need to commit to an improved investment environment, Nutrition behavioural change communication is now well established in Nepal, supported by the multi-sectoral nutrition strategy and plan, and should not be a high-risk activity in Province 6.

129. At the Outcome/Output Levels, an important risk is that there is insufficient skilled and efficient contractors and service providers to implement the Programme in a cost-effective manner. Rigorous screening and investigation of potential contractors prior to engagement, supported by a cost and quality-based consultant/NGO selection process can deal with this risk adequately. The experience of the IFAD country office and the PCO in this respect remains vital. In some circumstances, particularly for the social services support being provided by NGOs, it may prove to be necessary for some intensive training and mentoring of service providers. This is accommodated under Sub-component 4.

130. Associated with this risk is that of the lack of procedures and professional experience of administrations of the recently established Province 6 and associated municipalities and wards. This risk is explicitly recognised in the Programme design, and training and mentoring will be provided to build institutions and change the skills and mind-sets of the relevant officials.

131. There is a risk that integrated disaster risk management and vulnerability planning are not effectively integrated into ward and district-level planning, which will particularly threaten the sustainability of public infrastructure investments. The mitigating factors for this risk are: (i) substantive investment in CC orientation; (ii) careful screening of all investments proposed; and (iii) adoption of the closely mentored inclusive approach to participatory planning of development.

132. "Elite Capture" of benefits targeted for poor inhabitants of the Programme area is a risk. Although this risk is significant, there are several in-built devices within the Programme design that mitigate this. These include: (i) support to the creation of farmer-led governance and service supply institutions at municipal and ward level; (ii) the promotion of a user pays service mode; (iii) the adoption of the closely mentored inclusive approach to participatory planning of development; (iv) the careful screening of all public investments proposed through participatory planning processes, including ensuring an effective "voice" for disadvantaged people; and, (v) the rigorous use of screening and approval of private investment proposals to ensure that there are strong backward linkages to the primary target group.

133. Financial service providers may not be sufficiently interested to invest in Programme-targeted value chains. Past performance by leading rural financial service providers has demonstrated this risk. It will be alleviated by: (i) the strengthening of cooperative rural financial service providers; (ii) increased emphasis on savings; (iii) development of new financial products; (iv) investment opportunities in profitable, climate-adapted production systems and value chains; and, (v) GoN policies to promote commercial bank investment in rural areas, including agriculture.

134. A detailed description of potentially negative social, environmental and climate risk factors and mitigation measures can be found in the SECAP RN.

IV. Programme costs, financing, benefits and sustainability

A. Programme costs

135. The main assumptions underlying the derivation of Programme costs and the financing plan are:

- The programme costs are based on August 2017 prices;
- The proposed Programme will be financed over a six-year period (2018-2024).
- Inflation. Inflation in Nepal has fallen to about 8.5 per cent per annum (p.a.) in 2016 and is expected to remain at about 8 per cent p.a. to 2021 Foreign inflation was set at 2 per cent p.a. over the Programme period.
- Exchange Rate. The Base Exchange rate for this analysis has been set at NPR 102 to USD 1 as an official exchange rate prevailing in August 2017 (rounded).
- The Programme costs are presented in both NPR and USD. Conversions from current USD values into Nepalese rupees use constant purchasing power exchange rates:
- Taxes and Duties. There is value added tax (VAT) of 13 per cent levied on all imported and locally procured goods and services. Vehicles have a tax of up to 230 per cent depending on an engine power. International technical assistance does not carry any taxes. Social security benefits (employee's portion) and income tax (employee deductions) are eligible for IFAD financing.

136. The Government will finance the cost of all taxes on goods and services procured under the Programme. GoN will also finance some PCO staff and operating costs and, through Municipal budgets, contribute to the cost of infrastructure development.

137. The total investment and incremental recurrent Programme costs, including physical and price contingencies, as detailed in Table 4 are estimated at about USD 68.1 million (NPR 7.0 billion). Physical and price contingencies make up 21 per cent of the total Programme costs. The foreign exchange component is estimated at USD 5.7 million or about 8 per cent of the total Programme costs. Taxes and duties make up approximately USD 8.3 million (12.1 per cent). Programme management costs amount to USD 7.6 million (about 11.2 per cent of the total Programme costs). Hard investments in equipment, co-financing value chain development and public and community infrastructure, constitute 60 per cent of total Programme costs and 58 per cent of the IFAD loan amount. International TA for support forms 0.7 per cent of total Programme costs and 1.1 per cent of the IFAD loan and grant financing and is fully covered by grant finance.

Table 4. Programme Costs by Component and Output (USD)

	Municipality		IFAD Loan		IFAD Grant		IFAD Other		Swiss Agency for Development Cooperation		Beneficiaries		Private Sector		The Government		Total		
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	
A. Value chain development /a																			
Inclusive and sustainable agriculture value chains expanded and diversified /b	-	-	10 179 502	48.1	488 025	2.3	-	-	-	-	4 230 925	20.0	3 273 045	15.5	2 998 228	14.2	21 169 724	31.1	
Market-oriented infrastructure functional /c	2 243 849	12.1	2 621 631	14.1	-	-	10 000 000	53.7	-	-	1 325 658	7.1	-	-	2 428 671	13.0	18 619 810	27.3	
Rural financial services funding value chain development /d	-	-	3 463 962	15.9	332 396	1.6	-	-	-	-	-	-	214 864	1.0	601 683	3.0	4 612 905	6.8	
Agriculture services sustainably support innovation and value chain development /e	1 196 246	7.4	8 182 394	41.4	851 182	4.1	-	-	3 000 000	14.7	1 124 864	7.0	-	-	1 703 293	8.6	16 058 579	23.6	
Subtotal	3 440 096	5.7	24 448 030	40.4	1 671 602	2.8	10 000 000	16.5	3 000 000	5.0	6 681 448	11.1	3 487 908	5.8	7 731 875	12.8	60 461 019	88.8	
B. Programme management	-	-	3 751 911	49.2	128 398	1.7	-	-	-	-	-	-	-	-	3 748 962	49.1	7 629 270	11.2	
Total PROJECT COSTS	3 440 096	5.1	28 200 000	41.4	1 800 000	2.6	10 000 000	14.7	3 000 000	4.4	6 681 448	9.8	3 487 908	5.1	11 480 836	16.9	68 090 289	100.0	

B. Programme financing

138. An IFAD Loan of USD 38.2 million will finance 56.1 per cent of total Programme cost, including: 48.1 per cent of Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified, for which the total cost is USD 21.7 million; 67.8 per cent of Sub-component 2: Market-oriented infrastructure functional, for which the total cost is USD 18.6 million; 75 per cent of Sub-component 3: Rural financial services for value chain development strengthened, for which the total cost is USD 4.6 million; 51 per cent of Sub-component 4: Agriculture services sustainably support innovation and value chain development, for which the total cost is USD 16.1 million and 49.2 per cent of the Programme Coordination Component, which has a total cost of USD 7.6 million. An IFAD grant of USD 1.8 million (2.6 per cent of total cost) will support Programme specialised TA, training and studies. SDC will provide a grant of USD 3.0 million

139. **Technical Assistance.** In alignment with IFAD Grant Policy and the Government of Nepal's Development Cooperation Policy (2014), given Nepal's current status as a highly concessional borrower, the Grant funds, of USD 1.8 million, have been specifically sought to finance international and national technical assistance in the areas where it could would provide for the capacity development of the newly decentralized offices in municipalities and wards, and build the sustainability of this programme. The major activities envisioned under Grant financing include (i) development of the Strategic Investment Plans for up to 10 products to ensure their viability for value chain development; (ii) Technical Assistance to build the business development services that will be offered by ASDP; (iii) Technical assistance to capacitate the devolved DCCs in convening the multi stakeholder platforms; (iv) Technical assistance to ensure that the financial service providers have sufficient risk appetite and products to promote the move to rural areas and to lending to small holder farmers within a value chain; (v) Technical assistance for the implementation of household methodologies towards the empowerment of women; and (vi) Technical assistance towards linking in with on-going nutritional interventions and building the BCC in the devolved GoN structure.

140. Smallholder beneficiaries will contribute approximately USD 6.7 million (10 per cent of total cost) as co-financing of the community infrastructure (at least 15 per cent) and value chain group co-financing (at least 50 per cent). Private entrepreneurs will contribute USD 3.5 million (5.1 per cent of total cost) to finance at least 70 per cent of the value chain processing investments (including not less than 35 per cent in cash or credit) to be contributed by the benefitting businesses.

141. The Government contribution of USD 11.5 million (16.9 per cent of total costs) will cover all taxes and duties on all Programme inputs that involve funding from the IFAD Loan/Grant (USD 8.3 million), and the GoN contribution to municipal public good and public-private infrastructure development and some PCO staffing (USD 6.6 million). Table 5 provides a summary by the programme financing plan by outcomes.

Table 5. Financing Plan by Component and Outcomes (USD)

	Municipality		IFAD Loan		IFAD Grant		IFAD Other		Swiss Agency for Development Cooperation		Beneficiaries		Private Sector		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Consultancies	-	-	5 659 493	53.0	775 032	7.3	-	-	3 000 000	28.1	-	-	-	-	1 237 682	11.6	10 672 208	15.7
2. Equipment & materials	-	-	899 958	66.3	280 852	20.7	-	-	-	-	-	-	-	-	177 122	13.0	1 357 932	2.0
3. Goods, services & inputs	-	-	511 844	60.4	10 530	1.2	-	-	-	-	-	-	214 864	25.3	110 586	13.0	847 823	1.2
4. Grants & subsidies	562 432	2.6	9 499 020	44.2	-	-	-	-	-	-	5 355 789	24.9	3 273 045	15.2	2 803 543	13.0	21 493 829	31.6
5. Workshops	-	-	815 684	62.1	326 240	24.8	-	-	-	-	-	-	-	-	171 288	13.0	1 313 212	1.9
6. Operating costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 225 633	100.0	2 225 633	3.3
7. Salaries & allowances	-	-	1 619 045	62.5	-	-	-	-	-	-	-	-	-	-	970 913	37.5	2 589 958	3.8
8. Training	633 814	7.0	6 844 553	75.5	407 346	4.5	-	-	-	-	-	-	-	-	1 182 857	13.0	9 068 571	13.3
9. Vehicles	-	-	473 835	62.5	-	-	-	-	-	-	-	-	-	-	284 301	37.5	758 136	1.1
10. Works	2 243 849	12.6	1 876 588	10.6	-	-	10 000 000	56.3	-	-	1 325 658	7.5	-	-	2 316 911	13.0	17 762 987	26.1
Total PROJECT COSTS	3 440 096	5.1	28 200 000	41.4	1 800 000	2.6	10 000 000	14.7	3 000 000	4.4	6 681 448	9.8	3 487 908	5.1	11 480 836	16.9	68 090 289	100.0

C. Summary benefits and economic analysis

A. Summary benefits and economic analysis

142. The ASDP would target a minimum of 35,000 households. Assuming a 75% success rate, the ASDP would contribute to the reduction of poverty and food insecurity in around 26,250 households in the hill and mountain areas of Province 6. The projected household and beneficiary entry into the Project are shown below in Table 6.

143. Direct benefits would accrue to the producers' households as well as agri-industry entrepreneurs and employees through the expansion and diversification of inclusive and sustainable value chains facilitated by market orientated infrastructure, innovation in rural financial services and transformed extension provision. The later would develop participatory and pluralistic services via the newly established AFEC-CASEC network. The foundation of the benefits quantified in the financial and economic analysis is the incremental production at household level realised in the apple, ginger, off-season vegetable, citrus, turmeric, timur, potato, walnut, goat meat and milk value chains.

Table 6 - Village and household participation assumptions

	PY 1	PY 2	PY 3	PY 4	PY 5	PY 6
Total Households						
Incremental	3,500	7,000	11,900	11,200	1,400	-
Cumulative	3,500	10,500	22,400	33,600	35,000	35,000
Households participating ¹						
Incremental	2,625	5,250	8,925	8,400	1,050	-
Cumulative	2,625	7,875	16,800	25,200	26,250	26,250
Beneficiaries participating ²						
Incremental	13,125	26,250	44,625	42,000	5,250	-
Cumulative	13,125	39,375	84,000	126,000	131,250	131,250

1. Illustrative models have been developed to examine the financial viability of the commodities listed above. Net income cashflows and the net present value indicator of selected representative VC households are shown below in Table 7. All VC enterprises examined were found financially viable.

Table 7 - Household Net Incremental Income for Selected Value Chain Commodities

Project Year	Net Household Income Selected Commodities (NPR '000)					
	OSV Low Hills	Apple High Hills	Goats High Hills	Turmeric	Walnuts	Potato Mid Hills
PY1	-3	-20	22	-1	-6	3
PY2	-58	-11	-117	-32	-21	-48
PY3	38	29	25	10	-9	-33
PY4	60	65	32	23	-5	-20
PY5	91	58	57	36	-3	14
PY6	116	43	59	36	-3	51
PY7	181	86	95	36	-3	57
PY8	180	79	154	36	-3	63
PY9	173	63	176	36	42	69
PY10 +	256	107	181	2	47	76
NPV @ 10% ¹	100	81	61	65	28	36

¹ 10% discount rate equivalent to a one-year retail bank deposit rate,

2. **Economic viability.** The economic viability of the project is assessed by comparing the aggregated incremental benefits and costs. The benefit stream is derived from the value of the

incremental production from the 26,250 VC household models phased in over the implementation period. The cost stream is based on the same households' incremental costs plus the value of the ASDP investment and recurrent costs. Both cashflow are projected over a 25-year analysis period that includes appropriate recurrent costs beyond the ASDP implementation to justify the sustained benefits over that period. The incremental net benefit stream so derived, forms the basis of the investment appraisal.

144. **Economic indicators.** The overall ASDP project economic net present value (ENPV) is USD 95.61 million at a 10% discount rate⁵⁴. The economic internal rate of return (EIRR) is 24 per cent. The benefit cost ratio (BCR) of 1.6 indicating a return of approximately 1.6 dollars for every dollar invested. Both results indicate that the project is a worthwhile investment⁵⁵.

145. **Sensitivity analysis.** An increase in programme costs by 10 per cent will reduce the EIRR to 21.1 per cent, while a decrease in overall programme benefits by 20 per cent will result in an EIRR of 17.2 per cent. A one-year delay in benefits reduces the EIRR to 18.7 per cent and a two-year delay to 15.3 per cent. The switching values show that the programme will remain economically viable if benefits decreased by 36 per cent, or programme costs increased by 57 per cent. These returns based on the production modelling are further supported by the additional non-quantified benefits derived from the establishment and/or improvement to public infrastructure as well as the development of financial and agricultural extension services across the broader communities. The investment in the project is therefore viable from an economic perspective.

D. Sustainability

146. The emphasis of the Programme is on enhancement of private sector activity and competitiveness in the specific sub-sectors targeted for investment. The most important determinant of sustainability of such investments and, by extension, provision of expected benefits, is their continued profitability. The approach adopted will provide strong grounds for the expectation that a large majority of investments will endure. The main tools used by the Programme to enhance prospects of private business sustainability will be:

- Enhanced capacity of government staff, farmers and private rural enterprise actors to analyse and prioritize investment choices;
- Rigorous scrutiny of business proposals by ASDP and collaborating financial institutions;
- The commitment of a substantial proportion of investment from the beneficiaries own financial resources;
- The complementary public investment in infrastructure designed to improve market access and, thereby, lower costs, and in private sector financial and technical service delivery;
- The focussed approach to investment within the wards and municipalities having a comparative production advantage.

147. The likelihood of sustainability of the public investments, although not assured, will be further enhanced through the following measures which are built into Programme design:

- The operation of investments will largely be through existing institutions;
- The requirement for a relatively significant contribution from the sponsoring agency or community groups; and,
- The assurance local ownership and participatory planning through the devolution of responsibilities and budgets under the new constitution.

E. Environmental and social category (B)

148. While the Programme may have some environmental and social impacts on human populations or environmentally significant areas, these will be site-specific and less adverse than for a Category A Programme. All potential adverse impacts can be adequately addressed through preventive action

⁵⁴ World Bank current practice in Nepal.

⁵⁵ Decision criteria: ENPV > USD 0; EIRR > 10% (discount rate) and BCR > 1

and gradual mitigation measures: avoidance, reduction/limitation/control measures as outlined in the SECAP. It is suggested that further environmental analysis could be undertaken during Programme final design. In line with IFAD's Social, Environmental and Climate Assessment Procedures, the Programme is classified as Category B.

F. Climate risk category (Moderate)

149. While the risk of climate change impact on livelihoods of vulnerable and marginalised people may be significant in the long term, the immediate climate risks are manageable, provided they are identified and addressed through multi-options approaches that are socially inclusive. The Programme will focus on value chain development as well as diversification of livelihoods with specific attention in promoting adaptive cropping and integrated forage production systems. Improved smallholder access to market combined with extension services has proven potential to increase and extreme poor income. Adaptation measures are to be mainstreaming at institutional and community levels to enhance the climate change adaptation potential of the poor households. With this strategy in place, the climate risk category of the Programme is assessed as moderate classification.

Appendix 1: Country and rural context background

1. **Development progress at glance.** Nepal had a population of 28.9 million people in 2016, of which 81 per cent live in rural areas. The country's per capita GDP was the second lowest in South Asia, recorded as USD 723 in 2016⁵⁶. Nepal has made progress in some key indicators of socio-economic development after its peace agreement, signed in November 2006. Although Nepal has recorded improvement in its Human Development Index (HDI) in recent decades, it has the lowest ranking among the countries of the South Asian Association for Regional Cooperation (SAARC), aside from Pakistan and Afghanistan (2014). Nepal made significant progress in achieving its MDGs (2000 to 2015). Poverty reduced from 42 per cent to 24.5 per cent and the majority of health-related MDGs were achieved, while targets related to hunger, universal primary education, gender equality and women's empowerment were largely met. The latest Nepal Living Standard Survey (NLSS) reported improvements in households accessing a number of services and resources, while the overall state of economic growth, having fallen sharply after the 2015 earthquake, is now heading toward strong recovery, with agriculture remaining as the main driver of economic development.

2. **Economic Development.** Economic growth began to slow in Fiscal Year (FY) 2013/2014, principally due to depressed agricultural production and low investment and then fell sharply to 0.6 per cent in 2015/16 due to the earthquake disaster and an economic blockade. It is now projected to pick up substantially to 4.6 per cent in 2016/17 and then to 4.8 per cent in 2017/18, due to both stronger agricultural sector performance and the ongoing reconstruction effort, which will also generate higher levels of investment and support domestic consumption⁵⁷. Agriculture accounts for almost 1/3rd of GDP. Agricultural sector growth in FY2012 reached 4.6 per cent, but sector performance then fell to 1.1 per cent in FY 2013 due to a combination of weak monsoons, inadequate supply of agricultural inputs during the peak planting seasons, rose slightly to 2.9 per cent in 2014 in response to better monsoon rains, and back to 1.9 per cent in 2015 due to the earthquake disruption. Agriculture is expected to grow in 2017 on the back of average monsoon rainfall. Growth in the industrial sector (which accounts for about 13 per cent of GDP) has historically been held back by a lack of adequate electricity and other supply-side bottlenecks. The 2015 earthquake further slowed industrial activities, with the severely affected districts accounting for about 20 per cent of total manufacturing establishments, manufacturing jobs, and manufacturing value-added in the country. Similarly, nearly a quarter of the total hydropower produced in the country is affected by the earthquake. Industrial growth in 2016 was projected to be -6.3 per cent. There has, however, been significant growth in the services sector in recent years, strengthened by the continuing growth in remittance transfers. It is projected that services output will grow by an average annual rate of 5.6 per cent in 2016/17 and 2017/18 as the sector recovers from the adverse effects of the 2015 earthquakes.

3. Strong consumption growth rather than investment is driving economic activities, with both public and private investment weak in 2016, with private sector investment particularly constrained by the high level of policy uncertainty. Private sector investment is expected to improve in 2017 and several large infrastructure Programmes are likely to accelerate economic growth in coming years⁵⁸. Despite the timely approval of the budget, key capital Programmes have not moved as anticipated, demonstrating shortcomings in preparation and implementation that affect the broader capital Programme portfolio of the government. Owing to high spending pressures, the budget will remain in deficit in fiscal years 2016/17 and 2017/18 (July 16th-July 15th). However, improving revenue collection will keep the budget shortfall at a manageable level. Consumer prices will rise by an average of 8.4 per cent a year in 2017-18, as food price pressures will remain high. Supply disruptions, owing to the country's poor road infrastructure and the impact of the 2015 earthquakes,

⁵⁶ GDP per capita purchasing power parity (PPP) was USD 2,500 in 2015

⁵⁷ Economist Intelligence Unit: Nepal Country Report, 1st Quarter 2017

⁵⁸ China will fund a US\$1.6bn hydropower project in western Nepal. The West Seti River project, approved by the Nepali authorities in April 2015, will be the largest ever scheme financed by foreign direct investment in Nepal, with completion expected by 2022. China also plans to extend its Tibet railway to the Nepali border by 2020.

will continue to put upward pressure on prices. Import price inflation will also be strong in the forecast period.

4. The World Bank has advised government that, for growth to accelerate, government will have to reduce constraints to public and private investment. Their key recommendations include:

(i) addressing systemic weaknesses in the budget preparation and execution processes, including a closer alignment between policy priorities and budgetary allocations; (ii) amplifying good governance initiatives, including more independent audits and strengthened parliamentary processes; (iii) developing strategic infrastructure, particularly in the transport sector; and (iv) initiating reform in the power sector.

5. **Agriculture development.** Agriculture in Nepal is dominated by small and marginal farmers, with 95 percent of land holdings nationally below 2 ha, accounting for 77 percent of cultivated land⁵⁹. The average size of land holdings in Nepal is 0.66 ha, with about 55 percent of land holdings smaller than 0.5 ha, 26 percent between 0.5 ha to 1 ha, and about 14 percent 1 ha to 2 ha. Due to limited cultivable land, the proportion of marginal and small holdings (below 1 ha) is significantly higher in the hilly and mountainous regions compared to the terai⁶⁰. As five of the 10 districts in Province 6 (Surkhet, Salyan, Dailekh, Jajarkot and Rukum) are hilly and the other five are mountainous, a vast majority of farmers in the Province are likely to be small and marginal farmers.

6. Nationally, agriculture suffers from low investment, and inadequate commercialization and modernization. Two-thirds of people in the labour force are engaged in agriculture production, but the majority are unskilled and lack knowledge on updated cultivation practices. The sector largely depends on the monsoon, while access to modern inputs and extension service is limited and relatively poor in quality. Underemployment is a serious problem with many young people leaving farming for foreign employment. Nepal, as a result, has become a net food importer.

7. An Agricultural Development Strategy (ADS), supported by a broad donor coalition, which aims to guide the agricultural sector of Nepal over the next 20 years, was approved in 2015. The ADS envisages a profound shift in the Nepalese economy, from one primarily based on agriculture to an economy that derives most of its income from services and industry. The strategy envisages “A self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security.” This will be achieved through substantial growth in the sector and agro-based exports, underpinned by four strategic pillars of agriculture development: governance, productivity, commercialization and competitiveness, while promoting: (i) inclusiveness (both social and geographic); (ii) sustainability (both natural resources and economic); (iii) development of the private and cooperative sectors, and connectivity to market infrastructure (e.g. agricultural roads, collection centres, packing houses, market centres); (iv) information infrastructure and ICT; and (v) power infrastructure (e.g. rural electrification, renewable and alternative energy sources). Over a 20-year period it envisages agricultural growth rising from the current 3 per cent, to 6 per cent per annum, driven by a 400 per cent expansion in irrigated area, a 400 per cent improvement in soil organic matter and associated 50 per cent reduction in degraded land, a 250 per cent expansion in agricultural land productivity and a significant increase in women’s ownership of land (from 10 per cent to 50 per cent). This growth is expected to lead, over 20 years, to: a 5 per cent surplus in food grain self-sufficiency from a 5 per cent deficit; an 800 per cent increase in agricultural exports; the more than doubling of returns to agriculture labour; and a reduction of rural poverty from 35 per cent to 10 per cent.

8. **Climate risk.** The climate of Nepal varies significantly from one region to the next because of the wide variation in altitude. The variable geo-climatic conditions, unplanned settlements,

⁵⁹ National Sample Census of Agriculture 2011/12, Central Bureau of Statistics (CBS), GoN. Fragmentation due to rising population in the intervening period is likely to have resulted in a larger proportion of smaller holdings.

⁶⁰ Based on http://lib.icimod.org/record/23185/files/c_attachment_213_3038.pdf. Data reported in this publication pertains to CBS 1994 though the cross-regional distribution is unlikely to have changed given the limited availability of cultivable land in the hills and mountains. About 83 per cent of the holdings in the Mountains and 77 per cent in the Hills were reported to be smaller than 1 ha, compared to 59 per cent in the Terai.

degradation of natural resources and growing population pressure make the country increasingly vulnerable to extreme climate events and climate change (CC). Climate model projections indicate that the average annual temperature in Nepal will rise and will vary both spatially and temporally. The annual mean temperature is expected to increase by an average of 1.2° C by 2030, 1.7° C by 2050 and 3° C by 2100 compared with the pre-2000 baseline. Several studies show higher temperature increment projections for winter than for the monsoon season. There is also evidence of more frequent intense rainfall events, more flood days, more variable river flows, erosion and landslides. Warmer winters, particularly at higher altitudes, may mean that less precipitation falls as snow, further accelerating glacial retreat but also reducing soil moisture and accelerating erosion and, therefore, having an impact on winter crops. Warming also leads to early blossom of fruits trees and higher parasites/pests attacks, but increases the altitude at which vegetables can be grown. Greater unreliability of dry season flows poses a potentially serious threat to water supplies in the lean season. These projected changes are consistent with a range of climate models and are predicted to continue.

9. Poor and marginalized people are especially vulnerable to climate variability and change. They generally are the least able to cope with disaster, live in the most at-risk areas and have limited information, knowledge and resources to help reduce their level of risk. The predicted impacts of climate change (CC) will intensify existing vulnerabilities, inequalities and exposure to hazards. In the agriculture sector, smallholder producers face the greatest risk. They tend to own few livelihood assets such as land and livestock, receive a low income, and have a low level of education and limited access to community and government services. They are also likely to be dependent on rain-fed agriculture and occupy land that is prone to floods, drought and landslides. Many of Nepal's poor farmers occupy small parcels of land that barely produce enough food for the family. They rely more on local natural resources such as forests and water and will therefore suffer the most from the drying up of local water sources and changes in vegetation cover.

10. The Government prepared its National Adaptation Programme of Action (NAPA) in 2010, which led to the formulation of the Local Adaptation Plan of Action (LAPA) framework in 2011. The Nepal NAPA describes 9 priority activities, including: (i) promoting community-based adaptation through integrated management of agriculture, water, forest and biodiversity; (ii) building and enhancing adaptive capacity of vulnerable communities; (iii) community-based disaster management for facilitating climate adaptation; (iv) Glacial Lake Outburst Flood monitoring and disaster risk reduction; (v) forest and ecosystem management in supporting climate-led adaptation innovations; (vi) Adapting to climate challenges in public health; (vii) ecosystem management for climate adaptation; (viii) empowering vulnerable communities through sustainable management of water resource and clean energy supply; and (ix) promoting climate-smart urban settlements. The preliminary estimate for NAPA implementation is about USD 350 million.

11. Nepal has prepared a national framework for development of Local Adaptation Plans for Action (LAPAs), which supports the operationalization of the NAPA priorities by facilitating the integration of CC resilience into development planning processes and outcomes from local-to-national levels. The LAPA's purpose is to: (i) enable communities to understand the changing and uncertain future climatic conditions and effectively engage them in the process of developing adaptation priorities; (ii) implement climate-resilient plans that are flexible enough to respond to changing and uncertain climatic conditions (no regrets approach); and (iii) inform sectoral programmes, and catalyse integrated approaches between various sectors and sub-sectors. The LAPA ensures that the process of integrating CC resilience into national planning is bottom-up, inclusive, responsive and flexible. Diverse entry points including agriculture, forestry, public health, water and sanitation, watersheds and micro-finance are used to assess the ways climate resilience can be strengthened.

12. **Poverty in Nepal** is primarily a rural problem, and it is strongly associated with gender, ethnicity, caste and region. It is highest in the mid-western and far-western development regions, though there are pockets of poverty nationwide. The Human Poverty Index (HPI) value for Nepal in 2011 is 31.12. Nationally, the HPI fell by 8.5 points between 2001 and 2011, or 21.4 per cent. There

are variations by rural and urban residence, and by ecological and development regions. Urban-rural differences are considerable, with rural poverty nearly 1.8 times higher than urban poverty. Among ecological regions, the HPI is lowest in the Hills at 29.20 and highest in the Mountains at 38.51. Among the development regions, the value is lower than the national average only in the Western region at 27.20 and the Eastern region at 29.22. The Mid Western region has the highest rank at 36.63, which is 1.3 times higher than that of the Western region (Province 6). High levels of human poverty in the Mid-Western and Far Western regions reflect deprivations in health, education and sanitation. Dailekh, Kalikot, Jajarkot and Salyan, in the Mid-West are amongst the poorest districts.

13. The Human Development Index (HDI) score for Nepal in 2011 was 0.458, the lowest ranking among the countries of the South Asian Association for Regional Cooperation (SAARC), aside from Afghanistan. Despite Nepal ranking second in terms of life expectancy at birth and improvements in education indicators, the country's HDI score is depressed by the low level of per capita income. HDI calculations among the ecological regions show the Hills as having the highest HDI value at 0.520, compared to the Terai at 0.468 and the Mountains at 0.440. Within the development regions, the Central region, at 0.510, ranks at the top, followed by the Western, Eastern, Mid-Western and Far-Western regions. The Far-Western region at 0.435 and the Mid-Western region (Province 6) at 0.447 have the lowest HDI values, reflecting very low scores in all three dimensions of life expectancy, education and income. Within the mid-west (Province 6), Kalikot, Jajarkot and Rolpa districts have HDI scores below 0.4, while Dailekh, Rukum and Salyan have scores below 0.449. The 2011 urban-rural gap in HDI, at 19.7 per cent, is large, reflecting persistent discrepancies in income and education between urban and rural areas.

14. Inequalities in human development by gender, caste and ethnicity have been noted since the first Nepal Human Development Report in 1998. These remain pronounced, despite some evidence that they may be reducing over time. Among the four major caste and ethnic clusters — the Brahmans/Chhetris, the Janajatis, the Dalits and the Muslims — the Brahmans/ Chhetris rank at the top with an HDI value of 0.538, followed by the Janajatis (excluding the Newars) at 0.482, the Dalits at 0.434 and the Muslims at 0.422.

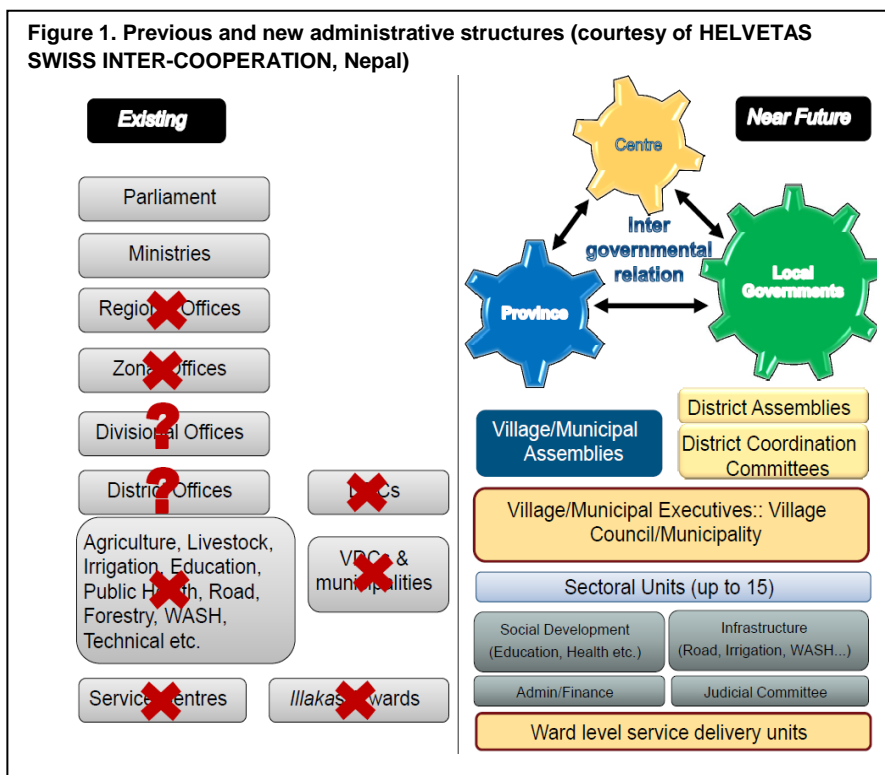
15. Nutrition security remains a key concern in Nepal, with 38 per cent of children under 5 years old stunted and 11 per cent wasted. Malnutrition rates vary geographically. There are more stunted children in rural areas than in urban ones. All rates are highest in Province 6), with 50 per cent stunting, 37 per cent underweight and 11 per cent wasted. The target on the first Millennium Development Goal (MDG) on hunger (goal 1, target 1C) is further out of reach in Nepal than the targets for any other MDGs⁶¹. Nepal's SDG 1 (No poverty) targets for 2030 are "to reduce extreme poverty to less than five percent, reduce poverty gap to 2.8 per cent, raise per capita income to USD 2,500, and raise social protection budget to 15 per cent of total budget.

16. Despite this scenario, Nepal has made significant progress in achieving its MDGs. The majority of health-related MDGs have already been achieved, or are on track to being achieved, except two indicators in MDG 5, the contraceptive prevalence rate and the unmet need for family planning, and one in MDG 6, the proportion of the population with advanced HIV receiving antiretroviral combination therapy (ART). The targets related to poverty and hunger, universal primary education, gender equality and women's empowerment, are also likely to be achieved by 2015, and though the targets concerning environmental sustainability and global partnership are unlikely to be achieved in totality, lessons to facilitate their achievement have been learnt.

⁶¹ As Nepal's SDG Baseline report was only finalised in June 2017, reference is made here to the historic MDGs.

17. **New institutional framework.** The new Constitution of Nepal was promulgated on the 20th of

September 2015. Under the constitution 7 federal states have been established together with 264 urban municipalities (Nagar Palika) with 3,250 wards and 480 rural municipalities (Gaan Palika) (also called Villages) with 3,418 wards, all with directly elected governments. In the new schema, the district is only a coordinating body for the municipalities and has no executive or budgetary role. While there will remain an indirectly elected (from among elected representatives in municipalities) District Assembly and a District



Coordination Committee as its executive to coordinate activities across municipalities in the district, a district court, a district treasury and a district administrative office headed by the Local Development Officer⁶² as the secretariat of the district executive and assembly, no other departments are envisaged in the district. The federal, state level and municipal level will each have authority to make laws, annual budget, make plans and implement them under their respective jurisdiction and functional authority. The municipal level will have responsibility for: city police, co-operatives, local taxes including property & leasing tax, registration fees, vehicle tax, service taxes, tourism tax, advertisement tax, land tax, business tax, entertainment tax, record management, elementary and secondary education, basic health and sanitation, local markets, environment & biological diversity management. The Local Bodies will each have a Consolidated Fund receiving subventions from Federal and Provincial levels as prescribed by a statutory National Resources and Fiscal Commission, taxes, Programmes and loans.

18. **The Present Status of Agricultural Extension in Nepal.** Agriculture extension services in Nepal are dominated by the public sector under the Government of Nepal (GoN). There is, however, also widespread, though not well documented and researched, presence of the private sector, especially as input suppliers and sporadically as freelance specialised technical service providers in local communities. NGOs are active in isolated pockets, usually as partners in donor-aided Programmes. While the public sector is present more or less uniformly, even if thinly, across the country, the presence and strength of private sector service providers tends to vary, depending on the level of agriculture development, commercialisation of agriculture and demand for inputs from farmers.

19. **Public Sector.** Agriculture and livestock extension in Nepal is led by the activities of the Department of Agriculture (DoA) in the Ministry of Agricultural Development (MoAD) and the Department of Livestock Service (DoLS) in the Ministry of Livestock Development (MoLD), respectively. Extension services in the districts are led by the District Agricultural Development of

⁶² The erstwhile District Development Officer has been re-designated as the Local Development Officer and will be a Federal civil servant.

Office (DADO) and the District Livestock Services Office (DLSO) responsible for agriculture extension and livestock service delivery, respectively, in each of the 75 districts in the country. The district staff represent various technical areas including horticulture, agronomy, plant protection, agricultural economics, fisheries, veterinary services, livestock management and agricultural extension. The extension function, however, is not necessarily headed by an extension specialist. The required entry level qualification for district officers is a graduate in agriculture related sciences (veterinary service or livestock management in case of DLSO) or by promotion from Junior Technician (JT) level. Often, as in Surkhet district, a majority of the agriculture staff in the district are promoted from the rank of JT without a university degree. There is no agro-ecological specialisation by way of training or sustained experience.

20. Services in the field are provided through a network of Agricultural Service Centres (ASC) and Livestock Service Centres/Sub-Centres (LSC), for agriculture and livestock services, respectively. There are 378 ASCs and 999 LSCs (including sub-centres) in the country serving 3 754 Village Development Committees (VDCs) and 99 municipalities. The extension network does not reach all the VDCs in the country. Presently the number of service centres is four per district in the Terai and Highland districts and six per district in the mid-Hills with a service centre serving on an average 10 VDCs (range 4 to 11) regardless of the population of farmers, level of commercialization, area cultivated, extent of irrigation, terrain, the types of crops grown, existence of rural/agricultural infrastructure, etc. The service centres principally serve as outreach offices of the district to dispense pre-determined programmes, inputs and services. While farmers can and do visit the service centres to seek advice, procure inputs available under various government programmes and obtain recommendations to the District for available grants/ subsidies, the extension workers do not have to visit farmers according to any prescribed schedule. They typically visit villages to collect data and form new groups to dispense inputs or subsidies under various programmes.

21. Each service centre should have one JT and up to two JTA, though many centres do not have the full complement of staff due to shortage of personnel in the respective departments, with many positions vacant. Both the JT and JTA have 15 months' training after high school in the respective discipline (agriculture or livestock) from accredited technical training institutions or agricultural colleges, followed by three months' probation or internship in the field. The training provides a broad-brush, generalist's understanding of the agriculture/livestock field, with very limited technical depth; it also does not equip the trainees with social mobilisation, group and business development, profitability analysis and business development skills. A JTA normally gets promoted as a JT after about four years' service. As government servants, they can be transferred anywhere in the country and there is no specialisation in spite of Nepal's vast agro-ecological and socio-economic diversity. The agriculture and livestock service centres are often located at different places. As subordinate, frontline civil servants, the service centre staff are loaded with activities such as collection of agricultural statistics, transportation and distribution of agricultural inputs such as seeds and fertilizers, form and register groups, maintain records for their area, receive requests from farmers for inputs and subsidies and verify the bona fide of beneficiaries. Much of their time is thus taken by administrative tasks. Each centre has only one motor cycle for transport between three technical staff, no teaching aids, extension materials or ITC support. Each JT/JTA gets a field allowance of NPR 2,000 monthly which is in the nature of a hardship allowance for being placed in a non-urban locale and is not linked to travel to villages; there is no allowance for travel. Overall orientation of extension remains introduction of improved technologies (principally seeds) to increase productivity and there is little or no focus on integrated pest management, profitability, sustainability, business development, post-harvest processes, storage, etc.

22. Nepal follows a group based approach to extension. Farmers have to form themselves into groups in order to receive any government support by way of extension, inputs or grants, register themselves with the concerned department and renew their registration every two years. Farmers may form themselves into a group to avail benefits and request the concerned service centre for registration or the extension staff may promote groups in order to distribute inputs and grants. The number of groups in each district ranges from 100 to 400 with 22,358 agriculture and 14,360 livestock

farmer groups reported in 2010. The group approach is cost effective and may facilitate farmer to farmer learning, however, unless groups have been nurtured sensitively, the group approach may also lead to elite capture as the poorer, risk averse and socially disadvantaged sections may not come forward.

23. Following the decentralization policy of the GoN and passage of the Local Self Governance Act (LSGA) in 1999, agricultural extension was to be devolved to elected local government institutions with the ASCs and LSCs to be situated at the *llaka*⁶³ level. That will have made the extension network denser with almost two and a half times as many ASCs and LSCs as at present to serve all the 927 *llakas*. Further, extension priorities were to be set through farmer participation at the VDC level by setting up the MADC with representation of farmers and farmer groups. This could not be achieved as elections to the District Development Committees and VDCs were not held after 1998 due to insurgency and these became committees of civil servants at corresponding levels. In the event, decentralisation stopped at the district level, the departments retained control over extension and there is no mechanism presently for farmers to set extension or overall sectoral programming priorities.

24. To summarise and as the Agriculture Development Strategy (ADS) 2014 points out, the limited number of service centres and poorly trained frontline extension staff in the extension network hampers farmer access to extension services. Due to its top-down, delivery and disbursement oriented structure farmers have no role in setting extension priorities. The one-size-fits-all approach to extension delivery through service centres staffed by transferable, generalist extension personnel also ignores the extraordinary agro-ecological and socio-economic diversity of Nepal.

25. Private Sector. Private service providers play an important and steadily growing role in provision of services to farmers. Examples include the operation of small-scale poultry hatcheries; fruit and vegetable nurseries, animal feed and veterinary services, supply of modern farm inputs (seeds, saplings, fertilizers and pesticides) by Agro-Vets; technical guidance by Agro-Vets, traders and aggregators; livestock services by freelance JTAs and Village Animal Health Workers (VAHW); technical support for on-farm development by freelance JTAs and Village Agriculture Workers (VAW); and extension support for livestock, agriculture and horticulture; supply of seedlings and services like pruning and on-farm development by Local Resource Persons (LRP). Some Agro-Vets also employ VAWs, VHWs and LRPs as sales agents who dispense technical advice. Agro-Vets selling pesticides and herbicides must be registered with the government after successfully completing seven days training on the use of pesticides though many do not do so. Though Agro-Vets, VAWs and VHWs are registered with the district agencies, the extent of their presence and scale of their operations is not well researched and documented. What does stand out from the HVAP experience, the experience of the USAID supported KISAN Programme and field observations is that there is widespread presence of private service providers in the field and farmers are willing to pay for quality inputs and services. In fact, the extension staff at the government LSCs can themselves charge a fixed fee as approved by the DLSO for services like castration, deworming and artificial insemination and farmers routinely pay for such services.

26. Field observations indicate that there are many unemployed youths trained as LRPs, VAWs, VAHWs and JTAs/JTAs. Many work on contractual jobs with NGOs in donor supported Programmes, including HVAP as Social Mobilisers and LRPs. Some of them could be the input dealers for fertilizer and other inputs, including recommended practices from extension services.

27. NGOs and civil society institutions. There are several national and local NGOs providing agriculture and livestock extension services in rural Nepal, primarily as partners in donor-aided Programmes in specific pockets. Most rely on VAWs, VAHWs and JTAs as Programme specific staff and thus have limited technical capacity. Apart from their limited outreach and capacity, their operations remain of doubtful sustainability as their funding is largely from donor-aided Programmes.

⁶³ A cluster of about 4 VDCs

28. **The Changing Scenario.** Agricultural extension and support services are undergoing a major transformation in Nepal in the face of decentralisation and devolution embedded in the new Constitution, deep restructuring of the state apparatus ushered in under the new Constitution and adoption of the new Agriculture Development Strategy (ADS) in 2014.

29. The new constitution unambiguously places agricultural extension in the domain of the municipalities. Schedule 8 of the Constitution, listing powers of the local bodies includes 'management, operation and control of agricultural extension' besides another entry as 'agriculture and animal husbandry, agro-products management, animal health'. While 'agriculture and livestock development' is included in Schedule 6 pertaining to powers of provinces and 'agriculture' is also listed in Schedule 9 pertaining to concurrent powers of the three levels, management of agricultural extension is a separate entry only in the list of powers of the local bodies. Thus, with the implementation of the new Constitution, DADO and DOLS will cease to exist and agriculture and livestock extension will devolve to the municipalities. The present service centres (ASC and LSC) will be redeployed in municipalities. and technical staff will be augmented as the number of service centres presently is less than the number of municipalities. There will also be subordinate (JT/JTA) level technical staff at the ward level though their number is yet to be decided.

30. Decentralisation and ADS. Nepal adopted a new, 20-year ADS in 2014. Though the ADS predates the new Constitution, it is largely in harmony with its provisions as it draws on the principles of decentralisation embodied in the 1999 LSGA which have been broadly carried forward in the Constitution. The ADS recognises the extremely limited outreach of the present extension system, the 'progressive policy shift from dominance of public extension system to institutional pluralism' and advocates a 'transformation of the role of government staff from delivery of extension services to overall facilitator of agricultural extension services' with greater emphasis on the delivery at ward level. The ADS, itself, was developed with farmers' participation and considers farmers, their collectives and the private sector as key stakeholders in developing and implementing extension and farmer service strategies with the government playing a coordinating and backstopping role.

31. Towards that goal, the ADS proposes a flagship programme called DSTEP, which aims at decentralizing the extension and research system while fostering coordination of research, extension, and education in order to enhance responsiveness to farmers' and agro-enterprises' needs. A key component of DSTEP is setting up Community Agricultural Extension Service Centres (CAESC) at each ward. The CAESC is proposed to have membership of farmers, agro-enterprises and extension service providers. The finances of the CAESC were to comprise of contributions by members as membership fees, subventions from ward or municipality budget, seed funding from Central and Provincial governments, Programmes and service fees or other economic activities it initiates.

32. To summarise, the agricultural extension and service delivery system in Nepal is slated to undergo major shifts towards decentralisation, farmers' and other stakeholders' participation, and plurality of service providers with the government playing a backstopping and coordination role rather than one of direct services delivery.

33. Implementation of the new Constitutional provisions and the strategies spelt out in the ADS will call for setting up and capacitating mechanisms (regardless of the nomenclature) at the Municipality and wards to manage agriculture and livestock extension services within their territories once elections to these local bodies are completed in May 2017 and they assume office. ASDP will build on this opportunity to foster establishment of participatory and pluralistic extension and farmer service delivery mechanisms in the proposed 10 districts in Province 6, with specific focus on the value chains selected for development. This represents the vision of how the extension system may pan out once the elected governments are in place and have developed their policies, strategies and structure.

34. **Farmers' Organisations (FO) in Nepal.** Farmer Organisations in Nepal broadly form into two categories, groups and cooperatives. Cooperatives are legal persons as these are incorporated under the Cooperatives Act, whereas other groups, though registered with sponsoring government departments are informal associations of persons. A large number of groups exist in rural Nepal,

organised by various sectoral agencies and Programmes. These include farmers' groups organised by DADO and DLSO, groups organised by the Women's Development Department for savings and credit, groups organised by NGOs as part of donor-aided Programmes (usually registered with the department sponsoring the Programme), community forestry users' groups and groups formed by the NACCFL as primary units of the Small Farmers' Agricultural Cooperatives affiliated to it.

35. Farmers' Groups (FG): Farmers have been organised into groups by DADO (farmers' groups) and DLSO (livestock groups) following a commodity group approach to agricultural extension. Major programmes of the two departments go through groups, cooperatives or firms. According to ADS 2014, the number of such FGs in each district ranges from 100 to 400 with 22,358 agriculture and 14,360 livestock FGs reported in 2010. Records of registered groups are maintained by the ASCs/LSCs and consolidated at their respective district offices, though nationally a system of regular reporting and consolidation does not exist and latest data about the number of groups across districts is not available. Groups, on their own or stimulated by the ASC/LSC apply for registration to the DADO/DLSO in a prescribed application form, affixing a NPR 10 revenue stamp. The application must contain the aims and objectives of the groups, pro-forma by-laws, date and place of regular meeting, monthly member contribution to the group fund and applications from all members, and must be signed by the chairman and secretary. It is forwarded by the JTs at the ASC/LSC to their respective district offices with their recommendation. There is no prescribed training curriculum and the JT may conduct one to two training sessions on keeping accounts and minutes. Groups must elect office bearers every year and renew registration every year but there is no limit prescribed for the number of years an individual can hold office through successive elections. There is no evaluation/rating of groups and registration is not cancelled except if a group does not apply for renewal of registration. There is no prescribed limit regarding the size of the group though groups are encouraged to keep membership between 15 and 25, with 25 considered the preferred size. Groups typically tend to have 20 to 35 members. There is no requirement for FGs to ensure social inclusion. Groups are not required to get their finances audited but present the same to a general assembly of the members upon completion of the financial year. Overall, the outreach of DADO/DLSO groups is reported to be minuscule.

36. Left to evolve on their own and with no group process inputs, FGs have largely become transactional groups, playing the limited role of facilitating access to/delivery of specific services through aggregation. FGs also function as savings and credit groups, collecting monthly savings from members and extending loans to them from the pooled funds. Groups met during field visits had accumulated significant savings and the facility to save and access larger pools of funds seems to have emerged as the key motivation over time for continuation in FGs and individuals are often members of multiple groups for this purpose. As the savings and credit function requires recording and processing of transactions, groups tend to be headed by someone, usually a male, who can carry out these tasks and leadership continues to be perpetuated.

37. Cooperatives: Cooperatives in Nepal are incorporated under the Cooperatives Act, 2048 (1992) as amended in 2000. A cooperative (preliminary association) must have at least 25 members (there is no upper limit) and can further federate into sectoral and/or district associations and national associations with prescribed minimum members. Nepal had 33,599 cooperatives at the end of the previous Nepali fiscal year (July 2016) with 6,030,857 members (average membership 179); the corresponding numbers for Province 6 were 4,750, 798,875 and 168, respectively. There were 2,151 cooperatives in Province 6 in the farm sector, broadly defined (agriculture, dairy, fruit and vegetables, coffee, medicinal plants and bee keeping), with a total membership of 209,233 and average membership of 97. Savings and credit, multi-purpose and agriculture, in that order, predominate the themes of cooperatives in the country, including Province 6, and together they account for over 82 per cent of the cooperatives and 92 per cent of membership. Registration of cooperatives has to be done at the concerned Divisional Office of the Cooperatives Department. A cooperative must specify its intended purpose/activities and territory, must get its finances audited by a Chartered Accountant, furnish a copy of its annual report and audited balance sheet to the Divisional Office within three months of closing of the financial year and must get its registration

renewed every year. Cooperatives with a turnover of over NPR 10 million must report monthly. An individual can be a member of multiple cooperatives but can be a member of the executive in only one. As in case of groups, people take membership in multiple cooperatives, primarily to access more credit. Often, members of several FGs come together to form themselves into a cooperative, and FG members individually also join cooperatives. Most cooperatives offer savings and credit services to members besides the activities aligned to its objectives but must restrict such transactions within 49 percent of their turnover, except in case of cooperatives registered for savings and credit, in which case no other activity can be taken up. The cooperative department has a provision to conduct training for cooperatives on basic accounting, cooperative management, etc. but is constrained by limited budget and staff. Cooperatives can also seek training inputs from the department for a fee. Besides the divisional offices, training is also conducted by the five regional offices and a central training institute run by the department. Overall, the department is understaffed to support and regulate cooperatives effectively. For example, the Surkhet divisional office responsible for three districts and 1,086 cooperatives has only 11 staff, mostly at the sub-ordinate civil service levels and often seeks help from the District Cooperative Union in its regulatory function. Cooperatives with larger volume of business and larger number of members, mainly the savings and credit and multi-purpose cooperatives, employ office staff (average number of employees is 1.68 per cooperative nationally and 1 for Province 6).

38. *Cooperatives and the new Constitution:* Cooperatives are not included in the central list in the new Constitution but are part of the provincial and municipal list of powers and in the concurrent lists. Once constituted, the municipal and provincial assemblies are likely to make laws to regulate cooperatives, especially as cooperatives are now considered one of the pillars of the Nepalese economy and as people's institutions, are important politically. The most likely scenario is that municipalities will regulate cooperatives that operate within the municipal limits (most agriculture cooperatives), provinces will regulate cooperatives working across municipalities and their district/provincial federations and the federal government will regulate cooperatives working across provinces and national federations. The present Cooperatives Act is also slated to be amended and one expected reform is to limit individual membership to one cooperative.

39. **Rural finance access.** The 2014 Finscope survey report estimated that 40 per cent of Nepali adults are banked and 51 per cent are served by formal institutions (for savings, credit insurance or remittance). It also reported that 18 per cent of adults are excluded in the sense that they do not access either formal or informal financial services. The Mid-Western region is comparatively underdeveloped in terms of access to finance when compared with the rest of Nepal. It has the largest proportion of the population excluded from financial services – both formal and informal. It has also the least coverage by formal institutions compared to other regions.

Table 1 – Access to financial services regional data

Region	per cent of population under category of access to financial services			
	Banks	Other formal institutions	Informal arrangements	Excluded
Eastern	38	25	20	17
Central	42	20	17	21
Western	48	18	21	13
Mid-western	29	19	28	24
Far-western	39	18	33	10

40. In access to credit, the mid-western region fares worse in terms of formal credit but including the informal arrangements the exclusion in the region is the lowest.

Table 2 – Access to credit by region

Region	per cent of population under category of access to credit			
	Banks	Other formal institutions	Informal arrangements	Excluded
Eastern	10	8	31	51
Central	12	8	24	56
Western	11	8	25	56
Mid-western	6	9	36	49
Far-western	8	7	35	50

41. The access to formal credit is for only 15 per cent of the adults in mid-western region while 36 per cent access credit from informal sources. Forty-nine per cent of adults do not access any form credit, which is likely to preclude many of them from undertaking viable livelihoods. Any value chain activity in the context of low availability and access to credit will be a difficult proposition unless formal financial institutions are persuaded to expand operations, with awareness building among the population.

42. **Nepal Rashtra Bank (NRB)**, the Central Bank, through policy directives, has been encouraging the banking institutions to lend to productive sectors⁶⁴, including agriculture. Banking institutions are required to lend at least 12 per cent of their total credit portfolio to productive sector and NRB has further directed that, as part of productive sector lending, commercial banks, development banks and finance companies are required to provide 5 per cent, 4.5 per cent and 4.0 per cent respectively of their total credit portfolio to the deprived sector (loans up to NPR 1 million to poor and vulnerable households in rural and urban areas).

43. This fiscal year, NRB has further directed that commercial banks are required to lend at least 5 per cent of total portfolio to the deprived sector out of which 2 per cent should be lent directly on their own to the deprived sector. On representation from the commercial banks, however, this decision has been rolled back. NRB has now directed that the banks should provide at least 10 % of the total loan portfolio to agriculture which include production credit to farmers and also credit to agribusinesses. This policy directive is expected to give a boost to agriculture lending since as per NRB at present about 7.5 per cent of the banks' portfolio is in agriculture.

44. The other policy instruments that NRB is using to improve lending in rural areas are through (i) branch licensing policy: banks and financial institutions (BFIs) are required to establish rural branches in each municipality during 2017-18 to facilitate treasury operations. With this increase in branch network the access to banks for rural households will improve. To assist BFIs to establish branch networks in the pre-defined remote districts, an interest free loan is provided; (ii) interest subsidy of 6 per cent on agricultural loans for new customers up to a cap of NPR 3 billion loan disbursement per bank; and (iii) the promotion of branchless banking and agent networks to mobilise savings and remittances.

45. NRB assures that there is no liquidity crunch in the market and that the occasional credit crunches that may occur are also addressed with the adjustment of policy instruments. With the recent policy directives for agriculture lending, the banks will step up lending to agriculture. A separate credit line is, therefore, not warranted.

46. **Financial service providers in Programme area.** Commercial banks, development banks, finance companies and microfinance development banks (MFDBs), financial intermediary NGOs, district/multi district financial cooperatives and village level cooperatives are operational in the Programme area. District wise, the number of banking and financial institutions as reported by NRB are detailed in Table 3.

⁶⁴ Agriculture, energy, micro, small and medium enterprises, certain types of industries notified by NRB.

Table 3 – Branch network of banking and financial institutions

	Commercial banks	Development banks	Finance company	MFDB	Total	Population	Avg. per branch population
Surkhet	14	7	0	11	32	350,804	10,963
Dailekh	8	0	0	3	11	261,770	23,797
Salyan	7	0	0	8	15	242,444	16,163
Jajarkot	3	1	0	3	7	171,304	24,472
Kalikot	3	0	0	2	5	136,948	27,390
Jumla	5	0	0	2	7	108,921	15,560
Mugu	2	0	0	1	3	55,286	18,429
Dolpa	3	0	0	1	4	36,700	9,175
Humla	3	0	0	0	3	50,858	16,953
Rukum	6	1	0	7	14	208,567	14,898
Total	54	9	0	38	101	1,623,602	16,075

Source: Banking and financial Statistics, mid-July 2016, Nepal Rashtra Bank

47. The Mid-western region does not fare well compared to other regions, except for Far-western region, in terms of branch network (Table 4).

Table 4- Regional Distribution of Branches (%)

	Commercial banks	Development banks	Finance companies	Micro finance development banks
Eastern	18.37	12.76	10.65	27.47
Central	49.64	35.72	57.87	34.82
Western	17.42	39.13	26.39	19.95
Mid-western	9.04	8.99	4.17	10.5
Far-western	5.53	3.4	0.93	7.26

Source: Banking and financial Statistics, mid-July 2016, Nepal Rashtra Bank

48. While commercial bank branches are urban centric and cover nearby VDCs (now Wards), micro finance development banks operate in more rural and remote villages. MFDBs and Cooperatives have relatively larger presence in the Programme areas.

49. **Commercial banks and development banks** have offices in the main urban centres. Although they finance some agro-processing, agro-trading and related businesses, with the exception of some of the largest agricultural conglomerates, financing for primary farming is restricted to walk-in customers and usually within a 30-kilometre radius of the branch. With the increase of the branch network to each rural municipality, financial services access is likely to improve during the next two years.

50. Agriculture Development Bank, (AgDB), a state-owned bank, is the major financier of agriculture related activities, with about 30 per cent of its total loan portfolio in agriculture. The bank has branches in all Programme districts. While individual and informal group lending is carried out through the branches, bulk lending to co-operatives is carried out through the bank head office. All loans are collateral based. AgDB is one of the major channels for Government's interest subsidy on agriculture loans. Branches are provided budgets under subsidized interest lending, which is usually limited and not all branches get such budgets.

51. Private sector banks such as Bank of Kathmandu, Kumari bank, NMG, Lakshmi, Prabhu, Global IME and Citizen bank have branches in the Programme districts, where they are opening additional branches as well as branchless banking outlets. Some of the donor programmes such as Sakchyam, funded by DFID are partially covering the costs of branch expansion into mid-western and far-western regions. Some banks are using their branchless banking agents for loan documentation, which are then verified and sanctioned by the branch manager and the cash dealings of disbursement and repayments are carried out through the agent network. That agent network, however, is only operational in a radius of 30-kilometers from the branches. While only individuals and sole proprietors are at present enrolled as agents, some banks are keen to enrol cooperatives as agents. The branches as well as the head offices of these banks were met during the mission. The discussions are summarized in Appendix 1, Annex 1. Private sector banks are keen to partner with commercial agriculture Programmes HVAP and the proposed ASDP because: (i) Programme interventions to provide forward and backward linkages apart from productivity enhancement support and insurance is likely to reduce the risks in agriculture lending; (ii) commercial farmers are expected to have adequate income and cash flows to repay loans; and (iii) this provides an opportunity to fulfil the direct lending targets for the deprived sector.

52. All the banks are lending to agri businesses such as agro vets, agri input suppliers, traders, processors and transport operators, primarily for working capital, with loan security either collateral based, or based on an assessment of the receivables, stock and net trading assets. Financing of these entities is mostly on a stand-alone basis, without linking their business to value chains. Linking inputs to outputs, markets and logistics of storage and transport could improve bank understanding of the entire value chain and thus enable it to take better credit calls in other parts of the chain, also to secure repayments, by trapping the receivables of the borrower. Some commercial banks such as NMG bank and Kumari bank are also lending to cooperatives, especially agri-producer cooperatives with larger membership and loan needs. Loan processing and sanctions are centralised at head offices in commercial banks.

53. A few banks are also providing value chain financing including (i) wholesale lending for dairy animals through milk collection centres with agreement from the Dairy Development Corporation (DDC) for the repayment of bank loans through revenue trapping out of milk sale proceeds; (ii) financing of farmers for receivables from sugar mills; and (iii) financing of ginger farmers on the recommendation of the ginger processing factory, Organic Mountain Flavour (OMF), with the proprietor providing assurance for repayment of loans from the payables to farmers supplying ginger. These loans have been provided at an interest rate of between 6 per cent to 10 per cent per annum. Post-harvest marketing loans through warehouse receipt financing is in a nascent stage, with Banijya bank and Global IME lending against warehouse receipts, but banks are keen to explore this security mechanism after the stabilisation of warehousing and collateral management system. The key issues in financing against warehouse receipts are (i) reliable warehousing facilities in view of the fluctuating electricity supply; (ii) limited availability of trustworthy ware houses with good warehousing practices; (iii) the limited proximity of warehouses to farmers and their organisations.

54. Branchless Banking. Branchless banking, through the use of agents and part-time offices, as well as other forms including mobile internet banking, mobile phone banking, automated teller machines and points of sale devices, has been introduced to enhance rural outreach by reducing transaction costs and avoiding the high fixed costs of maintaining branches. Many of these innovations have been facilitated by new information and communication technologies. Most of these innovations still operate on a limited scale and it is too early to assess their financial viability, poverty outreach and impact, however, a few are showing promise to` overcoming the boundaries of conventional financial services provision based on brick and mortar retail outlets of BFIs. Savings, remittances and payments are the usual products offered through branchless banking.

55. Micro finance development banks. The large micro finance development banks (Nirdhan, Deprosc, Chhimek, Swalambhan, Gramauththan) are operational in the Programme area, as well as other smaller MFDBs. These MFIs provide group based lending largely following the Grameen model

of joint and several liability (please see Appendix 1, Annex 2 for key discussions with MFDBs). They reportedly target women, from more marginalized sections such as *Dalits* and *Janajatis*. Compulsory savings are mobilized as well as a range of individual savings. A pension product that doubles in value in 15 years is also offered by some MFDBs. Loans up to NPR 100,000 (USD 943) are collateral free and the maximum loan size is NPR 5 million (USD 47,170). The maximum loan term is 3 years. The rates of interest range between 18 per cent to 21 per cent for different MFDBs. Nirdhan and Chhimek offer agricultural loans that are structured like micro finance loans, with the maximum loan duration of 2 years. Some MFDBs are offering insurance of livestock, in partnership with insurance companies. Twenty-five per cent of the premium collected is provided to the MFDBs as commission (15 per cent) and management costs (10 per cent). MFDBs are operational even in remote wards (formerly VDCs) along the road corridors and thus can be potential lenders for value chain households. During mission interactions, MFDBs showed keenness to finance the sub-proposals of different value chain groups; however, the groups will need to be structured as per MFDB norms (5-member joint liability groups (JLGs) and 5 to 6 JLGs to form a centre).

56. Cooperatives. There are 33,599 cooperatives functional in the country with 6.03 million members, 50 per cent being women. These cooperatives, as of mid-July 2016, have mobilised NPR 71 billion share capital (USD 670 million) and NPR 295 billion (USD 2,78 billion) as savings. The loans outstanding are NPR 289 billion (USD 2.7 billion). This amounts to 18 per cent of the combined deposit and 20 percent of the combined credit of the commercial banks and financial institutions regulated by NRB. This substantiates the significant role played by cooperatives in the financial sector. There are 4750 cooperatives functional in the mid-western region with 798,875 members, out of which 59 per cent are women. As of mid-July 2016, these cooperatives have mobilised NPR 4.5 billion (USD 42 million) as share capital and NPR 14.4 billion (USD 136 million) as savings and have loans outstanding of NPR 19.6 billion (USD 185 million). Cooperatives are registered with and regulated by Ministry of Cooperation (MoC). While most are functional in the limited area of a single ward, some are operational across a district and few have multiple-district operations.

57. Savings and credit, producer and multipurpose co-operatives are more in number and almost all cooperatives undertake savings and credit operations. The numbers of agriculture/producer cooperatives is increasing since further registration of multipurpose co-operatives has been put on hold and savings and credit co-operatives are registered only in rural areas. Lending to producer cooperatives, moreover, is considered as direct deprived sector lending and getting external loans from banks is also easier. The membership of cooperatives is largely inclusive and thus cooperatives play a key role in financial inclusion as compared to banking and financial institutions. During field visits, it was seen that even in remote wards, cooperatives are functional in the Programme area.

58. Village cooperatives. There are multiple co-operatives in a village, each with a small membership, ranging between 50 to 350 members, often including overlapping membership. As per the present cooperative law, a member can be a Board member in only one cooperative, but can be an ordinary member in multiple cooperatives. Cooperatives offer 2 to 3 types of savings and loan products. The loans are usually up to NPR 100,000 and rate of interest ranges between 15 per cent to 18 per cent. The co-operatives need to work within a margin of 6 per cent. About 20 per cent of the village co-operatives are estimated to be borrowing externally from different banking and financial institutions to fulfil members credit needs. The National Cooperative Development Bank (NCDB) and RMDC are the major lenders; NCDB lends only to cooperatives; there are 2 branches in the Programme region, which reportedly cover 7 Programme districts. Loans are restricted 5 times the share capital. There is no recent study on the status and capacity development needs of the village-level cooperatives. The Cooperative Department does not grade or rate the cooperatives. Cooperatives met during the field visits expressed the need for business planning, financial management software and external resource mobilisation to fulfil member needs.

59. Small Farmers Agricultural Cooperatives Limited In the Programme area, 31 SFACLs are operational and are organizationally linked to the SFDB, which provides them with wholesale finance. These cooperatives are well nurtured and capacitated by NACCFL and SFDB. The average

membership is 660, nearly 95 per cent of the members being women. They provide a number of savings and loan products suitable for agricultural operations and investments. The maximum loan term is for 3 years. SFDB lends to very few co-operatives other than the SFACLs formed by them, since the bank is conscious of the quality of the institutions.

60. Provincial Co-operatives There are few large co-operatives in each district, which have operations in many wards in the district and some of them have multi district operations. They form and work with groups of women, usually based on the Grameen bank-like joint and several liability group-model. They offer a variety of savings and loan products including for education, house improvement, etc. These cooperatives are borrowing from 5 to 6 financial institutions. The Rashtriya Microfinance Development Centre, National cooperative bank, and many commercial banks are wholesale lenders to these cooperatives. At present, there is adequate funding from commercial and development banks for well-functioning cooperatives, as lending to such cooperatives enables banks to fulfil their deprived sector lending targets. These co-operatives, however, are planning to mobilise additional internal resources of share capital and savings since the funds available are likely to decrease over time. These institutions are keen to develop agricultural credit products to cater to the needs of rural producers and also to differentiate themselves from MFIs.

61. Cooperative support organisations. RMDC provides wholesale loans to MFIs, including co-operatives. Out of their 210 partners, 80 per cent are reported to be cooperatives. Small co-operatives with net worth of NPR 500,000 can also borrow from RMDC provided they are well managed. RMDC also provides training and mentoring support. SFDB usually promotes new Small Farmers Agricultural Cooperatives Limited (SFACLs) and lends to them. SFDB partners with the National Agriculture Central Cooperative Federation Limited (NACCFL) for initial mobilization, capacity building and training of the SFACLs and, once the SFACLs reach maturity, SFDB takes over. NACCFL also works with other donor programmes to strengthen agricultural cooperatives. In collaboration with Magnus consultancy, NACCFL has also established software adopted by 600 of its 800-member cooperatives. The software tracks financial services and commodity specific data.

62. It is generally perceived that cooperatives, particularly in the Programme area, require intense training and mentoring support to function effectively. The training needs include accounting and financial management, good governance and adoption of cooperation principles, business planning and raising internal and external resources to fulfil member needs, product development, etc. Government should also prioritise consolidation of cooperatives and their membership to bring down their number and reduce multiple membership in order to improve viability. A proposed bill on cooperatives reportedly has provision of allowing membership to an individual to only one type of cooperative, which is likely to lead to such consolidation.

63. Rural insurance. Rural insurance is nascent in Nepal with only 4 years of experience. The Beema Samiti (Insurance Board) is an autonomous body, established to develop, and regulate the insurance business of Nepal. The Board has developed crop, plantation and livestock insurance products in collaboration with departments of agriculture and livestock, which are distributed by the 17 non-life insurance companies offering rural insurance products. The Insurance Board has allocated districts among the insurance companies averaging 3 to 5 districts per company where they are required to provide focused attention; but companies are free to operate in any district. Producer households are free to enrol with any insurance company operational in their district. GoN has a scheme of subsidising 75 per cent of the insurance premium for crops, plantations and livestock, with farmers paying only 25 per cent of premium at the time of enrolment. Insurance companies have very limited agent network in rural areas. While the Insurance Board and Department of Agriculture have been taking initiatives to improve farmers' awareness about the need for insurance and also about product features of various insurance products, the off take so far has been very limited in rural areas including in the Programme districts as seen during field visits. The claim settlement procedure involves photo documentation, ear tagging in case of animals, "panchnama" (certification from 5-member committee from VDC), and certification by agriculture/livestock officer at agriculture service centre. The Insurance Board is developing a web based reporting system and the data availability will

improve in a year's time. Data on overall premium collected and claims paid out shows that the payout to premium collected has been 48 per cent to 55 per cent in last two years⁶⁵.

64. During field visits it was seen that goat insurance is popular among both farmers and insurance companies. Dairy animal insurance faces moral hazard due to inflation of value of animal at the time of under writing. Insurance companies are keen to partner with the programme to improve uptake of insurance products as well as in reducing moral hazards. Out of the value chains to be supported by the Programme, insurance products are not available for turmeric, ginger and timur. For crops and plantations, the sum insured at present covers only input costs and not the value of outputs. Insurance Board mentioned that the Programme could work with Insurance Board and Department of Agriculture to develop suitable new products and modify the existing products to cover actual market value. The board is also keen to develop group insurance, which will reduce the transaction cost for both the members of groups as well as for insurance companies.

65. A weather-based insurance product is being piloted in select crops and areas including apple in Jumla district. Shikar insurance, which has developed weather insurance product for apples, has improved the features during 2017-18 for better off take, and is also expanding its weather based insurance to the nearby districts of Kalikot, Mugu, Dailekh for additional crops. The Insurance Board is keen to develop weather index-based insurance around a 25-kilometre radius of existing weather stations since weather data is needed for 30 years to develop new products.

66. Financial literacy. NRB has been keen to promote financial literacy for the vulnerable and deprived sector households and banking and financial institutions emphasise the need for financial literacy, however, few financial institutions provide financial literacy to their members/ clients. Three concerns are expressed by financial service providers: (i) producers are members in multiple institutions and are also saving in each of them and they need better understanding of savings and returns and also safety of savings; (ii) multiple loans can lead to over indebtedness and since women are targeted by most of the financial providers, it is necessary to train them on prudent credit off take; (iii) money being fungible, members often use credit for multiple purposes much to the discomfort of lenders especially when the loan sizes are getting larger.. The Financial Literacy Policy and financial literacy materials developed by NRB is in the process of approval from the Government.

67. **Rural Infrastructure**. In this document, infrastructure refers to the physical links and nodes of networks organised in interrelated systems designed to give a service that addresses economic and social needs. They are built, operated, maintained and decommissioned. The infrastructure systems rely on non-physical services for its functionality. Rural infrastructure facilitates the inbound and outbound supply chains for goods and services in rural areas.

68. The Nepal Local Infrastructure Development Policy (2016), categories local infrastructure in the following sectors, among others: (i) *Local transportation* – district core road network (DRCN) and village road (VR) networks, suspension bridges, and tracks among other forms of transport; (ii) *Irrigation and river control* for irrigation Programmes up to 25 ha in the hills and 200 ha in terai; (iii) *Micro-hydropower and alternative energy* – production and distribution of up to 500 kw and development of alternative energy; (iv) *Water supply, sewerage and sanitation* – rural water supply, sewerage, domestic and community sanitation and improvement of the environment Programmes; (v) *Solid waste management* – collection, segmentation and transportation of waste from VDC centres; and (vi) *Social infrastructure* – construction, operation and maintenance of public building such as for health and education. The road network is divided into three: Strategic Road Network (SRN), main highways feeder roads and Local Road Network (LRN) – rural and urban roads. The LRN is made up of the DRCN and VR. Agricultural roads, defined as roads connecting main agricultural production centres⁶⁶, are placed together with village roads in the National Plan for Rural Road Maintenance (2001). This Programme will treat agriculture roads as in the same category as

⁶⁵ During 2016-17, premium collected is NPR. 19 million and claims paid is NPR 8.3 million (7 months data). During last year, the premium collected is NPR. 278.7 million and claims settled NPR 159 million.

⁶⁶ National Transport Policy (2001)

village roads, and may use the two terms interchangeably. Municipalities are responsible for the development and maintenance of the local infrastructure, with assistance from DoLIDAR.

69. **Local transportation:** The main development corridors in Nepal are along the SRN transport corridors, especially in the hilly and mountainous areas. Local infrastructure along these routes in lowland areas are relatively well developed, with the rest of the country largely sparsely populated, with under developed infrastructure. The main infrastructure services in rural areas supported by government are roads, water supply, energy and telecommunications. It is widely recognised that rural infrastructure is perhaps the biggest hurdle of all for the development of rural areas in Nepal. In general, the SRN roads are good, but in the hilly/mountain rural areas, the roads become narrow, turn to mud or disappear altogether and there is low coverage of the electricity grid or water supply networks. This leads to high post-harvest losses of surplus production due to lack of transport links, refrigeration of produce and inability to make timely shipments to markets. The LRN road network in Nepal currently comprises of 25,728 km of DRCN and 31,904 km of VR roads (57,632 km in total) in the formal inventory, of which only 2,004 km are blacktop, 12,823 km are gravel and the remaining 42,805 km are earthen roads. The LRN is under the responsibility of the DoLIDAR, under the MoFALD. Under the pre-2017 institutional framework, of the 3,157 VDCs and 217 municipalities, 2,789 VDC centres and all municipalities are accessible using the DRCN, but 368 VDC have no road access.

70. The development of local roads is urgently needed in Nepal’s rural areas where poor access to rural towns and villages prevents rural populations from participating in and benefiting from a range of economic activities designed to benefit rural populations and poverty groups, hence, “more than 80 per cent of the total local government budget is spent on local level roads and bridges”⁶⁷. The zone of influence for road networks in Nepal is taken to be 2 hours walking distance in the terai and hours in the mountainous terrain. During the rainy season, the unpaved roads are mostly impassable due to poor drainage, broken or missing structures and slippery surfaces.

71. **Infrastructure policy and regulatory framework.** Under the new constitution, provinces will be responsible for state level electricity, irrigation and water supply services, state highways, agriculture and livestock development, factories and industrialisation. The municipalities will be responsible for local market management, environment protection, local roads, agricultural roads, irrigation, water supply, small hydropower Programmes and alternative energy, and the protection of watershed. Under the local infrastructure development policy (LIDP) (2004) local bodies are “responsible for the formulation, implementation, monitoring and evaluation, maintenance and operation of local infrastructure”, including rural and urban roads and trails and trail bridges. Trails and trail bridges are an important component of the transportation system for remote rural communities and a GoN priority.

72. DoLIDAR assists districts to prepare a 5-year district transportation masterplans (DTMPs), which are currently in place in the Programme area. The Nepal Rural Road Standards (2010) have been included in the DTMP guidelines to improve the quality of rural roads. DTMPs are prepared with the active participation of rural communities, building ownership. The preparation process follows a mix of technical and political interaction through consultation workshops and interactive meetings to increase participation of all stakeholders at district and village levels (i.e. representatives from line agencies, major political parties, social leaders, women organizations, *Dalit* and *Janajati* coordination

Parameter	Scoring Unit	Score
Population	Population/NPR 100,000 investment cost	55
Cultivated land	Area cultivated (ha)/km	15
Population x walking hours	Population x walking hour/km	20
Total population of poor, Dalits and marginalised Janajatis	Population/km	10

⁶⁷ Ram K. Sapkota (2016), Director General DoLIDAR, Statistics of Local Road Networks 2016

committee, business community and transportation association). Roads are prioritised using a cost efficiency analysis (CEA) (Table 5), where criteria such as per capita cost and special social consideration are given more weight relative to their perceived importance.

73. The Irrigation regulation (2006) defines irrigation Programmes as conventional and non-conventional irrigation technologies. Conventional irrigation Programmes are irrigation Programmes that use traditional forms of irrigation such surface based methods (furrow, and basins) and non-conventional use lifting technologies and solar power, drip and sprinkler irrigation. The irrigation regulation requires that farmers form water user associations (WUA) that are registered with the Department of Irrigation (DoI). In practice WUAs are registered only if they are to receive support from government through the DoI. Farmers apply for assistance in irrigation development from the DoI through an application, and payment of a commitment fee NPR 50/ha. The DoI undertakes feasibility studies and detailed designs. If the irrigation scheme is feasible, the farmers will pay 5 per cent of the investment costs and government will pay the balance.

Annex 1 – Summary of discussions with commercial banks and development bank in Programme area

	National Cooperative bank/ Surkhet branch	Agriculture Development Bank	Global IME	Kumari bank	Bank of Kathmandu	NMG bank
Branch network	37 branches all over Nepal and 4 in Programme area covering all the districts.	255 branches; 10 Regional offices, 5 Regional training centers, branches in all Programme districts	Very few in Programme area but have plans to acquire other banks with network	36 branches; 7 in mid-western region. Acquiring 4 development banks with more branches in Programme area	74 branches. 12 branches in mid-western area	80 branches including 4 branches in mid-west
Clients in rural and agriculture sectors	Lends to cooperatives; cooperatives buy share capital. 222 shareholders and 42 borrowers currently.	Products for individuals and agri businesses. Whole sale lending to cooperatives and MFIs from HO.	Agriculture lending to individual clients very limited; Prefers Agribusiness clients	Lends to farmers in 30 km radius; cooperatives up to 70 km radius. Loans more for agribusinesses. Prefer individual lending since groups are prone to conflicts.	Individuals, cooperatives, agri businesses	Prefer individual to group lending. Cooperatives up to 30-kilometer radius
Loan products	Two loan products – maximum limit is 5 times the share capital of the cooperative. Interest rate – 13.5 per cent. Repayment period 3 months to 10 years. Collateral requirement depends on classification of cooperative. All loans need collateral.	Lends for agriculture in major way. 30 per cent of portfolio for agriculture. ROI- 6 to 16 per cent. Loan term- maximum 5 years. No credit insurance. All collateral based lending	Warehouse receipt financing being tried out in Nepalganj branch.	NPR. 75 crores outstanding in the branch; agriculture about 2 per cent. ROI- 12 per cent. Collateral based lending.	VCF being piloted for receivable financing of sugar farmers from sugar mill. ROI- 12 per cent. Loan to cooperatives as part of deprived sector lending- ROI- 6 to* per cent Through branchless banking want to cover individual farmers.	3 VCF products designed and two launched. ROI to ultimate borrower- 8 to 10 per cent. If informal group then ROI is 18 per cent

	National Cooperative bank/ Surkhet branch	Agriculture Development Bank	Global IME	Kumari bank	Bank of Kathmandu	NMG bank
External loan fund requirement	The bank uses internal resources to meet loan requirements. No external borrowing.	Lot of demand for agriculture loans but budget allocation from HO limited.				
Risk of lending to agriculture	No risks identified; product development should help risk analysis and management	Minimal.	Will need aggregators to lend to farmers on account risks in retail lending	Agri businesses can divert cash flows. Cash based transactions have to reduce. Loan guarantee will provide comfort.	Multiple loans, Lack of information about the borrowers	Cooperatives too many and too small – need to consolidate. Not much risk in agriculture lending if customer is identified correctly.
Capacity development of clients	Staff of cooperatives need training in accounts, book keeping and financial management				Financial literacy for farmers for avoiding excessive debt and multiple borrowing.	
Capacity development needs of the bank	Product development for Agriculture credit; In kind credit		Product development for value chain financing	Staff need training on agriculture lending;	Training on agriculture lending Product development for alternatives to traditional lending including products without collateral.	Value chain Product development and training of staff

Annex 2 – Discussions with Microfinance Development Banks

Name of MFDB/ branch	Starting loan size and Maximum size of loan/loan term	Availability of Agri product	Collateral	Total loan portfolio/agriculture share	ROI	Risks
Nirdhan, Jumla branch	Group lending - Loan starts with NPR 60,000 and maximum is NPR 5 lakhs per person.	Yes, but loan repayment starts after one month moratorium	Up to NPR 100,000 no collateral except joint liability of group as a whole	NPR 12 crores/ (65 per cent of portfolio given for agriculture.	16 per cent	a) multiple loans from MFIs and cooperative; b) Borrowers divert loans for other purpose.
Nirdhan, Surkhet branch	Group lending – up to NPR 40 lakhs per group.	Agriculture loan – can be bullet repayment or in quarterly installments		NPR 9 crores; 20 per cent of portfolio given for agriculture	18 per cent	a) multiple borrowing, b) market linkages for commercial farming. c) Staff training in agri lending
Grameen Vikas, Jumla branch	NPR 5 million in 3 years. Up to NPR 3 lakhs sanctioned at district level and rest at regional level.	Yes, but loan repayment starts after one month moratorium. Dairy loans need to be repaid in 8 months	Up to NPR 100,000 no collateral except joint liability of group as a whole	NPR 11.8 crores - 50 per cent of portfolio given for agriculture	18 per cent	a) multiple lending in VDCs closer to urban centers
Chhimek MFDB, Surkhet branch	Minimum NPR 3000 and maximum NPR 700,000	Yes, for commercial farming. Structured as micro finance loan. Recently started	Up to NPR 200,000 no collateral for general loan. For agriculture, up to NPR 300,000 no collateral.	(i) NPR 16 crores loan outstanding; negligible in agriculture	16 per cent for agriculture	Lot of competition and multiple lending. Farmers need training and marketing support to become commercial.
SFDB/ Nepalganj area office covers 5 programme districts	Lends to SFACLs subject to criteria ⁶⁸ .	Yes- both micro finance and livestock loan are agriculture oriented	Collateral from individual taken by each cooperative based on their norms. Usually loan up to NPR 50,000 collateral free.		9 per cent to SFACL. SFACLs charge as per their policy usually 15 per cent	

⁶⁸ Minimum of 350 members out of which 95 per cent are women, all 9 wards to be covered in a VDC, management committee to be formed from representatives from all wards, minimum loan outstanding is NPR> 22 lakhs, share capital NPR. 5 lakhs.

Appendix 2: Poverty, targeting and gender

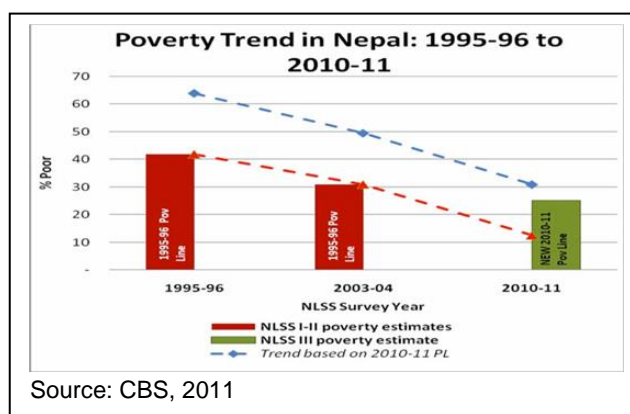
Poverty

1. Poverty in Nepal is multidimensional, involving a complex interplay between low assets (physical, financial and human), years of conflict, insecurity and natural disasters, indebtedness, poor infrastructure and public services, traditional roles and other factors. While all the inhabitants of specific regions may have a shared vulnerability to these events, the consequences of natural hazards, seasonality, infrastructure and social remoteness, are felt more severely by the poorest groups as they inhabit the marginal areas and lack the resources to withstand shocks. Though they may be considered as the most resilient strata of the rural population, their survival mechanisms have resulted in them being highly risk adverse, with low levels of livelihoods and technology adaption. Incidence of poverty remains high at 25.2 per cent⁶⁹ and a large percentage of population live around the poverty line making them vulnerable to immediate shocks.

2. *Social inclusion* has, historically, been a part of the political, economic and social development of Nepal. The armed conflict of the Maoists, however, set up the space for a more comprehensive vote-based system and gave a chance to address issues of social prohibition. The administration has amended several biased laws and provisions and has demonstrated its dedication to gender equality and social inclusion by signing several social conventions. Despite progressive laws and a vibrant civil society, however, Nepal still has many challenges when it comes to translating these laws into action.

3. *Social Exclusion*: The Nepal Multidimensional Social Inclusion Index, 2014, reports that the social groups that constantly appear at the top ten and bottom ten of the index remain more or less the same with Madhesi, Dalit and Hill Dalit ranked low in almost all dimensions. In Nepal, there is a great deal of discrimination based on socially constructed values and beliefs which prevents some groups from performing certain activities or from participating in the public arena. This indicates a low level of social cohesion. The belief that Dalit people are “untouchable”, for example, has fuelled various types of discrimination including spatial segregation. Muslims, other Terai castes, Hill Dalits, Terai Janajatis, and Terai Dalits score lower than the national average in adult literacy and many have not completed basic schooling. This composite group also suffers from a lack of access to health services due to affordability, lower child survival rates, food sufficiency etc. While the Madhesi/hill Dalits and Muslims are lowest in most human development indicators, the other Madhesi castes and Janajati groups also suffer from similar disparities. The Dalits and Muslims are ranked lower than the national average in all the domains.

4. Using the international poverty line of USD 1.25 per day, the incidence of poverty has declined steadily from 68.0 per cent in 1996 to 53.1 per cent in 2004 and 24.8 per cent in 2011. Poverty monitoring by the Central Bureau of Statistics shows that poverty remains high in the Midwestern and far-western regions, and that poverty rates are higher in rural areas (35 per cent) than in urban areas (10 per cent). The results of a poverty head count computed using the cost of basic necessities reveal that one in every four Nepalis is poor. It is a general assumption that if more is spent on food consumption as a proportion of total household expenditure, the higher the level of poverty. Similarly, elementary (unskilled) occupations are likely to generate low incomes leading to increased chances of poverty.



⁶⁹ World Bank, Country Snapshot 2016

The female-headed households in the country have increased by about 11 percentage points from 14.87 per cent in 2001 to 25.73 per cent in 2011.

5. The poverty rate (Table 1) is much lower in the Newar and the Brahmin than other castes/ethnicities. Table 1 below indicates that poverty incidence is least with the Newar (10.25 per cent) followed by the Brahmin (10.34 per cent) and highest with the Dalit of the Hills (43.63 per cent). Within the Hill area, poverty ranges from 10.34 per cent with the Brahman to 43.63 per cent with the Dalit. Similarly, within the Terai area, poverty ranges from as low as 18.61 per cent with the Brahman to as high as 38.16 per cent with the Dalit. There is a wide disparity in poverty within each caste/ethnicity.⁷⁰

Table 1. Poverty incidence in Nepal (2011)

Caste/Ethnicity	Population below poverty line (%)	Poverty gap (x100)	Poverty Gap Squared	Distribution of	
				Poor	Population
1. Brahmin (Hill)	10.34	1.73	0.48	5.2	12.7
2. Chettri	23.40	5.55	1.86	16.6	17.8
3. Brahmin (Terai)	18.61	1.75	0.19	0.4	0.5
4. Middle Caste (Terai)	28.69	5.36	1.47	17.6	15.4
5. Dalits (Hill)	43.63	10.89	4.22	15.2	8.7
6. Dalits (Terai)	38.16	8.09	2.24	6.9	4.6
7. Newars	10.25	2.07	0.70	2.5	6.2
8. Janajati (Hill)	28.25	6.64	2.49	24.4	21.8
9. Janajati (Terai)	25.93	4.48	1.25	7.3	7.1
10. Muslim	20.18	3.38	0.85	3.5	4.3
11. Others	12.34	3.58	1.13	0.5	0.9
Nepal (Total)	25.16	5.43	1.81	100	100

Targeting

6. Poverty is most prevalent in the mountains of Nepal, at 42.3 per cent, in contrast to an average of 8.7 per cent in the urban hills. Poverty incidence in Province 6, about 45.6% in 2011,⁷¹ is not only the highest in Nepal, but is also rising. The poverty gap index in Province 6 was also the highest at 10.74 per cent in 2011.

7. Poverty incidences by caste and ethnicity are highest amongst the hill and terai Dalits compared to the other social groups. It is not only widely acknowledged that the lack of political representation of different social groups causes disparities in economic poverty and human development; but also, that participation of these groups in decision making processes is indispensable. Studies show that females, Dalits, Janajatis, Madhesis and Muslims were under represented in almost all organs of State and society. As a result, these groups are lacking a voice, agency and influence necessary for removing barriers and increasing access to development opportunities that will result in improved livelihood status. HVAP has, to the extent possible, been able to address inclusion, but there is a need to strengthen this approach. Table 2 provides an overview of the dimensions and basis for exclusion in Nepal.

⁷⁰ CBS 2011

⁷¹ ADB Country Poverty Analysis 2013 - 2017

Table 2. Dimensions and Basis of Exclusion

Excluded group	Economic status	Services	Social Status
Gender (women and girls)	Lower initial human capital, unequal asset ownership and property rights. Restrictions on the right to migrate for employment	Households favour boy's education, female specific services (maternal and reproductive health) often under-funded	Limited rights in household decision making (control over fertility, self-earned income); domestic violence, restricted mobility (need for permission to travel alone)
Caste/ethnicity (<i>Dalits</i> , <i>Janajatis</i> , other minorities)	Lower income and fewer opportunities shaping human and physical assets (education, nutrition, land livestock).	Exclusion in education system, isolation due to remote location (for <i>Janajatis</i>), less ability to pay for private services when public services fail.	Lower self-perceived status, restricted access to public places; very low representation in legislature, executive, judiciary and civil service; lack of local political influence
Location (remote areas)	Few economics of scale, few markets, high costs due to poor connectivity	Higher unit cost of provision because of remoteness and low population density	Poor representation (power is concentrated in Kathmandu), effects of civil conflict
Poverty	Low assets, less ability to manage income volatility, less access to credit, fewer opportunities	Poor public services, little purchasing power to buy private services	High cost of political and judicial institutions

8. The social population and poverty data analysis of the Nepal are detailed in Table 3 below.

Table 3. Social Structure and Poverty

Region	Population	Female	Male	per cent of Average Dalit Population	per cent of Average Janajati Population	per cent of BCN and others	per cent of Average Poverty
Central Development Region (8 districts)	2,548,280	1,289,944 (50.6 per cent)	1,258,336	10.07	42.32	46.71	24.23
Western Development Region (5 districts)	1,258,312	689,603 (54.80 per cent)	568,709	17.95	41.99	40.06	18.3
Mid- Western Development Region (10 districts)	1,973,997	1,029,239 (52.13 per cent)	944,758	17.39	28.12	54.56	32.2

Source: VDC and Demographic, Profile of Nepal 2011; BCN: Brahman, Chettri and Newar

9. The Programme will be implemented in **Surkhet, Daylike, Salina, Jajarkot, Kalikot, Jumla, Mugu, Dolpa, Humla and (western) Rukum districts** in Province 6 of Nepal. The four highlighted districts are incremental to the HVAP area and will be integrated into the Programme in line with the development of the (i) Chhinchu-Jajarkot–Dolpa; (ii) Surkhet-Kalikot-Jumla-Mugu; (iii) Surkhet-Dailekh road corridors; and (iv) Mid-hills highway. The programme will commence immediately in the six existing HVAP districts, with Mugu and Rukum, with Dolpa and Humla being integrated in to the Programme as road access improves. The PCO will continue to be based at Birendranagar in Surkhet district, while three corridor-based coordination units will be established in strategic locations for technical backstopping, field level coordination and programme monitoring and supervision. The Programme year 3 and 4 will see a surge in the interventions when the maximum number of groups will be formed or included. Table 4 below provides the household coverage of HVAP and the new Programme areas (additional districts in italics) ethnicity wise.

Table 4. household coverage of HVAP⁷² and proposed ASDP Programme areas

District	Total Households	HVAP covered households				Proposed new ASDP households
		Dalits	Janajati	Other Caste	Total covered	
Acham	9,703	158	37	690	885	0
Dailekh	48,590	213	94	1,506	1,813	5,040
Jajarkot	30,488	777	477	1,535	2,789	5,100
Jumla	19,291	127	5	13,35	1,467	2,250
Kalikot	22,738	189	1	1,618	1,808	3,210
Salyan	45,958	193	286	655	1,134	4,920
Surkhet	72,863	860	1,182	2,731	4,773	3,840
<i>Dolpa</i>	7,466					1,560
<i>Mugu</i>	9,600					3,210
<i>Humla</i>	9,455					1,530
<i>Rukum</i>	42,588					4,500
TOTAL	318,740	2,517	2,082	10,070	14,669	35,160

10. Poverty will be addressed through the promotion of agribusiness and rural non-farm activities aimed at promoting inclusiveness through the acceleration of sustainable, multi-sector and connectivity based growth. This will result in increased food and nutrition security benefiting the poor rural households. Improved agribusiness infrastructure and value chain development will help establish innovative, integrated linkages with various stakeholders. The improved road connectivity will improve physical and economic access, and facilitate the adoption of suitable inputs and technologies. Expansion of participatory research and extension that is responsive to the real needs of the farmers, including women, poor and disadvantaged will more effectively address the agro-ecological and socio-economic needs of different types of farmers. Training of public and private extension workers on the adoption of climate resilient farming systems and improved access to appropriate rural finance and insurance services will provide a cushion to poor farmers and avert adverse risks.

11. The Programme will target smallholder producers and landless rural people (value chain labour, small livestock, etc.) interested to engage in market-driven value chain activities. HVAP experience indicates that this is an inclusive process with most households in HVAP-supported hamlets and villages progressively participating in value-chain linked production and processing activities. Women will form 2/3rds of the Programme beneficiaries and disadvantaged households including Dalits, Janajatis, Muslims, youth, landless and other disadvantaged groups will be specifically targeted for Programme inclusion (25 per cent target). The Programme will develop specific mechanisms for poor households to be able to join appropriate value chains, however, poor and marginalised households will also benefit from expanding local agriculture employment opportunities associated with value chain-driven growth. It is expected that the ASDP will serve around 35,000 direct beneficiaries (producers households and agri-industry entrepreneurs and employees) and around 40,000 indirect household beneficiaries (through public infrastructure, financial services and agricultural extension development).

12. The new Programme will include 25 per cent Dalit households in all activities. Among the 97 caste/ethnic groups, the Kisan, Nuniya, Chidimar, Khatwe, Bing/Bin, Raji, Chamar, Patharkata, Dusadh and Musahar experience the lowest levels of economic inclusion. Many of these groups are Madhesi Dalit whom the Programme will target in its inclusion strategy. Table 5 below provides the vulnerability characteristics of the target groups that are particularly marginalised.

⁷² HVAP beneficiaries will not be eligible for grant co-financing under the ASDP.

Table 5 Vulnerability characteristics of Programme target groups

Target group	Vulnerability Characteristics
Female headed households and ultra poor households	<ul style="list-style-type: none"> • Most marginalised and vulnerable in the community and considered not of value to developmental processes • harder to reach and highly vulnerable in terms of income security, social protection and access to resources • less access to employment and widows lack support for income generation • lack minimum family support and resources to have a sustainable basic livelihood • absence/limitation on their capacity, security and voice in the community • high dependency ratio with maybe many young children or being abandoned by children
Small holder farmers	<ul style="list-style-type: none"> • Poor infrastructure • lack basic access of farmers to essential services • lack of quality veterinary drugs and vaccines for the livestock owners; • Decrease in staple, cash and forage crop output per unit of land and water. • Outdated and traditional skill in agriculture and livestock development.
Youth including young women	<ul style="list-style-type: none"> • People between the ages of 15 to 24 accounting for a large part of the total population. • Challenges relating to the demand side (slow job growth) supply side (lack and unmatched skill sets) and an overall unfavourable policy and coordination context • Opportunities for youth entrepreneurship are limited due to a lack of access to finances and overall financial literacy. • Widespread poverty forces many of the young women and men to take on low paying and vulnerable job situations. • Wide gap between urban and rural youth with rural youth having less access to facilities and opportunities. <p>For young women</p> <ul style="list-style-type: none"> • Greater involvement of women income earning activities outside the house • Heavy work burden within and outside the household • rarely compensated for their labour, in terms of time allocated • they make the majority of labour contributions to a range of marketed products • have little or no access to inputs or knowledge • excluded from financial aspects of agriculture • little access to and decision-making control over agricultural inputs, outputs, and product markets • play a key role in caring for household cattle, sheep, and goats, and in the production of livestock products • excluded from the higher value-added ends of production chains • restrictions on female mobility • Low educational attainments • lack of control over use of credit

13. The Programme includes two specific interventions to ensure that poorer, more risk averse households are able to participate and benefit from the Programme,— one that facilitates the participation of households which have land suitable for the production of high value commodities but did not or were not able to join value chain groups, and the other aimed at landless and near landless households and those that prefer employment to production, which will provide vocational training to facilitate the take up of jobs either created by the Programme’s interventions or available from the market.

14. IFADs focus is on “Rural people who are living in poverty and experiencing food insecurity, who have the potential to take advantage of improved access to assets and opportunities for agricultural production and rural income-generating activities” ("productive poor"). Targeting is important in order to ensure that Programme implementation is executed in such a way that a specific target group (part of the larger target population) will have ownership of the Programme, can fully contribute and participate in its activities, and will have access to its services and benefits.

15. IFAD’s special targeting efforts are based on the recognition that rural poverty reduction and food security will not happen simply as a result of macroeconomic or sectoral growth, although growth is necessary. Poverty is not just a condition of low income. It is a condition of vulnerability, exclusion and powerlessness. It is the erosion of people’s capability to be free from fear and hunger and to have their voices heard. Poverty reduction is about enabling poor women and men to transform their lives

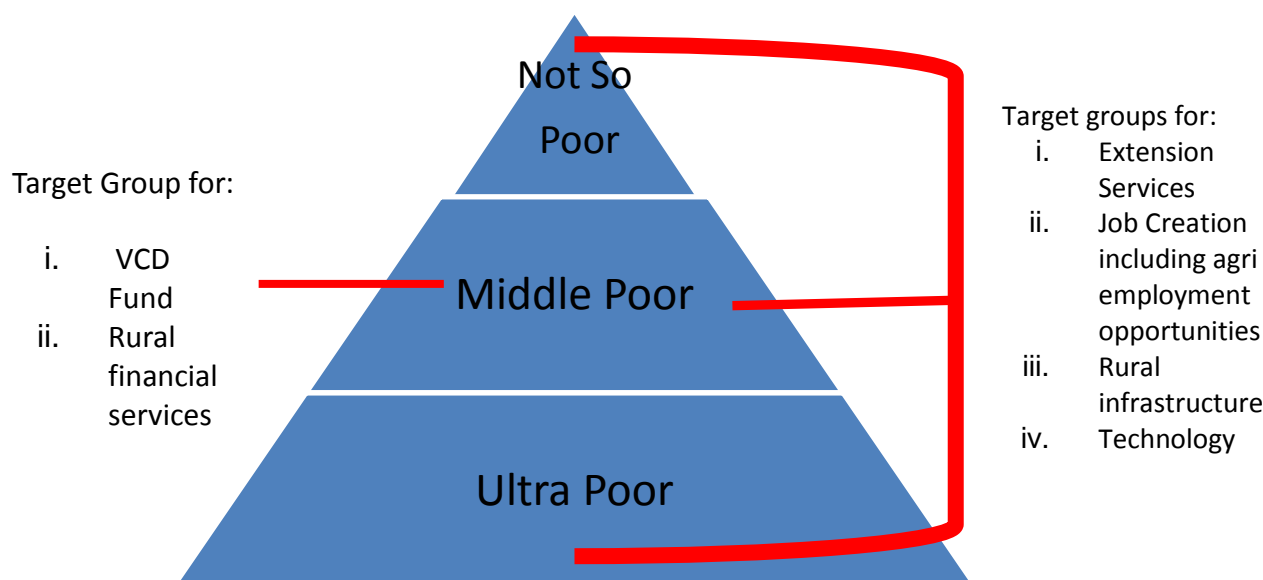
and livelihoods, and supporting governments and civil society in creating and maintaining the conditions that allow them to do so (IFAD, 2014). The ASDP intervention strategies focus on proactively including the identified target groups.

16. The Programme will apply a targeting approach focused on poor and vulnerable households within the ten districts that make up the Programme area. In doing so, it will apply an approach of social inclusion, ensuring that the target group members have the opportunity to be fully involved in and benefit from Programme activities, without, however, excluding other members of the Programme communities who may act as leaders, early adopters and risk takers and, in so doing, benefit the targeted communities and the poor and vulnerable within these communities. There will be a particular emphasis on women's participation. Taking into account the different dimensions of poverty and the country strategy, the overall target group of the Programme will be the members of the poor and food insecure households who are facing a lack of access to resources and opportunities. They are often women or belong to socially discriminated groups such as the untouchables (Dalits) and indigenous groups (Janajatis). HVAP beneficiaries will not be eligible for grant co-financing under the ASDP.

17. The primary beneficiaries of the Programme also include sector agencies and institutions and the market systems, including the traders, and smallholder producers. The Programme will support and foster policy reforms to improve the enabling environment for investment in the agriculture sector. The investment component will support market outreach through connectivity to rural communities, and integrated linkages among stakeholders in the value chains. It will provide needed technologies, input, and services in meeting food deficiency and malnutrition. Under the investment component, staff competencies will be improved through a capacity development program for 3,000 agriculture service centre staff and other field persons, including women. Dalits will be provided with special facilities to ensure their inclusion in all Programme-led decision-making forums. If required, separate meetings and group discussions will be organised to ensure that their voices are heard. The Programme will also focus on both de jure and de facto female headed households with special priority given to poor and vulnerable female headed households. The Programme's overall target group can be characterised as:

- **Ultra Poor.** The extreme poor are mostly illiterate, landless or near-landless households that have few assets. They survive by seasonal migration, bonded labour, the sex trade, gathering from open access resources, pawning or selling possessions and remittances. The Programme will assist this group by stimulating employment opportunities in cooperatives and value chain operations and improving access to common property resources;
- **Middle Poor.** These households have small landholdings and some livestock, however, they are often indebted and generally lack access to irrigation, but can generate small surpluses of agricultural products for sale. Remittances when available provide additional disposable income. Priorities for this group include measures to increase family income and reduce economic isolation by strengthening linkages to markets, technologies and input supplies, and, for some, access to irrigated land and financial services (both savings and credit);
- **Not So Poor.** This group includes small farmers suffering from the impact of conflict, debt, and land degradation. While they currently are above the poverty line, they are at risk of slipping back into poverty. They may have land suitable for cultivation but need higher technology or may be entrepreneurs who are willing to be part of the Programme with their own contribution.

18. The pyramid below indicates the coverage of the different poverty groups and the services that will be provided through the Programme.



Targeting Strategy

19. The Programme will focus on the assets, livelihood constraints, productive potential, development opportunities and priorities and aspirations of poor people. In this way activities and services supported will be keyed to the identified target groups and be within their means. The Programme will ensure that the mix of benefits offered and transaction costs involved are more attractive to the poor than the better-off and take into account time, labour and capital constraints. Conversely, the Programme will also pay attention to factors that may inadvertently exclude certain groups of people, such as contributions or attendance at meetings, which may not be feasible in terms of cost or time for the poor, especially women.

20. Depending on the nature of the sub-component, a range of specific selection criteria for the selection of programme's direct beneficiaries will be applied. The selection process for the Programme's activities will follow a direct targeting approach, whereby CAESCs will conduct poverty profiling for their members in a participatory manner, assisted to fine-tune eligibility criteria for the identification and final selection of programme participants. Poverty profiling will be based on local poverty and vulnerability criteria and will be defined in a participatory manner by each CAESC, and on the basis of the Programme's expressed preference to serve certain target groups for certain components and sub components. An index with a guideline for poverty profiling will be developed by the Programme to be used in selection of beneficiaries for the various activities related to the rural community. Physical verification of the beneficiaries will be carried out by the Programme staff.

21. Direct targeting consists of setting eligibility criteria for different types of activities and interventions that are to be channelled to specific members of the community like farmers groups, cooperative members, producer groups etc. Self-targeting is achieved by providing goods and services that respond to the priorities, assets, capacities and livelihood strategies of the identified target groups, but which are of less interest to those who are better off. Interventions benefiting whole communities will try to include as many poor households as possible in the different aspects of work wherever possible. As with the public nature of the productive infrastructure schemes, beneficiaries will include an entire community population. The marginalised and vulnerable populations will be involved as labour in the infrastructure work.

22. To ensure that benefits reach the identified target groups, the Programme will specifically gear information and communication to those who are generally less informed: focusing skills and management training on these groups; raising awareness and building confidence; ensuring transparency and involvement of Programme participants in decision-making on resource allocation;

and, above all, strengthening the organizations of the rural poor (community-based organizations and producers' organizations) and increasing their social and gender representation.

23. Table 6 provides information on the target groups and their poverty levels according to the outcomes of the Programme.

Table 6. Targeting and poverty levels of groups against components

Component/ Subcomponent	Target groups	Poverty Levels
<i>Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified</i>		
<i>Output 1.1: Identify and assess profitable high-value agriculture value chains</i>	Value chain actors (women and men) farmers, traders, entrepreneurs, banks etc.	Middle Poor and some ultra poor
<i>Output 1.2: Co-finance agricultural value chain development</i>	Value chain farmers (women and men), preference given to women agri businesses, very poor/Dalit/lower level Janajati, fabricators for GSI technology, women headed households	Middle Poor and some ultra poor
<i>Sub-component 2: Market-oriented infrastructure functional</i>		
<i>Output 2.1: Co-financed community market infrastructure</i>	All construction workers, special provisions for women construction workers and women with children. Final result will benefit entire communities, traders (women and men) and others interested to trade with these villages	Middle Poor and ultra poor
<i>Sub-component 3: Rural financial services for value chain development strengthened.</i>		
<i>Output 3.1: Rural financial services development</i>	Women, landless, Dalit/lower level Janajati, cooperative members	Middle Poor
<i>Output 3.2: Support to credit access</i>	For all those requiring financial support; Business literacy classes for women mainly	Middle Poor
<i>Sub-component 4: Agriculture services sustainably support innovation and value chain development</i>		
<i>Output 4.1 Participatory and pluralistic extension service development</i>	Women, marginalised groups, poorer households, de jure female headed households	Middle Poor and ultra poor
<i>Output 4.3 Women's empowerment and household nutrition</i>	Adolescent girls, women and their households including the Mother in Law, Dalit and marginalised groups, female headed households	Middle Poor and ultra poor

Targeting Challenges

24. With a programmatic approach to enhanced agricultural productivity and value chain development, there may be challenges that accompany such good intentions. The Programme will put in place cautionary steps to ensure that the challenges do not outweigh the interventions. Some of the challenges and possible interventions to counteract them are:

- **Elite capture:** This is possible within a strongly patriarchal community with uneven representation and participation of all groups. The elites may feel inclined to promote

their personal choice of development Programmes. In order to counteract this, the Programme will use a number of criteria and tools for beneficiary selection;

- **Unequal access to assets:** In order to be economically active one needs access to assets such as land, capital, information and extension services and education. With its social rules and institutions, however, Nepalese society often denies women access to certain assets and in consequence they remain in the more marginal and less profitable business activities. Women and poor households will be capacitated to increase their access to assets through the various support mechanisms being provided by the Programme;
- **Social roles:** Beliefs can refer to men and women as economic actors, their role as association members and appropriate work for them to engage in and their rights. Often such roles can be shaped so that women have less time available and fewer rights to participate in certain activities. Women will be encouraged to be part of all community decision making processes and in some cases the sole beneficiaries of activities. Female extension workers will act as role models for women as they go out and build the capacities of rural women to engage at a higher level;
- **Risk profile:** Women are often more risk adverse than men due to their household responsibilities and the fact that they have fewer resources or alternative options to count on, such as access to land or finance. This will be counteracted by the provision of financial and entrepreneurship capacity building programmes and linkages to markets with pro poor arrangements to enable women to move up the value chain;
- **Risks of men's capture of women benefits:** Women have limited access and command over productive resources, rarely control the marketing of products and have almost no control of the incomes generated by them. Men normally take over women's benefits if they are attractive enough for the men. To mitigate marginalisation or exclusion of women from planning and implementation process the Programme will introduce measures like gender-balanced staffing of offices; provision of gender-related training; using the Household methodologies approach to empower women's involvement in consultations, decision-making and monitoring processes, etc.

25. **Gender inequality:** Socially, Women and girls in Nepal are disadvantaged by traditional practices including the dowry system, early marriage, son-preference, stigmatization of widows, seclusion of women (purdah), family violence, polygamy, and the segregation of women and girls during menstruation (chhaupadi, which was recently declared as illegal in Nepal). The post-conflict Government has been legislating for more gender equality: Nepal in 2011 became the first country in Asia to develop a National Action Plan on Women Peace and Security, and women and girls' rights are protected in the Comprehensive Peace Accord. Women nevertheless face an onerous triple burden as their role of caretaker is taken for granted and thus their economic contribution goes largely unnoticed. According to a 2014 Amnesty International report "Unnecessary Burden", it is estimated that more than 600,000 women suffer from conditions related to uterine prolapses due to early marriage, early pregnancy, overwork and neglect. There is also wide spread socio-cultural violence against women which is manifested in different forms including bonded labour, domestic violence, witchcraft accusations etc. A survey by the UN Food and Agriculture Organisation (FAO) in 2010 revealed that around 3 per cent of households headed by women used mechanical equipment, compared with 8 per cent of those headed by men.

26. **Gender and Climate Change:** According to a qualitative research in Nepal, the key impact of CC-induced events such as drying of ponds and springs, erratic rainfall, extended dry spells and droughts, amongst others, has been an increase in women's workload, particularly for water

collection. Women have to wake up as early as 4:00 am in the morning to queue for scarce water. A study conducted by the ADB revealed that each female water carrier in general must reserve 1.3 hours per day during the monsoon season and an average of two to three hours per day in the dry season to meet their daily household supply.⁷³ More women than men are engaged in agriculture in Nepal. The percentage of women wage earners in agriculture and non-agriculture are 55.2 per cent and 44.8 per cent respectively, whereas men wage earners are 23.6 per cent and 76.4 per cent respectively. This indicates that CC impacts on agriculture will be greater for women, rendering multiple affects on women's health, income, safety, nutrition, violence against women, and ultimately in women's social, economic and political empowerment, thereby undermining the transformation in women's empowerment.

Health and nutrition

27. Government initiatives for nutrition security have been underway for more than three decades with national nutritional strategies developed in 1978, 1986, 1998, and 2004. A Multi-Sectoral Nutrition Plan (MSNP) 2013-2017 serves as a common results framework for improving nutrition outcomes; and setting out plans of action for implementing nutrition-sensitive policies and strategies for key sectors, including agriculture and food security, public health, and education. Its objectives are to reduce the prevalence of stunting among children under five to below 29 per cent, to reduce the prevalence of underweight to below 20 per cent to reduce the prevalence of wasting among children under five to below 5 per cent, and to reduce under-nutrition among women 15–49 years of age (BMI<18.5) by 15 per cent.

28. In 2011, Nepal joined Scaling Up Nutrition (SUN), a global movement that unites national leaders, civil society, bilateral and multilateral organizations, donors, businesses, and researchers in a collective effort to improve nutrition. The World Bank is the donor convener for SUN in Nepal. SUN's priority commitments in Nepal are to implement and scale up the evidence-based, cost-effective nutrition-programs of the MSNP; develop and implement a long-term National Food Security and Nutrition Action Plan; strengthen key sectors to implement the MSNP and National Food Security and Nutrition Plan; and strengthen monitoring of MSNP implementation, with links to existing food security early warning systems. In addition, the SUN Multi-Partner Trust Fund recently funded civil society organizations (CSOs) to establish a sustainable and inclusive civil society alliance on nutrition.

29. **Nutrition-sensitive food value chains** (NSVC) potentially have a positive impact on the nutrition security in a country or in a defined geographical area. The focus of NSVCs is on shaping food systems with regard to availability, affordability, and diversity of food. NSVCs target not only producers and other value chain actors but also consumers addressing not only quantity but quality of their diets as well. The shift is from the supply side to the demand side by accompanying measures such as nutrition education and Behaviour Change Communication (BCC) in nutrition etc.

30. **Mainstreaming nutrition in IFAD** is guided by the Nutrition Action Plan, which specifies goal, objective, strategic outcomes, and action areas and, in particular, food systems, which have a foundational role in nutrition. In the literature seven pathways linking agriculture and nutrition have been developed over time (see below)⁷⁴. Pathways 5-7 are supported by the global evidence that shows income controlled by women has a greater positive effect on children's nutrition than that controlled by men⁷⁵. Empowering women through targeted agricultural interventions can have a strong positive effect on child nutrition and household food security (Hawkes and Ruel 2008).

73 ADB. 2000. Small Towns Water Supply and Sanitation Sector Project: Gender and Development. Asian Development Bank. Loan 1755-Nep.

⁷⁴ Gillespie, Stuart, Jody Harris, and Suneetha Kadiyala. 2012. The Agriculture-Nutrition Disconnect in India: What Do We Know? IFPRI Discussion Paper 01187. Washington, DC: International Food Policy Research Institute. <http://www.ifpri.org/sites/default/files/publications/ifpridp01187.pdf>.

⁷⁵ Herford, Anna, Andrew Jones, and Per Pinstripes-Andzeren. 2012. Prioritizing Nutrition in Agriculture and Rural Development: Guiding Principles for Operational Investments. Health, Nutrition, and Population Discussion Paper. Washington, DC: World Bank. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/12/05/000386194_20121205024326/Rendered/PDF/NonAsciiFileName0.pdf

Pathways from agriculture to improved nutrition

1. Agriculture as a source of food (homestead food production).
2. Agriculture as a source of income to affect food purchase.
3. Agriculture as a source of income to affect health care purchase.
4. The link between agricultural policies and food prices.
5. Women's own nutritional status due to workload changes.
6. Women's ability to manage the care, feeding, and health of young children given their time constraints.
7. Women's socioeconomic status and ability to influence household decision making and intrahousehold allocations of food and other resources.

31. **Government departments working on nutrition and health:** Since nutrition is inter linked with hygiene and safe environments, the Programme will also work with the Provincial and municipal level Public Health Offices and Water Supply and Sewerage Departments on integrating both aspects in the Programme's nutrition interventions. WASH⁷⁶ interventions are led by the government Water Supply and Sewerage Departments, supported in implementation by the donors and NGOs. DCCs have developed five-year master plans for of WASH activities, the implementation of which will be advanced to municipal responsibility under the new constitutional arrangements. The master plan is shared among all stakeholders to ensure that there is no duplication or replication of activities. Presently, there is no subsidy to build toilets though there is a material subsidy for the ultra poor households in the form of pipes, cement and skilled labour. The government provides training to Social Mobilisers who are the main conduits for implementation of activities in the field and facilitates access to information and resources. These Social Mobilisers are generally recruited by the NGO or Donor implementing the sanitation programme.

32. **Behavioural Change Communication (BCC) on WASH and Nutrition:** The Public Health Office works mainly in the field of maternal and child health. With the thrust on nutrition, they have prepared a range of training materials and modules based on the mandate and messages provided by the National Health Education, Information and Communication Center (NHEICC). The health education and communication section in the regional directorates and regional training and health information departments implement BCC activities using various media and methods based on local needs⁷⁷. Local media and language is used to disseminate health messages in the districts. The health office's main means of transferring messages for pregnant and lactating mothers at the village level is through the village level female community health volunteer. There is also an initiative on adolescent girl's health but this is not prevalent in all the Programme districts.

33. The Nepal government is presently focused on implementing the open defecation free (ODF) II strategy alternatively called Post Open Defecation Free (PODF). This is to ensure that household regularly use the toilets and continue good hygiene practices. There are 6 key indicators that the government is monitoring on a regular basis including: safe hand washing, safe handling of water, personal and environmental hygiene, hygienic use of toilets, etc. The government has designed messages, posters and different media products that can be used at the village level. The government also issues a certificate of recognition to VDCs that are ODF and continue to be. The difficulties, however, lie in ensuring that adults become responsible role models for their children by ensuring best practices. The topography of the upper hills also causes issues in proper monitoring.

Gender mainstreaming interventions in ASDP

34. **Gender in the Organisation:** Unlike HVAP, this Programme will ensure that at least 20 per cent women are recruited to middle and senior management levels. There will be additional scores for

⁷⁶ Water Sanitation and Hygiene

⁷⁷ **Behaviour change communication (BCC)** is an interactive process of any intervention with individuals, communities and/or societies (as integrated with an overall program) to develop **communication** strategies to promote positive behaviours which are appropriate to their settings. This is not to be confused with nutrition education.

women in the recruitment process and women will be paid on par with their equivalently qualified and experienced male colleagues. The Programme will maintain the maternity leave rule as applicable to all government establishments and ensure access to crèche services where required on a cost sharing basis. The Programme will also apply flexi working hours so as to accommodate the household and child care demands of women staff members. The Programme will set up a Sexual Harassment Committee to address any complaint of sexual harassment across all levels of the Programme and will also include the social mobilisers recruited by the NGOs. All Programme staff will be provided with training on sexual harassment at the workplace on a yearly basis. There will also be annual gender sensitisation and gender-in-value-chain training for all staff across all levels.

35. **Women in organisational committees:** The Programme will ensure that women are present in Programme decision making bodies. The Gender Equality and Social Inclusion (GESI) Adviser will sit on the Value Chain Management Committee and other programme management committees. The adviser will represent the Programme on all social issues at both national and international forums. The Programme will allocate at least 30 per cent of positions in all Programme-related bodies to women. This can be at any level within the federal structure.

36. **Strategic Investment Plans will include a robust gender analysis.** This will help in understanding the distribution of labour and workloads of women within the given value chain and help in identifying corrective action. Women working on Programme construction sites will be provided with social safeguards to prevent any harassment. The GESI Advisor will be responsible for drawing up a guideline for the women in construction. The Programme will ensure equal pay for equal work to both women and men.

37. **Women's Empowerment Index:** The Programme will apply the Women's Empowerment Index in the operational areas three times in the Programme life. This tool is based on the IFPRI Women's Empowerment in Agriculture Index (WEAI), but has been made simpler and easier to carry out by The Hunger Programme. The main difference between the WEAI and the WEI is the survey length, study intensity and cost of calculation. The WEI strives to seek a balance between precision, cost and timely feedback. It considers empowerment to be a factor of both women's achievements as well as of gender parity with men. WEI measures progress on women's empowerment by aggregating results across five key areas (or "domains"). Each domain is comprised of a series of metrics ("indicators") that quantify performance in the respective domain. The domains include: agency, income, resources, leadership and time. Each domain contains two to three data points that serve as indicators to capture critical aspects of performance under that domain. WEI provides an aggregated community score, rather than the individual scores for each household provided by the WEIA. Thus, this tool will be used for homogeneously ethnic women's groups.

The Women's Empowerment Index (WEI) is composed of two parts: the women's achievement ratio (WAR) and the gender parity ratio (GPR). WAR WEI tracks the progress of women's achievements, as well as compares those to men's achievements, over time. The index utilizes randomized household surveys to generate its data. A higher value of WEI indicates greater

38. **Household Methodology:** The Programme will implement the HHM as a pilot in about 4,000 households initially. As part of the HHM process, household members realize that inequalities in gender roles and relations can be part of the reason they stay poor. Hence, a household's ability to understand the causes of their current situation – and their willingness to act upon the findings – is crucial for unlocking a household's potential. There are several different HHMs, which vary in terms of type, cost and duration of the activities required to support their implementation. The methodologies, however, share similar principles, with a focus on people, empowerment, self-generated solutions and equal

ANANDI (Area Networking and Development Initiatives), has been working with over 10,000 rural poor women in Gujarat since 1995. Forming women's collectives and working towards changing the nature and direction of systemic forces which marginalise women has been an integral component of their work. They have been working on adapting the

opportunities. The most common feature is the involvement of all household members, who – through different strategies and tools – are encouraged to create a household vision, assess their current economic and social situation, participate in joint livelihood planning and share the benefits that arise from working towards common goals. Service providers and facilitators support the implementation of HHM activities, which need to be embedded within an enabling environment at community level.

39. HHMs may be implemented through a wide variety of groups. The group acts as the entry point for reaching individual households with the visioning and action planning tools. Group members learn the basic skills in visioning and planning and then replicate the process at home, with the support of the group facilitator and peers, if necessary. Peer sharing triggers a multiplier effect among a wider audience and creates a supportive environment for behaviour change. The group-based approach can also be used to develop a group vision and action plan; this can advance the interests of the group as a whole and also help members realize their individual household visions. Embedding HHMs in existing local groups can make the process more sustainable and provides an opportunity to deliver HHMs at scale. The various methodologies share four basic principles:

- **Focus on people.** Household strategies are designed by and for household members who define whom they want to be and what they want to do. They define and implement their own strategies for developing and improving their livelihoods, based on their goals, strengths, opportunities and assets;
- **Empowerment.** The cornerstone of the HHM empowerment process is strengthening the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes. This can be achieved by building on a mutual understanding of different roles and responsibilities;
- **Self-generated solutions.** Willingness to change is generated by household members themselves (women and men of all ages) by placing them in the driver's seat of the development process. They take responsibility for the changes they want to see and work closely with one another, friends and the community to make them happen;
- **Equal opportunities.** Women and men, as well as youth, people with disabilities and other vulnerable groups, have an equal voice in setting the household vision and equal access to development opportunities, productive assets, decision-making and benefits. Some HHMs explicitly address gender relations with a "gender justice" lens, making the promotion of gender equality an essential goal of any type of intervention. In others, gender inequalities emerge as a factor limiting the achievement of household goals and the ability of households to better use the productive resources available to them, and participants commit to addressing gender issues as their own choice.

40. There are a few South Asian organisations that have been working on the same principal. Anandi⁷⁸, based in Gujarat has been instrumental in contextualising the methodology to suit the sub-continent social and cultural topography. They have used a rights-based approach in the use of the tools, which will reflect very well with the given socio-cultural context in Nepal. They have also developed a methodology for the facilitation process as this will be a key point in the success of the methodology. What works in the African situation as presently seen, will not necessarily work in the South Asian context and hence a more contextual framework is required. As their methodology includes intense facilitation at the field level, this might be an added advantage as it will be able to build the skills of the village volunteer and the community to vocalise their needs. The Programme will recruit the services of an agency to provide the training and methodology. The methodology for the layout will be discussed with the support agency as there isn't any prescribed methodology to suit the Nepal context. The Programme in association with the service provider will map out the best possible implementation methodology.

41. **Engendering training, capacity building and communication:** It has been found that on-site demonstrations are the most effective in terms of knowledge retention and replication. Training,

⁷⁸ <http://anandi-india.org/>

however, is not a simple activity – requiring an assessment of the trainee’s knowledge and creation of an enabling environment and opportunities for women and the poor to fully participate in the process. Supporting measures must be taken to ensure that women attend training and in addressing the social balances between the roles of women and men. The Programme will adopt the following guidelines for making training and capacity building gender sensitive:

- adapt programmes to women's needs and skills;
- ensure that the training venue is accessible and safe for women and can accommodate children who are under their care if required;
- allow sufficient time to enable women to acquire new skills and adjust schedules to fit women's existing workloads;
- adapt the time of the trainings to the time availability of the women;
- ensure that the language is simple and catered towards the understanding levels of the participants;
- make all teaching methods and learning approaches inclusive, participatory and “gender transformatory” in order to ensure women's full and equal participation;
- use trainers who are not only technically competent and up-to-date, but who empathise with the needs and aspirations of rural women;
- produce messages in written, oral, and visual media, targeted to women farmers and presented by women announcers and performers to supplement face-to-face extension efforts.

42. A fundamental aspect of gender-sensitive communication for training and dissemination relates to the words and images we use to communicate. Forms of communication – whether written, oral or visual – will be considered carefully by the Programme since they can perpetuate images of socially-prescribed gender roles and behaviours. The choice and combination of communication tools will therefore take into account cultural, socioeconomic and gender conditions and the specificities and capacities of each group, as well as the goal of the initiative. The Programme will utilise a gender sensitive approach in all its communication media – resource and information, education and communication material, training handouts, policy briefs, internal and external reports etc.

43. **Women in construction:** The Programme will ensure the safety and security of women who will work as construction workers in the infrastructure component. Prior to building the infrastructure, a robust social and environmental assessment will take place. This assessment will look at all gender concerns and map out social constraints. The assessment will be taken very seriously in the implementation of the infrastructure. The African Development Bank has come up with a set of guidelines⁷⁹ that will be applied while implementing the infrastructure component.

44. **Staffing:** At the village level, the Gender and Nutrition Social Mobiliser will be responsible for all tasks related to health, nutrition and the household methodology. At the PCO level, there will be a Senior Gender Equality and Social Inclusion Adviser who will lead the process. This position will be filled with an experienced Gender Specialist of not less than 12 years of experience. This position will be supported by a Health and Nutrition Officer and a Household Methodology Officer. Terms of reference are provided at the end of this document. The Programme will recruit a higher number of female Gender Nutrition Social Mobilisers – at least 60 per cent of them will be women and will be recruited from the villages where they will work as mobilisers. They will be provided training in nutrition, household methodologies and social mobilisation techniques. The Gender and Nutrition Social Mobilisers will be the main conduit for the social aspects of the Programme.

45. The box below gives a tentative outline of the gender equality mainstreaming interventions and the social inclusion interventions that will be implemented under the Programme.

⁷⁹ [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Checklist per cent20for per cent20Gender per cent20Maintstreaming per cent20in per cent20the per cent20Infrastructure per cent20Sector.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Checklist%20for%20per%20cent%20Gender%20per%20cent%20Maintstreaming%20in%20the%20per%20cent%20Infrastructure%20Sector.pdf)

Component/ Subcomponent	Gender Equality	Social Inclusion
<i>Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified</i>		
<i>Output 1.1: Identify and assess profitable high-value agriculture value chains</i>		
<i>Strategic investment plan</i>	<ul style="list-style-type: none"> The value chains identification stage will have a robust gender analysis carried out to ascertain women's workload 	<ul style="list-style-type: none"> The SIPs will include ethnicities, the work distribution and wage distribution across ethnicities
<i>DCC-convened Multi-Stakeholders Consultative Platform (MSP)</i>	<ul style="list-style-type: none"> The Programme will ensure that women (traders, farmers etc.) will be part of the MSP and all resolutions made will be gender sensitive and inclusive 	<ul style="list-style-type: none"> The Programme will ensure separate group discussions with Dalit farmers to ensure that their views points are included in the MSP if they are not able to adequately represent themselves in a mixed forum
<i>Output 1.2: Co-finance agricultural value chain development</i>		
<i>Co-investment both on-farm and at agribusiness level</i>	<ul style="list-style-type: none"> Women agri businesses will be given higher scores. A quota of 20 per cent women led agri business will be accepted for co-investments. There may be a need to provide additional technical support which will be provided by the Programme. 	<ul style="list-style-type: none"> Inclusion of the very poor/Dalit/Lower level Janajatis in the proposals will be provided with a higher score in the competitive grant tender process. A higher percentage of funds will be provided to groups where there is a need to bring the poor up to par with the others
<i>Value chain-led participatory and applied technology development</i>	<ul style="list-style-type: none"> Collaborate with fabricators in developing/designing GSI friendly (low cost, easy available, light and simple handling) tools and technologies, testing and disseminating if succeeded. Have women friendly technology, tools and equipment for efficient collection, processing and storage Identify and support women /poor friendly harvesting tools and materials to women and poor members of groups/Cooperatives Promotion of "equal payment for equal work" in the Programme area Support equipment and tools eg slicers, boilers, driers to and/or prioritizing women, poor, Dalit/Janajati groups for turmeric processing Provide training on quality processing (giti, suthu and channa making) and storing Establish small grinding mills as enterprises focusing on women, poor, D/J groups Develop at least 60 per cent women and about 25 per cent Dalits/Janajatis and poor as lead farmers 	<ul style="list-style-type: none"> Promote work force diversity through recruitment and employment creation to local women, poor, Dalit/Janajatis based on their capacity and potentiality in HR for factory (60 per cent women including 8 skill labourers) Capacity need assessment focusing to women and men and Dalits/Janajatis Develop either separate targeted trainings (skill based) and/or ensure their participation Organize exposure visit for women, Dalits and Janajatis specifically. Prioritize women headed households, dalits and Janajatis providing support. Identify fallow and marginal lands (public or private) and facilitate Dalit/Janajati, poor and landless groups for turmeric and timur production Develop either separate targeted trainings (skill based) and/or ensure their participation Capacity need assessment focusing to women and men and Dalits/Janajatis Coaching and facilitation for EoI/BP preparation for poor, women, Dalit/Janajati and other marginalised groups
<i>Tailored multi-</i>	<ul style="list-style-type: none"> Capacity building will be made gender 	<ul style="list-style-type: none"> 25 per cent reservation for Dalit,

Component/ Subcomponent	Gender Equality	Social Inclusion
<i>disciplinary capacity building</i>	<p>responsive so that women can actively participate and develop their skills</p> <ul style="list-style-type: none"> • A quota of 25 per cent will be kept for women • Women households will be counselled so that the women candidate can attend the training • Training facilities will include a child care centre with a child. The Programme will provide for meals for the children and a stipend for the carer. 	Janajati and Muslim men for all vocational trainings
Sub-component 2: Market-oriented infrastructure functional		
Output 2.1: Co-financed community market infrastructure		
<i>Developing market-linked infrastructure investments for operational Wards</i>	<ul style="list-style-type: none"> • Market infrastructure will have toilets and washrooms for women including shelter rooms and first aid kits. • Women engineers will be preferred to be recruited by the Programme. • Children must not be allowed to work on sites • Women construction workers will be paid at par with their male counterparts. • Women labourers will be provided with safe toilets and shelters at the construction sites. • The Programme will ensure that the camp sites are a sexual harassment free zone. • Promotion of “equal payment for equal work” in the Programme area • The GESI Adviser will monitor social safeguards of the construction sites • Ensure that women, Dalits, Janajati and other excluded social groups can benefit from the construction works by making it as one of the conditions in contractors’ contract. Maintain daily work attendance sheet for verification by concerned authorities. • Programme completion report to report on GESI issues according to a developed format 	<ul style="list-style-type: none"> • The Programme will ensure separate group discussions with Dalit farmers to ensure that their views points are included in infrastructure planning and its implementation if they are not able to adequately represent themselves in a mixed forum
Sub-component 3: Rural financial services for value chain development strengthened.		
Output 3.1: Rural financial services development		
<i>Product innovation for value chain financing and loan risk management</i>		<ul style="list-style-type: none"> • Special emphasis will be given to the accessibility of these products for women, landless and Dalit/Janajati and other marginalised
<i>Capacity development of co-operatives</i>	<ul style="list-style-type: none"> • New Cooperatives will be provided with training on gender and social inclusion to ensure that they are inclusive in their approach and membership 	
<i>Improving insurance</i>		<ul style="list-style-type: none"> • Promotion of crop insurance for the

Component/ Subcomponent	Gender Equality	Social Inclusion
<i>offtake;</i>		women, landless and Dalit/Janajati and other marginalised
<i>Output 3.2: Support to credit access</i>		
<i>Expanding financial literacy training programme</i>	<ul style="list-style-type: none"> Financial literacy classes will include a capsule on good nutrition 	
Sub-component 4: Agriculture services sustainably support innovation and value chain development		
<i>Output 4.1 Participatory and pluralistic extension service development</i>		
<i>Support the establishment and capacitation of MADCs at Municipal level and CAESCs at the Ward level</i>	<ul style="list-style-type: none"> The Programme will ensure that women represent at least 30 per cent of in the decision-making bodies Dalit and other marginalised women farmers will be represented in these forums The Programme will endeavour to work on the right for women to be farmers 	<ul style="list-style-type: none"> The Programme will ensure that Dalit and other marginalised communities are adequately represented in these committees and centre The Programme will ensure separate group discussions with Dalits and other marginalised farmers to ensure that their views points are included
<i>Foster collaboration between public and private actors in the delivery of agricultural services</i>	<ul style="list-style-type: none"> Poorer household will be identified for the grants especially de jure female headed households and Dalit households Develop at least 60 per cent women and about 25 per cent Dalits/Janajatis and poor as LRP and JTAs 	<ul style="list-style-type: none"> Poorer household will be identified for the grants especially de jure female headed households and Dalit households Develop at least 60 per cent women and about 25 per cent Dalits/Janajatis and poor as LRP and JTAs
<ul style="list-style-type: none"> Output 4.3 Women's empowerment and household nutrition 		
<i>Improved household nutrition programme</i>	<ul style="list-style-type: none"> Farmer Nutrition Schools will include from each household – women, their mother in laws and husbands (if possible) Households will be empowered to stop junkfood for their children and instead look at nutrition food and fruits consumption Adolescent girls will be targeted for better dietary information along with their mothers At least 60 per cent women will be recruited as the Gender and Nutrition Social Mobilisers 	<ul style="list-style-type: none"> Dalit and other marginalised groups will be preferred for the interventions on health and nutrition
<i>Household methodologies to empower women</i>	<ul style="list-style-type: none"> HHM household selection will include, but not be limited to, female headed and marginalised women Women will be encouraged to access citizenship in their name 	<ul style="list-style-type: none"> Dalit households will be selected for the pilot stage
<i>Vocational training for rural youth</i>	<ul style="list-style-type: none"> High school girls can be taken as interns for data entry as the income can go towards their higher education and other essentials that need financing. 	<ul style="list-style-type: none"> 25 per cent reservation for Dalit, Janajati and Muslim men for all vocational trainings

46. IFAD targeting and gender checklists are detailed in Appendix 2, Annex 1 and Annex 2 respectively.

Annex 1. ASDP targeting checklist

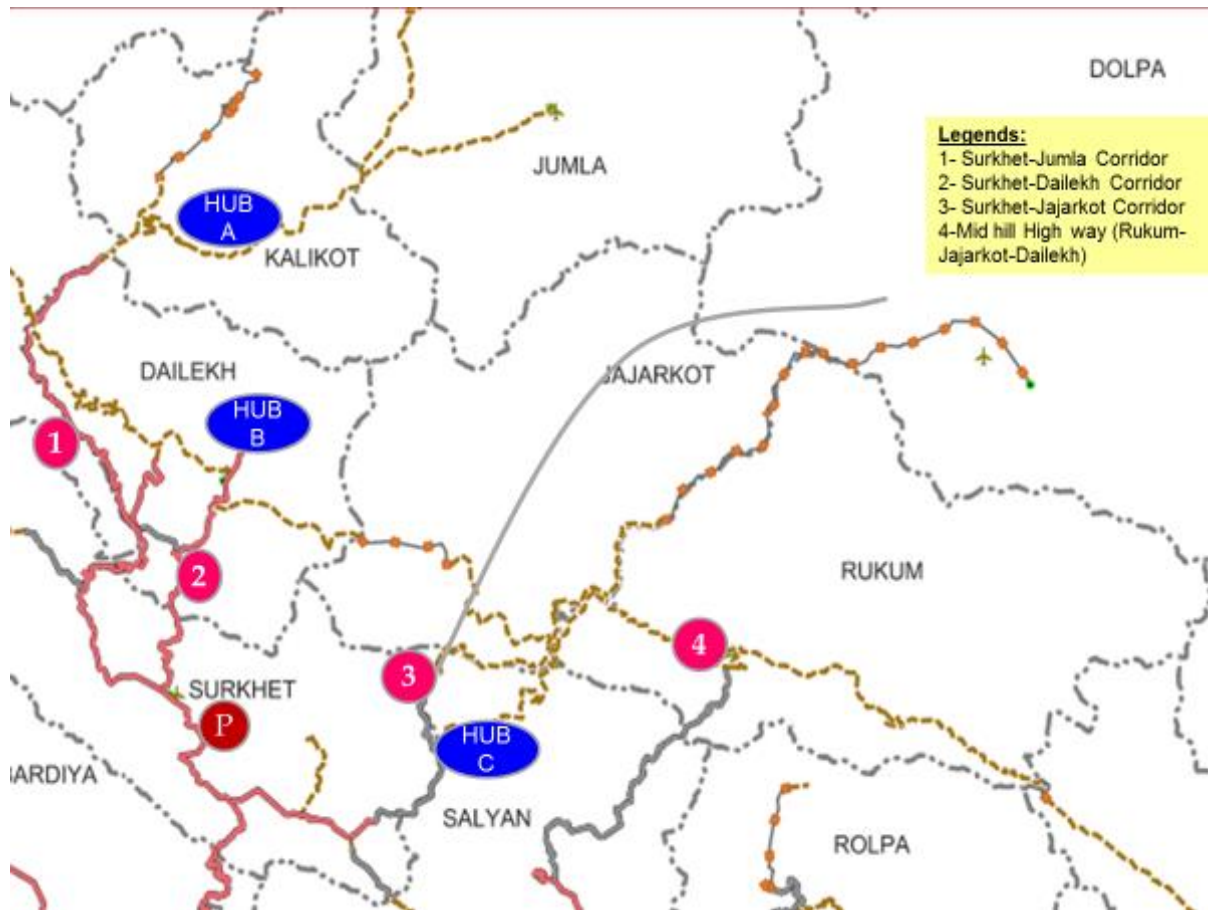
Key issue	Design response
1. Does the main target group - those expected to benefit most- correspond to IFAD's target group as defined by the Targeting Policy (poorer households and food insecure)?	Yes, the target groups fall into IFAD's target group. The Programme has been designed to provide food security and employment opportunities to the food insecure and poor households by providing them with appropriate technical assistance and inclusion into the value chain.
2. Have target sub-groups been identified and described according to their different socio-economic characteristics, assets and livelihoods - with attention to gender and youth differences?	Target groups have been identified according to their socio-economic status. The analysis includes the rural target groups, their characteristics and the Programme interventions to help them overcome poverty.
3. Is evidence provided of interest in and likely uptake of the proposed activities by the identified target sub-groups? What is the evidence? (matrix on analysis of Programme components and activities by principal beneficiary groups completed?)	All target groups are involved with agriculture as their primary livelihood. The Programme endeavors to enhance agricultural productivity to increase incomes thereby increase well-being of the households. The Programme is an uptake of the successful HVAP which has shown good practices in inclusion.
4. Does the design document describe a feasible and operational targeting strategy in line with the Targeting Policy, involving some or all of the following measures and methods:	The Mid Western region is identified as one of the most backward regions in Nepal. Poverty incidence in the mid-western development region is not only the highest but is also on the rise. The percentage of poor in the mid-western development region is about 45.6 per cent in 2011
4.1 Geographic targeting – based on poverty data or proxy indicators to identify, for area-based Programmes or programmes, geographic areas (and within these, communities) with high concentrations of poor people	
4.2 Direct targeting - when services or resources are to be channelled to specific individuals or households	There is an element of direct targeting as those who have the potential for commercialisation will be included in the Programme. There are also quotas for technical assistance and inbuilt checks and balances to ensure that the poor are also included in Programme interventions.
4.3 Self targeting – when goods and services respond to the priority needs, resource endowments and livelihood strategies of target groups	
4.4 Empowering measures - including information and communication, focused capacity- and confidence-building measures, organisational support, in order to empower and encourage the more active participation and inclusion in planning and decision making of people who traditionally have less voice and power	The Programme will carry out several capacity building measures to enable the small holder institutions at the grassroots level to access information and services. Inclusion of the poor, women headed households and chronically poor households in Programme activities including community infrastructure will be a strong focus to provide space for the traditionally less empowered groups.
4.5 Enabling measures – to strengthen stakeholders' and partners' attitude and commitment to poverty targeting, gender equality and women's empowerment, including policy dialogue, awareness-raising and capacity-building	The Programme includes measures like technical assistance, workshops with various value chain stakeholders and private sector, policy dialogue, partnership with likeminded organisations and interventions for strengthening attitudes.
4.6 Attention to procedural measures- that could militate against participation by the intended target groups	Specific focus has been emphasised for the inclusion of the target groups.

Annex 2. ASDP gender checklist

Key Issue	Design Response
<p>1. The Programme design report contains – and Programme implementation is based on - gender-disaggregated poverty data and an analysis of gender differences in the activities or sectors concerned, as well as an analysis of each Programme activity from the gender perspective to address any unintentional barriers to women’s participation.</p>	<p>The analysis is based primarily on secondary data backed up by discussions with staff from other organisations. However, there are some credible reports and documentation available on the poverty and gender situation of the country and were referenced. The analysis covers the agricultural sector and its allied activities for women and the constraints women face.</p>
<p>2. The Programme design report articulates – or the Programme implements – actions with aim to:</p> <ul style="list-style-type: none"> • Expand women’s economic empowerment through access to and control over productive and household assets; • Strengthen women’s decision-making role in the household and community, and their representation in membership and leadership of local institutions; • Achieve a reduced workload and an equitable workload balance between women and men. 	<p>The Programme aims to bring women into the economic sphere by providing technical and grant facilities to leverage her agricultural based livelihoods. The Household Methodology will aim to address social inequalities within the household, community and group and to bring women to the forefront of decision making. The MSP will allow for women to voice their concerns and to find solutions to address them. There is an element of drudgery reduction by way of multipurpose water infrastructure, homestead gardens to address nutrition and nutrition education to ensure an equitable balance among the household individuals.</p>
<p>3. The Programme design report includes one paragraph in the targeting section that explains what the Programme will deliver from a gender perspective.</p>	<p>Women play a key role in the operations of the implementing agency and this is reflected in the Programme design. The Programme will help poor women to engage in economic opportunities and enhance their capacity and mobility.</p>
<p>4. The Programme design report describes the key elements for operationalizing the gender strategy, with respect to the relevant Programme components.</p>	<p>The gender strategy will be mainstreamed throughout the Programme implementation and has laid down specific interventions that follow the Gender Policies of IFAD. It will include a mainstreaming process to incorporate gender and social inclusion as a cross cutting issue with clear deliverables and budgetary allocations. This will be done through the integration of gender concerns and women’s empowerment in all the components and sub components at the operational, the organizational and systemic levels.</p>
<p>5. The design document describes - and the Programme implements - operational measures to ensure gender- equitable participation in, and benefit from, Programme activities. These will generally include:</p>	
<p>5.1 <i>Allocating adequate human and financial resources to implement the gender strategy</i></p>	<p>There is a substantial budget and human resources placed in the current Programme to ensure that gender and inclusion are earnestly implemented. The Household Methodology will be implemented and will have its own budget and staff.</p>
<p>5.2 <i>Ensuring and supporting women’s active participation in Programme-related activities, decision-making bodies and committees, including setting specific targets for participation</i></p>	<p>There are checks and balances included in the gender interventions as well as in the implementation modality, which the Programme will be closely adhering to, that will allow for women’s participation. This is especially important to bring to the forefront, the constraints that women face in agriculture and the value chain systems in order to address them adequately.</p>
<p>5.3 <i>Ensuring that Programme/programme management arrangements (composition of the Programme management unit/programme</i></p>	<p>Female mobilisers will be placed at the municipal level to facilitate women with the appropriate level of extension services required. All TORs of staff will</p>

Key Issue	Design Response
<i>coordination unit, Programme terms of reference for staff and implementing partners, etc.) reflect attention to gender equality and women's empowerment concerns</i>	include elements of gender sensitivity and the recruitment process will assess all candidates for gender responsive behaviours.
<i>5.4 Ensuring direct Programme/programme outreach to women (for example through appropriate numbers and qualification of field staff), especially where women's mobility is limited</i>	There is a special allocation for female social mobilisers to ensure that the outreach to women is maintained.
<i>5.5 Identifying opportunities to support strategic partnerships with government and others development organizations for networking and policy dialogue</i>	The value chain component is designed to support partnerships for market linkages and enhanced productivity. The Programme will also be focusing on social responsibility through pro-poor contract farming. The programme will ensure women, men, youth and farmer groups etc. are involved in discussions around agriculture systems for internal and export markets, whether individual, as part of a farmers group, or part of an out-growers scheme. The programme will look at strengthening the social capital and negotiation skills of poor farmers in general, and women and young people in particular, to enable them to participate effectively in value chain relationships
6. The Programme's logical framework, M&E, MIS and learning systems specify in design – and Programme M&E unit collects, analyses and interprets sex- and age-disaggregated performance and impact data, including specific indicators on gender equality and women's empowerment.	The Programme logical framework has indicators to monitor and evaluate gender-disaggregated performance and impact. The PCO will ensure establishing the MIS system with sex-disaggregated data collection, gender based analysis, and review and reporting. The Programme will ensure accurate and timely data collected and analysed by sex and gender. All planning/programme formats and reports will incorporate sex and gender disaggregated data.

Annex 3. Programme road corridors



Appendix 3: Country performance and lessons learned

1. **Country context.** The population comprises significant ethnic diversity, with many different languages and cultures. Population density varies considerably, as large parts of the country are too harsh for human settlement. The natural resource environment is rich and diversified, but also highly fragile, following reduction of the forest cover. The country's per capita GDP was the second lowest in South Asia, recorded as USD 723 in 2016⁸⁰. Although Nepal has recorded improvement in its Human Development Index (HDI) in recent decades, it has the lowest ranking among the countries of SAAR), aside from Pakistan and Afghanistan (2014). Nepal made significant progress in achieving its MDGs (2000 to 2015). Poverty reduced from 42 per cent to 24.5 per cent and the majority of health-related MDGs were achieved, while targets related to hunger, universal primary education, gender equality and women's empowerment were largely met. The latest NLSS reported improvements in households accessing a number of services and resources, while the overall state of economic growth, having fallen sharply after the 2015 earthquake, is now heading toward strong recovery, with agriculture remaining as the main driver of economic development.

2. **Economic Development.** Economic growth began to slow in Fiscal Year (FY) 2013/2014, principally due to depressed agricultural production and low investment and then fell sharply to 0.6 per cent in 2015/16 due to the earthquake disaster and an economic blockade. It is now projected to pick up substantially to 4.6 per cent in 2016/17 and then to 4.8 per cent in 2017/18, due to both stronger agricultural sector performance and the ongoing reconstruction effort, which will also generate higher levels of investment and support domestic consumption⁸¹. Agriculture accounts for almost 1/3rd of GDP. Agricultural sector growth in FY2012 reached 4.6 per cent, but sector performance then fell to 1.1 per cent in FY 2013 due to a combination of weak monsoons, inadequate supply of agricultural inputs during the peak planting seasons, rose slightly to 2.9 per cent in 2014 in response to better monsoon rains, and back to 1.9 per cent in 2015 due to the earthquake disruption. Agriculture is expected to grow in 2017 on the back of average monsoon rainfall.

3. Reconstruction efforts will continue to dominate the policy agenda in 2017-18, as large parts of the country and its infrastructure were devastated following the 2015 earthquakes. Foreign governments and multilateral institutions pledged strong financial and technical support, but progress on reconstruction has been held back by political squabbling and a shortage of capacity and skills within the bureaucracy.

4. Strong consumption growth rather than investment is driving economic activities, with both public and private investment weak in 2016, with private sector investment particularly constrained by the high level of policy uncertainty. Private sector investment is expected to improve in 2017 and several large infrastructure Programmes are likely to accelerate economic growth in coming years⁸². Despite the timely approval of the budget, key capital Programmes have not moved as anticipated, demonstrating shortcomings in preparation and implementation that affect the broader capital Programme portfolio of the government. Owing to high spending pressures, the budget will remain in deficit in fiscal years 2016/17 and 2017/18 (July 16th-July 15th). However, improving revenue collection will keep the budget shortfall at a manageable level. Consumer prices will rise by an average of 8.4 per cent a year in 2017-18, as food price pressures will remain high. Supply disruptions, owing to the country's poor road infrastructure and the impact of the 2015 earthquakes, will continue to put upward pressure on prices. Import price inflation will also be strong in the forecast period.

⁸⁰ GDP per capita purchasing power parity (PPP) was USD 2,500 in 2015

⁸¹ Economist Intelligence Unit: Nepal Country Report, 1st Quarter 2017

⁸² China will fund a US\$1.6bn hydropower project in western Nepal. The West Seti River project, approved by the Nepali authorities in April 2015, will be the largest ever scheme financed by foreign direct investment in Nepal, with completion expected by 2022. China also plans to extend its Tibet railway to the Nepali border by 2020.

5. **Country performance.** The 2013 Country Programme Evaluation (CPE) considered that the programme was overall relevant, but that it underestimated the need of building responsive local government for implementing activities in post-conflict situations and that, while it was almost exclusively using government institutions as implementing agents, it failed to include provisions to strengthen their capacities and address general disillusionment with the State as a service provider. The CPE also found that Programmes were widely spread thematically and geographically, which resulted in management and governance challenges, particularly given the weak government institutions that contributed to slow implementation and disbursement. Finally, the CPE found that there was a disconnect between the COSOP and the Programmes, and that Programme teams were not aware of COSOP objectives, did not report on them and did not abide by the recommendations issued by annual COSOP reviews.

6. Programme efficiency was assessed as moderately satisfactory, with good quantitative achievements, particularly with regard to community-based social and economic infrastructure. The main problem areas related to a lack of sustainability of “beneficiary groups”, which had limited incentives for continuing beyond Programme completion, and of most of the rural finance schemes, which focused on savings and credit groups that never reached sufficient maturity. Recently approved Programmes were considered to have better chances of success, thanks to their focus on developing commercially viable groups. Overall, the CPE noted that the programme had made only a modest contribution to poverty reduction, mainly due to the lack of sustainability of most Programmes’ achievements.

7. **Experiences and lessons learned.** IFAD’s Country Programme has built and demonstrated its strengths and competences in a number of thematic and geographic areas, where successes of implementation were recognized as climate-smart, including: (i) community-driven leasehold forestry management; (ii) community-level infrastructures and facilities for drought and flood risk management; (iii) direct support to household assets building; (iv) sustainable nature resources management; (v) adoption of crop varieties and crop-livestock systems; (vi) Integrated water resources management; (viii) Post-harvest loss management; (vii) capacity building for beneficiary households and service support institutions; (ix) partnership with key central and local government institutions, NGOs, research institutes, private sector and donors; (x) differentiated targeting of the poor with gender sensitivity; (xi) human capital building through socio-economic development; and (xii) securing stability of operational competence by incorporating technical team into the Programme management.

8. . Key lessons derived from the CPE, annual COSOP reviews, the country programme management team (CPMT) and local consultations held during preparation of the new COSOP point to the following issues:

- New Programmes should include measures to strengthen local government capacities to provide responsive and inclusive services to the rural population, which will improve Programme performance and contribute to peace consolidation by restoring public trust in government institutions;
- Building on past successful examples, new Programmes should build more on partnerships with non-governmental players, including NGOs and the private sector;
- Grass-roots groups are not sustainable when created for the sole purpose of channelling Programme services. They need to establish clear objectives, build their capacity to achieve these objectives autonomously, and develop networking in order to obtain continued access to services once the Programme is over;
- Migration of men places additional demands on women. This must be reflected in the organization of support services and Programme activities, which must be compatible with women’s time constraints and preferences;
- Monitoring and evaluation (M&E) should become a management tool that assesses Programme outcomes within communities and groups, and between genders and different social groups; detects successes and shortcomings; and facilitates the adoption

of solutions to improve performance. It needs to be complemented by knowledge management to track innovative practices, fuel policy dialogue and support scaling up;

- Programme management is affected by the unsustainable turnover of civil servants, who compose Programme teams exclusively. Mixed teams composed of hired staff supporting civil servants will be an effective solution.

9. The opinion was also expressed among stakeholders and beneficiary representatives that complex design should be avoided in order to ensure better effectiveness and efficiency of implementation, especially in the context of continued political uncertainties and changing institutional dynamics under reform. Institutional support to the sector-mandated technical agencies needs to be further strengthened in order to support and help turn the country's administrative-style support system into a service-centred one.

10. More contemporarily, the Programme design mission explored lessons learned from the on-going portfolio of value chain-focused Programmes in Nepal⁸³. They include:

- Programme-supported value chain development should be preceded by detailed value chain analysis and strategic investment planning validated through participatory multi-stakeholder platforms;
- agriculture value chain development should be led by the private sector, namely by key "gatekeepers" to customer access, typically private agribusinesses and supermarkets, not government agencies;
- incentive payments for business-oriented behavioural change at industry and producer levels should be designed and priced to mitigate associate risk and not serve as a credit substitute;
- once a desired behavioural change has been profitably demonstrated in an agroecological zone, and financial markets developed, value chain financing should be supplied through financial markets;
- initial value chain development is typically driven by middle income farmers who can more easily meet the market requirements in terms of quality and quantity of products, but often draws in poor household once perceived risks have been mollified and transaction costs reduced;
- inequalities are embedded in the rural society and are difficult to level. Marginalised people's role in decision making is still secondary to prominent people (community and group leaders) who communicate and respond positively to development interventions and embrace economic opportunities;
- farmer groups and agribusinesses are willing to pay for quality services as a part of a viable business plan;
- market-linked infrastructure development is an integral part of inclusive value chain establishment and growth promotion, but must be well designed, sustainable and climate adapted; and
- rural financial services institutions (Banks, MFIs, cooperatives etc.) need capacity building, risk management strategies and more diversified loan products to adequately service agriculture value chain financing.

⁸³ High value agriculture project (IFAD), UNNATI Inclusive Growth Programme (Danida), High mountain Agribusiness and livelihoods Improvement (ADB), Raising Incomes of Smallholder producers (ADB), Project for Agriculture Commercialization and Trade (WB), and Nepal Agriculture Market Development Programme (SDC).

Appendix 4: Detailed Programme description

11. The Programme will be implemented in Surkhet, Dailekh, Salyan, Jajarkot, Kalikot, Jumla, **Mugu, Dolpa, Humla** and (western) **Rukum** districts in Province 6 of Nepal. The four highlighted districts are incremental to the HVAP area and will be integrated into the Programme in line with the development of the (i) Chhinchu-Jajarkot–Dolpa; (ii) Surkhet-Kalikot-Jumla-Mugu; (iii) Surkhet-Dailekh road corridors; and (iv) Mid-hill highway. The programme will commence immediately in the six existing HVAP districts and in Mugu and Rukum, with Dolpa and Humla being integrated in to the Programme as road access improves. The PCO will continue to be based at Birendranagar in Surkhet district, while three corridor-based coordination units (work along the Mid-hills highway corridor will be shared) will be established for technical backstopping, field level coordination and programme monitoring and supervision (See Appendix 2, Annex 3).

12. The programme will target smallholder producers and landless rural people (value chain labour, small livestock, etc.) interested to engage in targeted value chain activities. HVAP experience indicates that this is a very inclusive process with most households in HVAP-supported hamlets and villages progressively participating in value-chain linked production and processing activities. Women will form 2/3rds of the Programme beneficiaries and disadvantaged households including Dalits, Janajatis, Muslims, youth, landless and other disadvantaged groups will be specifically targeted for Programme inclusion (25 per cent target). The Programme will develop specific mechanisms for poor households to be able to join appropriate value chains, however, poor and marginalised households will also benefit from expanding local agriculture employment opportunities associated with value chain-driven growth. It is expected that the ASDP will serve around 35,000 direct beneficiaries (producers households and agri-industry entrepreneurs and employees) and around 40,000 indirect household beneficiaries (through public infrastructure, financial services and agricultural services development).

Development objective and impact indicators

13. The Goal of the Programme is to: To contribute to the achievement of Nepal's SDG 1 and SDG 2 targets by reducing poverty and nutrition insecurity amongst women and men in hill and mountain areas of Province 6. The indicator of Programme success at goal level is:

- 24,000 more women in Programme area of 15-49 years of age, consume at least 5 out of 10 defined food groups daily (disaggregated by ethnicity).

14. The **Development Objective** (DO) is to: *contribute to the achievement of Nepal's SDG 8 target through* sustainable improvement in the income and food security of smallholders and disadvantaged rural groups⁸⁴ involved in commercially-oriented production and marketing systems in selected high value agricultural value chains. The indicators of Programme success at DO level are:

- Reduction in poverty incidence amongst 35,000 Programme households (measured as a lower HFIAS⁸⁵ score (disaggregated by gender and disadvantaged group);
- 26,000 value chain linked farm households double their household income (disaggregated by ethnicity and female-headed households).

Outcomes/Components

15. The Programme will have two components: (i) Value chain development, and (ii) Programme coordination.

⁸⁴ Dalits, Janajatis, Muslims, youth, landless, others

⁸⁵ Household Food Insecurity Access Scale (HFIAS), (http://www.fao.org/fileadmin/user_upload/eufao-fsi4dm/doc-training/hfias.pdf)

Programme Components

16. **Component 1, Value chain Development**, will include four Sub-components: (i) Inclusive and sustainable agriculture value chains expanded and diversified; (ii) Market-oriented infrastructure functional; (iii) Rural financial services for value chain development strengthened; and (iv) Agriculture services sustainably support innovation and value chain development. Component 2, Programme coordination, will have a single outcome: Stakeholders manage Programme outcomes creatively, efficiently and effectively.

Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified

17. This sub-component (outcome) will identify financially and economically profitable agricultural value chain investment opportunities in the Programme area and provide risk-based co-financing and institutional, technical and capacity building support to strengthen value chain cohesion and stakeholder profits. The indicator of successful Programme intervention is:

- Amount of agribusiness and household investment leveraged by ASDP co-financing (USD million) (disaggregated by male and female-headed households and ethnicity).

18. This outcome will include two outputs: (i) Strategic Investment Plans prepared; and (ii) Agricultural value chain development co-financed:

19. Output 1.1: Strategic Investment Plans prepared. This output includes two activities:

(i) Strategic investment plan (SIP); and (ii) DCC-convened Multi-Stakeholders Consultative Platform⁸⁶:

- *Strategic investment plan*: To identify profitable, climate change adapted value chain development pathways, the Programme will conduct a comprehensive financial, economic and value chain analysis of both existing (to confirm their continuing financial and economic viability) and potentially new value chains and associated wholesale markets covering both additional products in the existing HVAP districts and key agricultural products in the new Programme districts. As part of this analysis, constraints to private sector investment in the region will be assessed with a view to improving competitiveness and the environment for doing business. For each selected commodity, a SIP will be prepared, including all potential activities within the value chains inherent in that commodity segment. In addition to the 6 economically and financially viable value chains established under the HVAP⁸⁷, the SIP will also evaluate, *inter alia*, milk, citrus fruit, walnut, seed potato, honey and high nutrition crop (grain legume, finger millet, buckwheat) value chains in the province. The SIP process will involve 7 steps (See Appendix 4, Annex 1 for ToRs):
 - background research on the chosen commodity/crop by reviewing websites and other secondary sources of information concerning the commodities provincial and national importance, environmental requirements, role in household economies, end-markets, etc. This will be followed by primary research in the province/municipalities through interviews, focus groups, surveys and observation involving value chain actors (farm households, processors, input suppliers, advisors etc.);
 - identify the preliminary MSP stakeholders for the value chains being tested in the Programme area and initiate MSP meetings;
 - using the aforementioned information, and with MSP support, map the commodity/crop sectors in Province 6 municipalities. Value chain mapping enables the visualization of the product flow and value addition from conception to end consumer through various actors, as well as the supporting markets and enabling environment affecting the value chain;

⁸⁷ apple, ginger, goats, off-season vegetables, timur and turmeric

- prepare, with MSP support, a table listing the structural and dynamic factors in the value chain including identifying a scaling up strategy, and briefly describe the current situation, opportunities, constraints and recommendations for addressing those constraints including tangible How, Who and Financing;
- identifying supporting rural public and collective infrastructure and financial, technical and social services required to underpin specific value chain development and ensure their integration into Programme outcomes 2-4;
- prepare a financial and economic analysis of each key value chains detailing the estimated potential incremental benefits from investment in their development, including, *inter alia*, rates of return on investment, increased household income, number and type of household benefiting; job creation; increased export; import substitution, etc.;
- in partnership with the respective MSPs, conduct workshops bringing to vet the findings of the analysis and discuss if the chosen strategy for increasing value chain competitiveness is valid.

The SIPs will include a robust gender analysis. This will help in understanding the distribution of labour and workloads of women within the given value chain and help in identifying corrective action. Women who will be working on the construction site will be provided with social safeguards to prevent any harassment. The GESI Advisor will be responsible for drawing up a guideline for the women in construction. The Programme will ensure equal pay for equal work to both women and men.

As part of the SIP analysis, the supporting consultants will assess constraints to private sector investment in Province 6, with a view to improving provincial competitiveness and the environment for doing business. They will particularly focus on factors affecting business entry including registration time, cost and restrictions as well as assessing the adequacy of provincial incentives and business support services. The experience of agri-businesses supported through the HVAP in dealing with local administrations will inform this discussion, while new ASDP agri-business investments will be monitored to measure changes in benchmarked provincial indicator performance.

- *DCC-convened Multi-Stakeholders Consultative Platform*. The strength of a value chain is largely determined by a shared vision and effective communication between the value chain stakeholders. The Programme will facilitate the establishment of MSPs to support the development of specific value chains. MSPs will also inform the SIP process. MSPs will bring together the key stakeholders, including farmer representatives, private sector actors (traders, processors, input suppliers, investors, finance institutions) and government actors (municipal governance, research, extension) engaged in the development of specific value chains, with a view to strengthening private and public-private relationships across the value chains, promoting innovation and providing a conducive environment/space for the brokerage of financial agreements between value chain stakeholders. While initially convened by the ASDP's MSP Coordination Unit, MSPs will be assisted to become self-governing and to align with Provincial and Municipal institutions as they establish.

20. *Output 1.2: Market-oriented infrastructure functional*. This output would include three activities: (i) co-investment investment both on farm and at agribusiness level; (ii) value chain-led participatory and applied production and processing technology development; and (iii) tailored multi-disciplinary capacity building.

21. *Co-investment both on-farm and at agribusiness level*. The Programme would establish a competitively allocated Value Chain Development Fund (VCDF) providing risk-based co-financing to catalyse private investments by agri-enterprises and farm households into the SIP-prioritised value chains and associated wholesale markets, with particular attention paid to the inclusion of poor,

disadvantaged and women-headed households in the value chain catchment area. The priorities for the investment agenda in each value chain would be driven by the private value chain actors via the ongoing brokerage and facilitation process organized around the MSP for each value chain. The level of co-investment would vary by location and purpose, priced to reflect the measured risk to the "innovator" investors, but not set at levels that are likely to distort markets. Once "innovator" co-investments are proven to be commercially viable, both in hilly and mountainous environments, direct incentive co-investments for that value chain segment would be phased out, subject to improved access to rural financial services. The percentage of co-investment offered and other terms would be actively monitored and revised if necessary based on actual uptake.

22. The competitive co-investment allocation process would reward enterprise and farmer group business proposals that offer higher levels of own contribution, better value addition and greater engagement of disadvantaged people.

23. The Programme would also facilitate "innovator" investor access to financial services, through support to business plan development and through the development of innovative finance and insurance products in partnership with private banks, cooperatives, MFIs and insurance companies (see Sub-component 3). The VCDF, together with all the other Programme instruments, would strengthen the credit worthiness of agribusinesses and farmers' groups linked to ASDP-supported value chains. Value chain actors would become more creditworthy clients through improved business planning capacities, reduced collateral pressure, participation in profitable value chains, improved infrastructure, and overall reduced risk to their production and processing activities, with subsequently reduced risks for private financial institutions (PFIs).

24. The VCDF will co-finance (a) agribusinesses⁸⁸ and (b) farmer producer groups. The identification of potential agribusiness investors or "gate keepers" is crucial for the sustainable development of value chains. The selection of gate keepers with proven technical and financial competencies and market performance for specified value chains provides the foundation for contractual arrangements with producers.

25. Groups and the competitive marketing of value added products. A two-stage approach will be adopted in inviting the proposals. As a first step, based on SIP and MSP's identification of potential agri businesses, (gate keepers) proposals will be invited from them clearly identifying the municipalities these businesses will be catering to. Once these are sanctioned, as a next step, proposals from farmer groups will be invited from the select municipalities.

- a) Agri-business co-financing. The ASDP would generate at least USD 5.5 million (including USD 1.7 million of ASDP co-financing and USD 3.8 million of beneficiary financing) for agri-business financing. VCDF supported agri-business investment must be within Province 6.

The aim of the VCDF co-financing instrument is to leverage investment in agricultural commodity production and processing in rural areas, initiating a process of value addition by both primary producers and processors. This approach to promoting agri-business investment in rural areas is consistent with prevailing donor and GoN agriculture development programmes in Nepal, but uses a more risk-calibrated approach to co-financing agri-business investment in public and private goods and staff and supplier capacity building, with the allocation of co-financing set, within defined limits, by the investor. This approach simplifies co-financing management and has proven successful in other IFAD investment Programmes in Nepal and the region. The Programme would work closely with province and municipal authorities to align VCDF co-financing with other GoN support for value chain-driven agri-business development (e.g. the Prime Minister's Agriculture Modernization Programme, USAID KISAN II, etc.).

⁸⁸ Legally registered cooperative societies and companies of at least 12 months standing would be eligible to apply for VCDF agri-business co-financing. Entities that are the subject of bankruptcy, criminal investigation, fraud or corruption or are in default of contractual agreements would be ineligible.

The Programme would co-finance investments that generate incremental markets and value addition for raw material, leading to incremental production and increased income and job opportunities among rural households, including poor households. VCDF applications with higher levels of own contribution (including through bank financing or with a loan guarantee) would be assessed as more competitive. The Programme, through the SIP process detailed in Output 1, would identify commodities and associated value chains that have investment potential and are aligned with GoN development priorities. The selected commodities/value chains would be chosen based on their having: (i) significant potential for involving rural households, particularly disadvantaged households, in incremental production and job creation; (ii) available technologies for improved productivity; (iii) reasonably assured national or regional markets; and (iv) potential for export and/or import substitution. At least 50 per cent of the total number of households benefiting from VCDF supported investments should be represented by poor, near poor or women-headed households.

The VCDF would be underpinned by a technical, business and financial management and Information Communication Technology (ICT) capacity building program for participating agri-business managers with a view to improving their farmer service capacity, profitability and enterprise linkages, both at the local level and to upstream quality suppliers and markets. The business/financial management training would include, *inter alia*, setting measurable goals, developing business plans, identifying markets and competitors and setting marketing strategies and plans, financing your business, financial analysis, keeping accounts and managing people. One two-week course would be run annually by an experienced business trainer.

The VCDF facility would co-financing of up to 30 per cent of total investment cost of an approved agri-business investment, with the remaining investment being contributed by the benefitting business. Up to 20 per cent of VCDF co-financing would be available for the purchase of supporting services (business development services (BDS), legal, technical, marketing, standards, farmer extension, etc.) for the planned value chain investment. Co-financing would start at USD 15,000 as a minimum and reach up to USD 100,000 as the maximum. For agri service providers such as agro vets, VAHWs, VAW the minimum would be set at USD 1,500 including demonstration. In the case of production of new commodities, the PCO could determine that trial production could be financed at a smaller amount than USD 15,000, but otherwise follow the same requirement as the mainstream VCDF investments. In cases where the potential export/import substitution and social impact of the proposed Programme is extremely high and/ or the investment is pivotal for developing the respective commodity in the province, the maximum VCDF co-financing could, with IFAD approval, be up to 250 per cent of the aforementioned cap.

In kind contribution. The enterprise in-kind contribution cannot exceed 50 per cent of total enterprise contribution (i.e. 50 per cent of 70 per cent). The in-kind contribution must be supported by appropriated documentation stating its value based on market evaluation undertaken by an independent authorized entity. The minimum 35 per cent (of total investment) enterprise cash/credit contribution for VCDF co-financed investments must be deposited into a designated co-financing account held by the lead enterprise and be accounted for separately in their books of accounts. The cash contribution cannot be reduced over the duration of the VCDF co-financing period, however, the enterprise can expand this level using own resources or other (equity and debt) funding. In-kind contribution may include: equipment, vehicles, building and other capital goods and/ or raw materials contributed to build up/ acquire such goods during the agreed sub-Programme timeframe

The in-kind contribution must be supported by appropriated documentation stating its value. The documentation must be based on market evaluation undertaken by an independent authorized entity who would be hired by the PCO to undertake the evaluation. In-kind assets directly related to the investment with VCDF support can be accepted if procured/user-rights have been obtained within 12 months from the time of submitting the concept note.

The VCDF would not accept the following assets neither as the LF's contribution nor as expenditures eligible for reimbursement:

- leasing of equipment, land and facilities;
- bank charges, cost of guarantees and similar charges;
- value of intellectual property rights;
- value of previously existing inventory used for the production of the Programme goods and/ or services;
- general costs involved of an investment sub-Programme proposal development/design (architects', engineers', consultants' and general legal fees, costs of feasibility studies for preparing the Detailed Investment Proposal and costs for acquisition of patents and licenses, etc.).

The VCDF would separate investment items into Public Orientation (PO) and Company Orientation (CO). The VCDF beneficiary can utilise a maximum 20 per cent of its total co-financing for PO investments. There is no limitation for the LF's own funding of PO activities. The PO investments are those directly related to the suppliers of raw material and capacity building of rural households and LF's employees including:

- documented Technical Advisory Service to rural households and training of rural households;
- documented training of LF personnel
- documented provision of production credit in cash or in kind;
- documented joint (LF and rural households) investment in intermediary produce collection and processing centres.

A total of 80 per cent of VCDF co-financing should be for CO investments. CO investments are capital tied up in plant, equipment, rolling stock related directly to the core activity of the LF including:

- civil works related to storage and processing of raw material;
- processing and packaging equipment;
- transportation related to collection of raw material from smallholder producers and shipment of finished product;
- equipment for energy generation for processing plant;
- equipment related to environmental mitigation.

The investment supported by the VCDF shall assist a minimum of 1 rural household per USD 500 of co-financing (e.g. total VCDF co-financing of USD 50,000 should provide direct tangible benefits to a minimum of 100 rural households including 35 disadvantaged households). The direct tangible benefit should be in the form of:

- rural household sale of raw material to the LF;
- rural household receiving training and advisory service;
- rural household receiving production credit;
- rural households receiving tools, equipment's as plastic crates, plastic dokos, potato grading machine, Semi processing drums, gloves and others (this may be cost shared with the LE in some situations);

- rural household formed into cooperatives/associations jointly own intermediary processing/assembly facility for raw material.

Implementation Arrangements for co-financing agri businesses:

Legal entities of at least 12 months standing eligible to apply for VCDF include: (i) sole Proprietor/individuals; (ii) cooperative societies/associations; (iii) partnership; and (iv) companies. As part to the eligibility criteria, the aforementioned entities should be able to provide the documents detailed below:

- Business License;
- Certificate of registration and extract from Registrar;
- Annual tax Return Report (1 year);
- Capacity Document of Board of Coordinator, CEO, CFO, CTO;
- Memorandum and Article of Association;
- Permission for the ASDP to collect information from trade partners.

None of the above entities shall be eligible for support under the following circumstances:

- having gone bankrupt or being liquidated; having its operations managed by courts; signing agreements with creditors, having its operational activities suspended; being subject to procedures concerning these matters or being in a condition due to a similar situation as per national laws or arrangements;
 - being sentenced for offences related to their own business which cannot be appealed;
 - being convicted of gross abuse related to business matter which can be confirmed by the PCO;
 - non-performing obligations related to the payment of social security contributions or tax payments in accordance with the legal provisions in Nepal;
 - being subject to an adjudication due to being involved in fraud, corruption, a criminal organization or other illegal activity which cannot be appealed.
- **Expression of Interest.** The Programme will call for Expressions of Interest (EoI) from potential agribusiness /traders/cooperatives interested to work in increasing their supply base and value addition of the selected value chains through improved marketing practices, establishment of processing units, etc. as identified in the relevant Strategic Investment Plan (SIP). This is done through advertisements in regional, national and local newspaper and on district FM radio and promotion through national commodity associations as well as district and federal chambers of commerce and industries. As part of the MSP process, the Programme will share information on areas and scale of co-investment including funding modalities, and also collect basic information of potential cooperatives/agribusiness /traders including name, location, and experience in business, existing transaction volume, supply base and physical facilities. The Expression of Interest (EoI) will address matters identified in Box.1 below.

Box 1. AGRIBUSINESS SHORT LISTING CRITERIA

- Company in similar business /commodity for 1-3 years
- Existing supply chain network for selected value chains
- Quality of EoI: purchase volume, working area and operation modality.
- Inclusiveness: potential impact on low income communities and benefits sharing mechanism
- Innovations and sustainability
- Capacity and willingness to expand business and co-invest.

Field verification (FV) of the EoIs will be done by the Programme VC team⁸⁹, respective municipality representative and DCCIs representatives. The team will verify the provided corporate information as presented in the EoI and the commitment of the companies to work with rural suppliers. The FV team will recommend the successful EoIs submitted by the concerned agribusiness to the Programme Coordinator for approval. The shortlisted agri businesses will be advised to submit detailed proposals and business plans.

Investment proposal. Each lead enterprise short-listed by the ASDP on the basis of their EoI will be required to prepare an investment proposal including (i) the estimation of NPV and IRR of the proposed business investment; (ii) estimation of monthly cash-flow/working capital analysis during the first years to avoid liquidity problems; (iii) a well-articulated business plan, which would also be used by for implementation of the investment; (iv) detailed social and environmental impact assessments; and (v) investment in business-derived social infrastructure –bridge, piece of strategic road, water supply, electricity, gas, water treatment etc. would all be supported by a feasibility study.

Investment proposals will be accepted throughout the year. The VC team will be responsible for the preliminary assessment and short-list of the eligible proposals based on the pre-defined criteria and arranging field verification. Plans involving ASDP co-financing of less than USD 25,000 will also be assessed by the VC team against defined selection criteria (See Appendix 4, Annex 2) who will make a recommendation to the Project Coordinator for Programme financing. Respective DCCIs and also line departments would be invited for consultation where required. Co-financing applications for > USD 25,000. would be referred to a Business Plan Assessment Panel consisting four independent experts, who would prepare a recommendation to the PC for financing. For co-financing awards >USD50,000, the PC would seek IFAD no-objection to the co-financing, contingent on which the PC would approve the disbursement.

The HVAP “Value Chain Fund Guidelines” provide a basis for competitively evaluating agri-business co-financing proposals, but need to be refined to provide weightings for proposals that offer higher levels of own contribution, better value addition and greater engagement of poor and disadvantaged people. A draft outline for a competitive enterprise bid is detailed in Appendix 4, Annex 4.

Enterprises approved for co-financing investments would develop an Action Facilitation Plan: this would include preparation of a Gantt chart providing the time line for all activities to be supported by the respective sub-Programme. The chart would also identify the responsible party, place and time and how it is measured.

⁸⁹ The PCO value chain management team will be constituted by two PCO-based VC technical and business experts at PCO level and one business development adviser with each of the 3 road corridor field teams. It will be good to include the Fund & contract Manager to review the documents during FV. How about involving Concerned Municipality and or DCCI as part of the FV team

The PCO will negotiate an outcome-based co financing contract with successful applicants. The project will facilitate, support and monitor the implementation of the sub-project in line with the milestones agreed in the contract. The fund will be released from ASDP as per milestones detailed in the contract. The agri business will maintain separate books of accounts for the approved co investment. The ownership of assets created under co financing will that be of the agri business. The responsibility of repair and maintenance of assets will be that of agri business. The agri business will provide interim reports on physical and financial progress and final report after completion of co investment activities.

Window 2 - Farmer group investment co-financing. The ASDP would provide approximately USD 12.50 million (including beneficiary co-financing) for farmer group value chain participation co-financing. An additional USD 8.2 million would be available for community-based infrastructure development. VCDF supported groups must be within Province 6.

Farmer groups, together with eligible cooperatives, would be entitled to apply for competitively allocated, market-oriented, value chain-linked co-financing supporting both (i) the alignment of their agriculture production systems with emerging value chains; and (ii) the adoption of climate adapted technologies and practices. The selection of farmer groups and group members to be supported through farmer group financing should be based on a competitive mechanism in wards identified as having the potential to supply profitable, SIP-identified value chains.

Eligible investments- Farmer group co-financing could cover (i) initial capital investment costs, (ii) upgraded farming inputs through revolving working capital mechanisms, and/or (iii) required technical assistance. Co-financing would focus on innovative production, climate change adaptation, risk reduction or value addition investments. This could include investment in, inter alia: afforestation, climate-resistant crop varieties and management systems, forage production, improved genetics, irrigation⁹⁰ (both household level as well as group level), biogas and other by-product utilization, including bio-fertilisers, minimum tillage and organic agriculture. Tools and equipment for improved farming practices will be included. For livestock rearing, which will not be implemented in mountain districts, the eligible investments will include, breed improving bucks, veterinary support services, livestock equipment, milk cooling tanks, etc. The female animals (does, cows and buffaloes) will be purchased out of loans from financial institutions or from own funds. The establishment of a sufficient, designated forage field will be a pre-condition for the release of approved livestock co-financing. The Programme will facilitate low cost shed construction by members of goat and dairy value chain members by making available the plans for the same. Should group members propose collective livestock housing, this could be financed with the support of the collective good infrastructure fund.

Membership - The programme would support both gender specific and gender disaggregated farmer groups. To be eligible for the ASDP competitive co-financing, the membership of farmer's groups must, in aggregate at ward level, include (i) at least 60 per cent of members from poor and near poor households; (ii) at least 60per cent female members; and (iii) at least 35% disadvantaged households. All VCDF-supported sub-projects, managed and owned by the farmer group or cooperative, must demonstrate sustainability beyond the initial ASDP assistance and be linked to VCDF co-financed value chain development as detailed above. All participating farmer groups/cooperatives would receive training in group formation, participation and governance.

⁹⁰ Financed from the collective good infrastructure fund.

The maximum farmer group co-financing investment will be USD 350 per group member and USD 10,000 per farmer group/cooperative in the mid-hills and USD 400 per group member and USD 12,000 per farmer group/cooperative in mountainous municipalities. The co-financing investment would cover up to 50 per cent of the total cost of each investment, with beneficiaries financing at least 50 per cent including a minimum 25 per cent in cash and the balance in kind. This limit of USD 10,000/USD 12,000 is for production costs and tools and equipment. Groups requiring irrigation (OSV, apple, walnut, potato, ginger, turmeric etc.) both at household and group level will have access to an additional grant of USD 20,000 per group with community contribution of 15%. These funds will be released by the PCO from the Sub-component 2 (community infrastructure) budgets.

The 25 per cent cash contribution by group members is important to ensure the commitment to and ownership of the investment by group beneficiaries. The members will borrow from their cooperatives/MFIs for financing their cash contribution. Where feasible, the whole group will be linked to a financial institution for the financing of the proposal. The Programme will facilitate such linkages. Local MFIs have the capacity to finance the cash contribution if required. The project will be supporting municipality cooperatives to access larger finance from banking institutions for on lending to members. The programme would help reduce barriers to male and female farmer access to finance by: (i) reducing collateral pressure through co-financing and development of alternative loan securities; (ii) assisting farmer groups and cooperatives to improve business plan quality as per financiers' requirements; (iii) building MFI and commercial bank agriculture lending capacities; and (iv) supporting the development of more diversified, value chain-linked financial products (see Sub-component 3).

For very poor members who wish to join groups, the co-financing can, based on agreements reached by the group, be increased to up to 60%, with at least 5% contribution in cash by such members and the rest in kind. The very poor members will be identified by the community themselves.

Availing technical support services. Up to 20 per cent of each grant could be used by the group for the procurement of technical support services, including LRP support, coordinated by ward CAESCs. All such service provision would be through standardized, output based contracts between the service provider and the group. LRP advisors would be certified under an ASDP developed and GoN managed training and certification scheme, providing both technical and pedagogic skills. The Programme would also provide business literacy and entrepreneurship training to group members, participation in which would be a condition of Programme support to their respective groups. This activity would, where practicable, be integrated into the overall rural vocational training Programme in Nepal.

Financial flows for farmer group co-financing. In accordance with current MoF decisions, the Project Coordination Office (PCO) would be the "Cost Centre" for disbursement of funds to beneficiaries and/or implementing agencies. The Programme will revise its disbursement strategies in accordance with prevailing GoN regulations, including devolution of conditional funding for activities implemented by the municipality, on completion of a fiduciary due diligence of the municipality as a cost center.

The approval of ASDP IPs by Local Body Executives would be based on the recommendations of the Municipal Agriculture Development Committee (MADC) in response to competitive farmer group IPs that have undergone a bipartisan Field Evaluation by the Ward-level Community Agriculture Extension Service Centres (CAESCs) and PCO/HSI technical/administration teams⁹¹. Once Ward-level IPs have

⁹¹ Staff of the PCO, ASDP mobile teams, and HELVETAS SWISS INTER-COOPERATION.

been prioritised and approved by the MADC in accordance with the budget limits set by the PCO, the MADC would forward the IPs to the Local Body Executive for no-objection and subsequent request to the ASDP Project Coordinator (PC) for financing. The IPs would be included in the ASDP annual work programme and budget (AWPB), and, upon MoF approval, the PCO would prepare a quadripartite contract (Municipality, Ward, beneficiary and PCO) on which basis the PC would allocate ASDP funds to contract-identified beneficiaries.

Implementation process for VCDF financing of Groups and Cooperatives: The overall responsibility of the farmer group competitive co-financing operations under ASDP would be with the Community Agriculture Extension Services Centre (CAESCs) and Municipality Agriculture Development Committee (MADC). These institutions would be assisted by the HSI technical team and associated Social Mobilisers, the ASDP road corridor technical support teams and the PCO technical experts. The Project Coordinator would be responsible for the overall coordination of the programme.

Strategic Investment Plan (SIP) endorsed by Multi-Stakeholder Platforms (MSPs)⁹² for a specific commodity would list the Wards and Local Bodies eligible for ASDP support based on viability criteria. Based on the endorsed SIP, the PCO will, on a competitive basis, select Lead Entrepreneurs (LE) or Value Chain Gate Keepers for co-financing for specific commodity VCs. Once the eligible Wards/Local Bodies and LEs are known for a specific commodity VC, the process of selecting Groups/Cooperatives for competitive co-financing under ASDP would be initiated. The underlying process for identifying VC-led IPs would be as follows:

The PCO will call for investment proposals (IPs) from farmer groups/cooperatives through local and national newspapers, local FM radio and notices at the concerned Ward, Local Body and DCC offices. The call for IPs would specify the eligibility criteria and terms of financing. Local Bodies would be informed through workshops facilitated by the HSI team, Social Mobilisers (SM) engaged by HSI/ Local Service Providers (LSP)⁹³ and the project teams about the provision for competitive co-financing of groups and cooperatives under the Programme, the eligibility criteria and the terms of financing. The social mobilizers (SM) for the concerned Local Bodies will give wide publicity regarding the call for proposals to groups, cooperatives, CAESCs and MADCs in the concerned Local Bodies. Templates for submission of IPs will be made available at the concerned Ward offices of the concerned Local Bodies. See Appendix 4, Annex 2 for sample of group proposal for OSV co-financing).

The HSI team, Programme road corridor mobile teams, business development service providers and SM will assist the interested groups and cooperatives to prepare the IPs in the prescribed templates, including requirements for community infrastructure. The proposals would be submitted to the mobile teams who would carry out a desk review of the IPs and identify IPs for field verification⁹⁴. A team under the aegis of the CAESC, comprising of its technical staff, mobile team member, SM and a representative of the proposed private financing institution (PFI)⁹⁵ would carry out the field verification and shortlist viable IPs with necessary modifications in consultation with the proponents and send the same to the MADC through the Ward Chairperson. The MADC would review and prioritize the submitted IPs in accordance

⁹² Chairpersons/Mayors and their deputies from the concerned Local Bodies would participate in the MSP so that the selected commodity chains have their endorsement.

⁹³ The PCO and HSI will jointly recruit suitable LSPs to carry out the social mobilization and group/cooperative development activities under HSI guidance and supervision. These may be local NGOs. Where suitable LSPs are not available, HSI will directly recruit SMs, thereby assuming the role of the LSP.

⁹⁴ This responsibility may be transferred to the MADC (with support from the project team and HELETAS during the ASDP tenure) once it has been set up and adequately capacitated.

⁹⁵ The PFI would come into picture where the IP includes loans for financing a part of the investment.

with the budget limits set by the PCO and recommend the selected IPs to the Chairperson/Mayor for approval and recommendation to the PCO for financing.

The PCO would include the recommended IPs in its Annual Work Plan and Budget (AWP&B). Following budget approval, a quadripartite agreement would be signed between the Group/Cooperative, the Local Body, Ward and PCO⁹⁶ and filed with the PCO with copies to the other three signatories. Funds for enterprise investment would then be released by the PCO out of the VCDF, as per an agreed tranche schedule, to the bank accounts of the Group/Cooperative for disbursement to the members with information to the Local Body, Ward and PFI (where relevant). Where included in an IP, funds for household level irrigation/ group level irrigation will be released by the PCO directly to the group/cooperative account out of the community infrastructure fund.

The CAESC, the Project's mobile teams and SM would, under HSI guidance provide implementation support to the Group/Cooperative and monitor implementation progress. The supported Group/Cooperative will furnish periodic reports to the PCO with copies to the Ward and Local Body as per the contract. Releases of further instalments, if any, would be made by the PCO on the recommendation of the CAESC. A project completion report will be filed by the Group/Cooperative to the PCO, Local Body and Ward once the planned investments have been completed.

In cases in which a group or its members do not follow the co-financing contracts, the funding to the group would stop immediately and the PCO, through the municipality/ward, would request the repayment of all co-financed funds issued to the group. In the event that a municipality/ward fails in their management and follow-up tasks in the competitive co-financing scheme, the ASDP management would stop the operations with the co-financing of farmer groups and cooperatives in that area and re-allocate the funds to the other, better performing municipalities/wards in the ASDP target area.

While the aforementioned principles were agreed to form the core of the farmer group competitive co-financing investment procedure, the final Operations Manual, including eligibility criteria and detailed co-financing processes, would be developed during 2017 to be ready when the actual implementation is expected to commence in early 2018.

Expected benefits. The household income benefits from farmer group co-financing are expected to be substantial. The number of directly benefiting households is expected, when calculated at an average co-financing of USD 10,000 equivalent and average group size of 30, to be around 26,000 households, assuming a 75% success rate. Significant flow-on benefits would accrue from technology demonstration through innovative farmer group co-investments. As many of the on-farm investments are expected to follow tested methods for CC adaptation, the benefits for each household and community are expected to be long-lasting and sustainable.

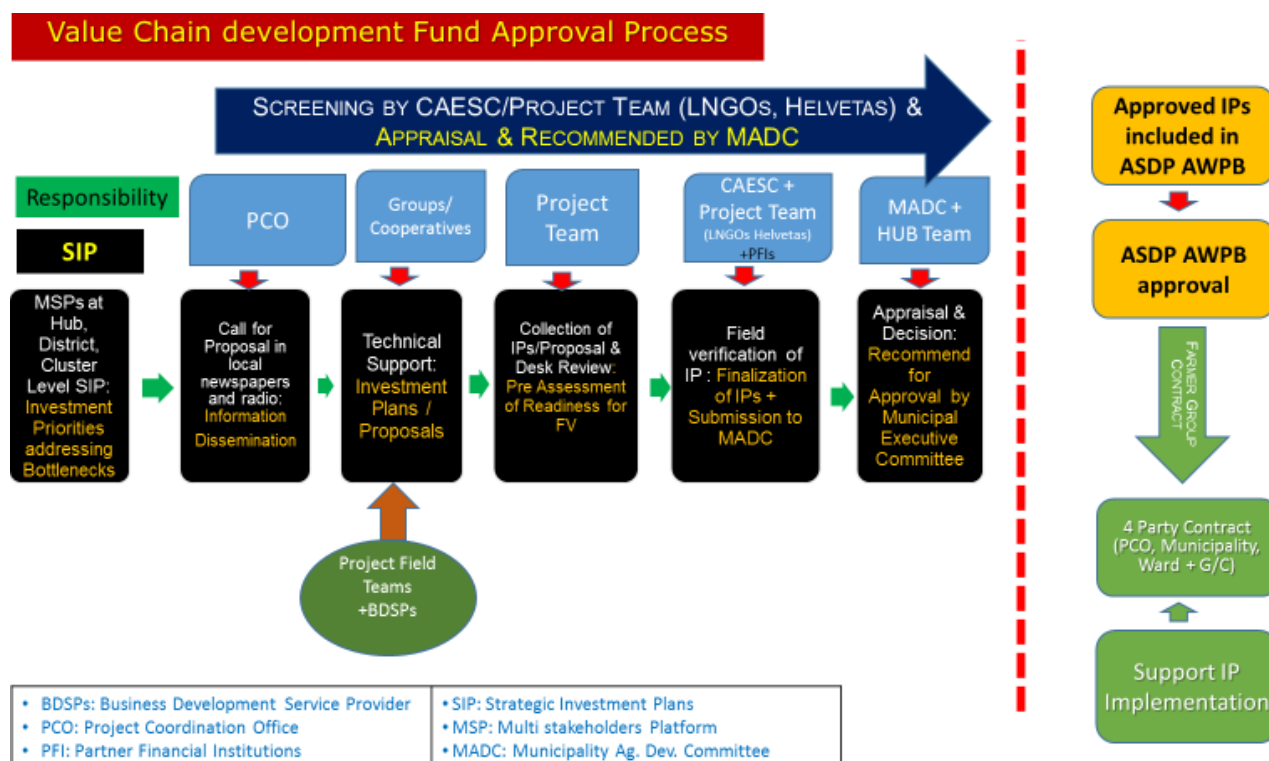
Exit strategy and scaling-up. Farmer group members often use a part of their grant to establish a revolving element to finance ongoing working capital requirements or additional lending rounds to the poorer group members. At the same time, if successfully implemented, farmer group grants, if not rotated, can have a major demonstration effect in their implementation areas, which are, typically, significantly impacted by both poverty and CC. This could encourage similar investments by other funding agencies, including the government. Importantly, the inclusion of the financial institutions in the scheme from

⁹⁶ Over time, as the financial management and reporting capabilities and communication infrastructure develop at the level of the Local Bodies, funds for the IPs included in their Annual Plans (approved IPs) may be transferred to them for release to concerned IP proponents with responsibility for M&E and audit.

the beginning aims at making them aware of investment opportunities of this type, to finance innovative agricultural programmes also in the future, increasingly from their own funds.

Value chain-led participatory and applied technology development. The design mission has identified significant technical constraints in the targeted value chains. Programme co-financing would be available to support applied and participatory research and associated technology transfer, including farmer-to-famer and enterprise-to-farmer advisory services, to address technical constraints and opportunities mutually identified by value chain actors through their MSP. Beneficiary enterprises and farmer groups could apply up to 20% of their investment co-financing for participatory action research into identified production or processing constraints related to their value chain. The VC MSPs will also have access to additional funding for participatory action research. The Nepal Agriculture Research Council (NARC), universities and technical institutes would be pre-approved to compete for outcome-based participatory action research contracts.

Tailored multi-disciplinary capacity building. The Programme would provide value chain actors with specific training based on capacity building needs identified by the MSPs. This could include in-field and residential training courses; experiential regional study tours, etc. Members of farmer groups receiving “innovator” investment co-financing would be required to initiate business literacy training before the release of the co-financing funds. Additional entrepreneurship training would also be available to agri-business managers and agriculture group members.



Sub-component 2. Market-oriented infrastructure functional

26. *Output 2.1. Co-financed public and community market infrastructure.* The indicator for success for this outcome is “Percentage of households in Programme impact areas reporting satisfaction with Programme infrastructure development (disaggregated by male and female-headed households and ethnicity)”. The Programme will allocate loan funds for market-linked infrastructure

investments that provide public good and collective⁹⁷ benefits essential to the successful development of targeted commodity value chain engagement and/or climate change adaptation (see Appendix 4, Annex 5 re. infrastructure climate proofing). Public or collective market-linked infrastructure investment schemes will be identified and prioritized through: (i) the SIP/MSP process; (ii) subsequent participatory community planning; and (iii) their alignment with Municipality infrastructure plans. Investments could include, *inter alia*, village and farm access roads, commodity storage, ponds, small-scale irrigation and multi-purpose village water supply. As this is a demand driven process, there is the likelihood that communities, MSPs and SIPs will identify the need for other types of infrastructure that have not been anticipated here. The programme will be structured to cater for innovative demands as they emerge. For public infrastructure (village roads, trails, markets, etc.) funds will be advanced to Municipalities by the PCO Cost Centre for municipalities to implement with Programme support. Collective good infrastructure will be primarily built through community action unless their scale or complexity required contracting. All infrastructure investments will be climate change adaptive. In line with the Local Infrastructure Development Policy LIDP, infrastructure development shall follow the following process: identification, selection, prioritisation, implementation, operation and maintenance. This process has been developed further by HSI for farmer managed irrigation systems development. The same approach, with modifications, will be used for all types of Programme local infrastructure.

27. The identification of infrastructure Programmes will be through the high value chain strategic investment plans (SIP) and approved by local government authorities. The criteria for selection of transport infrastructure will include the criteria in Table 1.

Table 1. Example selection criteria

Parameter	Scoring Unit	Score
Population	Population/NRP 100,000 investment cost	50
Cultivated land under the target high value commodity	Area cultivated (ha)/km	25
Population x walking hours	Population x walking hour/km	15
Total population of poor, Dalits and marginalised Janajatis	Population/km	10

28. Infrastructure construction will use a mix of labour intensive methodologies and machinery as appropriate. Local government and design engineers will determine the best mix of community labour and machinery, as allowed by law. The selection of irrigation and water supply development will occur in the high potential pockets/cluster areas and will depend on technical feasibility. Rehabilitation and upgrading of irrigation schemes will be prioritised depending on the: (i) number of beneficiaries; (ii) value of crops to be grown; (iii) number of disadvantaged communities benefitting; (iv) linkage with a commercial trader to buy the produce and (v) availability of road access. The process for selection and development of local infrastructure is summarised in Table 2. The detailed implementation arrangements will be developed in the Programme implementation manual.

Table 2. Process for selection and development of local infrastructure⁹⁸

Phase	Steps	Responsibility
PREPARATION, SELECTION AND PRIORITISATION	1	Request submission of potential Programmes, as identified in the Programme SIP , by communities to local government directly or by service providers, line agencies or others for initial screening.
	2	Socio-economic and technical survey of screened proposals.
		PCO Local government
		Local Service Provider (LSP)

⁹⁷ Semi-public good

⁹⁸ Adapted from FMIS Operational Handbook for Technicians and facilitators, HELVETAS SWISS INTER-COOPERATION, DoLIDAR under the Local Infrastructure for Livelihood Improvement Programme.

Phase	Steps	Responsibility
	3 Prioritization of Programmes and allocation of funding.	Local government PCO
SURVEY, DESIGN & FORMALISATION of PROGRAMME	4 Social and technical Detail Survey, Design, Cost Estimates • Evaluation of prioritized Programmes. • Linkage to high value agricultural commodity support • Determine cash and in-kind contribution at 15 per cent of investment cost.	External Service Provider (ESP) and / or Local government
	5 • Public Hearing for Communicating Results of Detail Survey to the Community and local government (municipality/ward) concerned and announcement of selected Programmes	Local Service Provider (LSP) and / or External Service Provider (ESP) Local government (municipality or ward)
	6 • Formation of User Committee (UC) • Preparation of Operation & Maintenance Plans and Financing System (OMPF/S) • Signing of Agreement with UC • Construction Management Training	Local government PCO UC
	7 Procurement of material or contractor.	Local government Service provider/PCO
CONSTRUCTION COMMISSIONING	8 Construction and construction supervision Monitoring and Verification of required community contribution	Local governments Local building groups Contractor/UC Service provider/UC
	9 Programme completion commissioning and reporting including public audit	Local government UC Service provider/PCO
Operation and maintenance	10 Prepare asset maintenance plan Implementation of maintenance plan Operation of infrastructure as required	Contractor UC Local government

This process may take as much as 1½ years to be completed. Detailed surveys for roads and irrigation Programmes need to be done in the driest periods – i.e. in the pre-monsoon months of mid-February to mid-May.

29. Co-financing of construction costs of public and collective good infrastructure works will be in accordance with the accompanying Table 3. Individual infrastructure investments exceeding USD 100,000 will require no-objection from IFAD. The Programme will, wherever practicable, use force account

Table 3. Breakdown of infrastructure financing

Activity	Financier (%)		
	IFAD Loan	Municipality	Beneficiary
Roads	75 per cent	25 per cent	0 per cent
Trails & trail bridges	75 per cent	25 per cent	0 per cent
Markets	50 per cent	35 per cent	15 per cent
Water	85 per cent	0 per cent	15 per cent
Design	100 per cent	0 per cent	0 per cent
Supervision	100 per cent	0 per cent	0 per cent

processes for community infrastructure investments, designed to create local jobs, while recognising that most major infrastructure investments will require some machine support.

30. **Details of Potential Infrastructure and Technology Investments.** The rural hill and mountain areas of Nepal are among the least developed in the country. Road and electricity connectivity are very low, with some village centres having neither road nor electricity access. Life for the poor is characterised by long hours of walking, carrying heavy loads. Women spend long hours fetching water and travelling to markets, or for other government services. Development of all-year-round transportation services and energy access can significantly improve the livelihood of rural communities.

31. *Local transport infrastructure* links production areas to market centres, village roads, district roads or strategic road networks. The infrastructure will follow standards as stipulated in the Nepal Rural Roads Standards (2010). The Programme will develop transport links that have the least investment cost. All transport links should be built to consider a 10-year projected traffic volume. The design of the link will aim to achieve the lowest life cycle costing (cost/km), which will include: (i) the amortised cost of the investment for the link (new or rehabilitation); (ii) the annual maintenance cost; and (iii) any annual operation costs for that link.

32. Local transport linkages are categorised into five classes based on the function of the link, traffic volume and type, and topography. The three that are relevant to the Programme include:

- District Road Class B (RRB) – linking Grade A market to grade C, linking grade B market to Grade C market, connecting VDC centres, linking Grade B or C market to SRN or LRN; connecting a place in a village (river ghat, mini-market, school, health post, residential area, forest, etc.) with a village centre or any other road link. Village roads are smaller and shorter than RRB roads. The ASDP will invest in RRB roads and village roads that are less than 5km in length and justified with linkage to significant production clusters/pockets of targeted high value commodities. It is anticipated that the cost of development will be about USD 100,000/km;
- Rural Road Class C (RRC) – all major non-motorable foot/mule trails which connect a VDC centre with a district headquarters, SRN, DRCN, village road and other major location. This class will include trail bridges. The ASDP will invest in RRC infrastructure. It is anticipated that the cost of development will be about USD 700/meter for trail bridges; and
- Rural Road Class E (RRE) – In the high mountains where construction of trails is not feasible, rope ways shall be considered. The rope ways shall be mainly justified based on socio-economic considerations but considering the amortised cost of construction, operation and maintenance.

33. The preferred approach is to have the infrastructure prioritised in line with the local government planning procedures, considering the main objectives of the Programme.

34. Under the ASDP, rural transport infrastructure will include motorised and non-motorised traffic focussing on RRB, village roads, RRC and RRE transport classes. All roads will fall under the jurisdiction of the local municipality, which will be responsible for managing their construction, with the support of the PCO-contracted infrastructure design and construction supervision team (See Appendix 4, Annex 3 H for detailed ToRs). Priority will be given to upgrading roads from fair weather access to all year access, whilst new roads may be included. All village roads to be upgraded or new development will be part of the district/municipality transport master plan. The municipality will make an undertaking to co-finance the construction and maintain the road after construction, as part of condition for selecting the road.

35. Trails and trail bridges will also be owned by the municipality and maintained jointly by the community and municipality. The municipality will co-finance the construction of the trail bridges and associated trails and the community will contribute towards the construction and maintenance of trails and trail bridges.

36. Road user committees will be formed for all village roads, trails and trail bridges. The committees will work together with the local government to ensure that maintenance is carried out for the infrastructure.

37. *Water supply* is a key constraint to development in the hill and mountain areas of Nepal. Over the years, the government has developed irrigation schemes with the assistance of donor organisations. The irrigation policy defines small-scale irrigation as less than 25 ha in mountain areas and 200 ha in the Terai. Small-scale irrigation is the responsibility of local government bodies. Larger irrigation schemes are the responsibility of the Department of Irrigation.

38. The ASDP will invest in new and old farmer managed small-scale irrigation systems. Existing small-scale systems will be rehabilitated and upgraded using modern technologies that promote water use efficiency and crop productivity. Drip irrigation, under solar, will be preferred where ever feasible. In all cases, irrigation development shall include improved domestic water supply systems for the community. The Programme will promote the use of water filtration systems that are appropriate for the areas to be selected for the supply of water for use at households. Supply of potable water, alongside irrigation water, will be a Programme objective in areas with no domestic water supply.

39. *Marketing and Collection centres.* Small towns in rural Nepal act as service centres providing for places to market excess farm produce. Local government authorities and the Department of Marketing facilitate the development of markets. The markets will be owned by the local government (municipality or province), but managed by the users, who will establish a Market Management Committee. The users of the market pay a fee for use, that will be used to finance operation and maintenance and depreciation.

40. The ASDP, will finance the development of marketing infrastructure, according to the needs identified in the SIP and in line with local government priorities. The Programme will finance 85 per cent of the cost of the market and the local government will finance 15 per cent. This will include municipality-owned markets of different sizes depending on location and identified need. Markets will have women-friendly and safe spaces. The Market Management Committee will be assisted to organise for optimal operation and maintenance of the market.

41. Community-based collection centres are also proposed to be developed in line with the needs of traders. The collection centres will be farmer organisation owned and operated. The farmers who own a collection centre will be legally registered.

Sub-component 3. Rural financial services for value chain development strengthened

42. Under this Sub-component (outcome), the Programme will facilitate financial linkages for agriculture producers and agri businesses in value chains. Apart from 35,000 households covered under ASDP, the 15,200 producers covered under HVAP, and the rural community in general, will also receive improved access to financial services, especially production credit. A primary reason for including this sub-component is to providing existing and new value chain stakeholders, at all levels of the chain, with access to finance to provide scope for post-project sustainability and scalability of ASDP and HVAP supported and for new value chain development. While the Programme will work largely with cooperatives and Micro-finance Development Banks (MFDBs) for financing of producers, the commercial banks will be engaged for facilitating credit linkages for agri businesses. Commercial banks will also be supported for new product development, such as financing of farmers with linkages to agro-vets, traders and processors, through alternate collateral mechanisms. This outcome will include two outputs: (i) Rural financial services development; and (iv) Support to credit access.

43. The rural finance strategy has a twin track approach of working with financial institutions to develop suitable credit and insurance products that meet producers' and agribusinesses' needs and, simultaneously, building producers' capacity to utilise credit effectively and to mitigate production risks. The rural finance outcome will initially dovetail with the co-financing proposals of producer groups and enable the producers to leverage the bank loans for their viable business proposals. Each co financing proposal will have 50% members' share which will be facilitated through loans and members own funds. While the first loan to the individuals/group/agribusiness will require facilitation, with the proven credit history of the borrowers, the financial institutions will continue to lend to the producers for their production and investment needs and also agribusinesses. Similarly, the agri businesses will receive support to access credit. Banks would be informed of the programme interventions, different grant windows and the evaluation mechanisms, which would provide comfort to the banks.

44. This outcome would include two outputs: (i) Rural financial services development; and (iv) Support to credit access.

45. *Output 3.1. Rural financial services development.* This output will be comprised of three activities: (i) Product innovation for value chain financing and loan risk management; (ii) Capacity development of co-operatives; and (iii) Improving insurance uptake.

- *Product innovation for value chain financing and loan risk management.* It is expected that about 5 commercial banks will develop value chain financing arrangements with the Programme and introduce trade and production financing. About 20 value chain financing agreements covering about 10,000 primary producers in different value chains are expected to be put in place. This initiative will be initiated with HVAP supported agri businesses and producers where the processor/trader and producer's relationships are well established. Thereafter, it will be expanded to the ASDP clientele.

The Programme will convene a multi stakeholder platform for each commodity value chain consisting of major stakeholders including input suppliers, producers, research/extension service providers, agri businesses and financial institutions. This will help develop a common understanding among the stakeholders on financial requirements. Through the MSP and also Programme interventions, value chain agreements will be forged between agribusinesses and farmers with clearly established channel relationships, contracts and formal agreements. This will form the basis of value chain financing.

The Programme will provide technical assistance to banks intending to implement value chain financing solutions. Technical assistance will include both international and national experts (see Appendix 4, Annex 3 for ToRs). The TA will be needs-based and the Programme will have the flexibility of hiring on monthly or shorter duration basis. The TA will cover identification of agribusinesses willing to adopt transparent practices with farmers and deal with banks for financial requirements on own account as well as the farmers, product development consistent with the prioritised value chains, developing protocols for products comprising size, rate of interest, repayment terms, collateral and repayment mechanisms.

The Programme will engage individual consultant/s to provide Technical Assistance to interested commercial banks to explore and develop value chain financing products. The likely value chain financing arrangements for different value chain commodities include: (i) agro vet/agro supplier input financing (for seeds and inputs, animal care nutrients and medicines); (ii) processor financing (for turmeric, ginger, dairy, honey, apple); and (iii) trader financing (vegetables, apple, millets). The programme will also draw on the development of the products under Sakchyam, UNNATI etc., and the proposed loan guarantee fund mechanism under the active consideration of donors etc. Sakchyam, being implemented in Province 6 and Province 7 has offered to partner with the Programme in (i) working with 5 to 6 commercial bank partners in value chain financing; these partners are showing interest in scaling up their pilot activities, and, hence, can be potential partners for ASDP; and (ii) offering Sakchyam's credit guarantee fund mechanism for VC lending by the banks under ASDP.

Both the options of financing production activities of farmers through whole sale lending through these agri businesses with transparent contracts, and directly to individual farmers with the guarantee of agri businesses to ensure repayments from the cash flows between the parties will be explored. The consultant will study the existing relationships and internal value chain mechanisms between farmers and agri businesses. Data on producers such as farm size, production costs, input supplier, average production, yields, yearly production variations, prices, immediate sales points, technical support available, crop/plantation/livestock insurance will also be gathered.

The consultants along with Assistant Rural Finance Programme managers will identify agri businesses with good reputation in dealing with farmers. Agribusinesses with clear intention of increasing their business through VCF arrangement will be selected and various options of financing including requirements of farmers will be initially discussed with agri businesses.

S/he will also carry out a risk assessment of the VCF that can be used by the bank in understanding the VCF risks and devising the product. The risk assessment will include (i) primary production risks; (ii) side selling risks; (iii) aggregator level risks in failing to deliver inputs/lifting the outputs; (iv) chosen client (input dealer, trader, processor) level risks analysing the liquidity, payment capacity, solvency; (v) reputation risks if the client has bad dealings with the farmers; and (vi) cyclical market risks associated with the commodity.

Thereafter, joint consultations among agri-businesses, farmer groups and bank will be held to work out the contours of financing and ensuring repayments of bank loans. Cash flow based lending mechanisms will be discussed with the banks and collaterals such as first loss default guarantee (to be provided by the client and producers) will be explored to provide comfort to the banks. Tripartite agreement among banks, agri business and farmers will be entered spelling out the terms of financing – amount, rate of interest, repayment period, etc. The consultant will seek to design repayment mechanisms around cash flows receivable by farmers while selling their products to agri-businesses in case of production loans and cash flows receivable by businesses from their buyers in case of trade loans.

Financing of agri businesses - Consultants will explore the feasibility of discounting trade bills and finance against purchase contracts in the case of trade finance. In particular, the focus will be short duration loans that are required in commodity trade. Part of the value chain finance requirements will be in infrastructure for storage, grading, processing, packing, etc. for agri businesses. These also will be examined as part of value chain finance requirements and suitable financial products will be developed in the selected value chains along with the conditions for such financing to succeed. Banks will be informed of the programme interventions, different grant windows and evaluation mechanisms, which will provide comfort to the banks. TA will facilitate development of banks' credit policies towards VCF including risk assessment tools, due diligence exercise, loan monitoring and early warning systems. Alternatively, government or DPs may offer a first loss buffer fund to banks to enable them to reduce their collateral requirements and leverage additional agro-enterprise lending

Training and Exposure visits - Apart from technical assistance, the bank staff will be provided in depth training on the relevant value chains that programme is working on to understand the information flows, cash flows, the risks and the mitigation mechanisms. Senior managers, branch managers, credit managers and other key staff of branches will be trained by the Programme. The Programme will also organize two study tours to India to financial institutions such as, Yes bank, HDFC bank and Samunnati Finance to study their agri-value chain financing products. Apart from senior bankers, the Programme key staff and relevant stakeholders will also be part of the study tours. The training programmes and study tours will be conducted by a training establishment of repute like the National Banking Training Institute who have (i) at least 10 years of experience in training senior bankers; (ii) have organisational linkages with banks and bankers training institutions in other countries in the region specialising in value chain/agri financing; and (iii) have experience in conducting agri/VC financing or have strategic interest and capability in designing specific courses.

Capacity development for cooperatives and MFDBs. This activity has two parts: (i) MFDBs and provincial cooperatives develop agriculture lending products; and (ii) Capacity development of municipal co-operatives

MFDBs and provincial cooperatives develop agriculture lending products. MFDBs have wider presence in the municipalities, but their products are not suitable for agriculture lending. The Programme will engage with the larger MFDBs based in the Programme area and assess their keenness to cater to new market segments and develop new products. There are also large cooperatives functioning across the province and some are keen to develop agriculture lending products. The Programme will work with these cooperatives to build their capacity for lending to value chain members. The capacity development support will include: (i) TA for agri

lending product development; (ii) information technology support for improving monitoring and efficiency; and (iii) staff training for agri lending.

Those cooperatives fulfilling the following criteria will be chosen for product development: (i) good governance; (ii) 65 per cent members saving regularly; (iii) at least 50 per cent members have availed loans in the last year; (iv) repayment rate of more than 95 per cent during last year; (v) functional MIS system with data accuracy; and (vi) assured sources of funding for offering agricultural loans. The Programme will enter into a MoU with these institutions specifying the nature of the Programme support and expected outputs.

Technical assistance will be provided to these institutions in their development of agriculture loan products. Individual national consultants will be hired to develop suitable products, assist in rolling them out and facilitate any modifications necessary (see Annex 3 for ToRs). Agriculture loans will address the financing of the sub-Programmes of groups and cooperatives where partial co-financing will be made available from the Programme. The loan products that will be needed include loans for irrigation, tools and equipment, crop/plantation production costs and livestock financing. The staff of the cooperatives (both head office and branch staff) will also be provided training on agriculture lending. Some cooperatives are keen to improve their management information systems for better monitoring and cost efficiency through information technology such as mobile, tablets, etc. Proven systems and technologies will be supported on a 50:50 co-financing basis.

Capacity development of municipal co-operatives. About 200 municipality cooperatives are expected to be supported by the Programme. Co-operatives working within the municipalities of the Programme area will be facilitated to consolidate/amalgamate to improve their capacity to cater to member needs and be credit worthy for wholesale bank loans. While strengthening the existing cooperatives will be the primary focus, commodity value chain specific aggregation (input supply and output sales) will also require the formation of new cooperatives. These cooperatives will initially consist of value chain group members and expand the scope of membership to include more producers of same commodity. The Programme will select the cooperatives based on the following criteria: (i) operational for at least 3 years; (ii) functional board; (iii) at least 75 members; (iv) savings regularity of members at least 85 per cent; (v) repayment rate on loans above 95 per cent; (vi) at least 50 per cent of members have borrowed in the last year; and (vii) preferably agri producer cooperatives so that input and output marketing will be feasible.

The capacity development support will include training, on site mentoring, automated MIS and equipment and facilitated access to wholesale credit. The Programme will engage the services of national institutions like NACCFL or a similar institution for capacity development of co-operatives for a period of 3 years. The institution should have: (i) mandate and strategic interest in capacity development of agriculture and savings and credit cooperatives; (ii) have proven experience of 10 years in capacity development; (iii) have capability to facilitate credit linkages for whole sale credit with commercial banks, development banks and micro finance development banks; and (iv) have established software based MIS and monitoring systems for the cooperative to track financial services and commodity specific activities. Apart from the programme related costs, a management fee up to 10 per cent of the costs will be provided to the institution.

Training - Both new and old cooperatives will receive training on institutional development and business development. The trainings will include; (i) business plan development, raising internal resources and managing external borrowings; (ii) design of agriculture credit products and (iii) improving governance, cooperative principles; and (iv) accounting and internal audit. While the training on business planning and agricultural credit will be conducted at a municipality level and cover 2 to 3 persons from each cooperative, the training on improving governance will be on site covering all the board members. The staff will also under go computer operational training.

Mentoring – The cooperatives will also receive on site mentoring support from consultants engaged by the institution (RMDC/NACCFL. etc.). The consultants will initially visit quarterly which will later be reduced to trimester in the second and third years. They will visit each cooperative for a day or two and ensure that business plans are well implemented, ensuring adequate growth in membership, commodity related businesses, savings and credit and portfolio quality. They will provide advice on improving governance. They will also review the loan products, especially agriculture loan products and offer suggestions for improvement.

MIS and related equipment – Cooperatives with more than 400 members will be facilitated to improve their accounting and portfolio monitoring through software-based monitoring system. The Programme will facilitate the purchase of software as well as equipment such as computers, printer, etc. Cooperatives will be cost sharing at 33 per cent.

Wholesale credit - The Programme will facilitate need-based credit linkages for these cooperatives. Regular meetings will be facilitated between banks, wholesale financial institutions and the cooperatives needing credit for ensuring an adequate flow of loan funds.

Table 4: Credit for Value chain actors – proposed arrangements

Value Chain Components	Producers	Traders/Aggregators	Processing/Packaging
VC Actors	Small and medium farmers	Collection agents, farmers' collectives, Large traders	Processing and packaging units
Type of financing requirement	Production loans, Irrigation equipment, mini tillers, tools, storage etc.	Working capital, Processing and packing plants, sorting and grading equipment, transport.	Working capital against inventory and long-term capital investment
Financing institutions/mechanisms	Cooperatives both men and women. MFIs, where present predominantly women. Value chain financing from commercial banks to be piloted and scaled up	Commercial and development banks	Commercial and development banks
Risk management	Joint liability mechanism. Enforceable contracts for VCF Insurance of crops/livestock	Cash flow based lending with collateral as found necessary	Cash flow based lending with collateral as found necessary

- o *Improving insurance uptake.* It is expected that at least 50 per cent of the value chain households will avail of insurance facilities by the end of the Programme. The Programme will adopt a three-pronged strategy for promoting insurance as a risk mitigation strategy for farmers. The Programme will (i) work with the Insurance Board to select insurance companies to develop/modify the products and enable distribution of the products as well as claim settlement; (ii) help in improving the agent network in rural municipalities by training LRPs as insurance agents and capacitating them to deal with insurance products; and (iii) increase awareness of farmers about insurance as a risk mitigation strategy and facilitate structured learning through literacy facilitators at the villages. Since rural insurance is in nascent stages of development in the country, this offers an opportunity for the Programme to work closely with the Insurance Board and insurance companies in developing and modifying the products.

The Programme will work with Insurance Board, municipal and provincial agriculture department to develop/ modify insurance products. The Rural Finance Programme Manager will interact with the Insurance Board and insurance companies and identify 2 or 3

companies with good track records of developing/modifying insurance products, claim settlement process and willingness to partner with the Programme. The TA providers will carry out field based studies on the existing products on offer and features/processes modified to suit the requirements of Programme area/ farmers. New products will also be developed with field level data (turmeric, ginger, timur). There is potential to develop weather based insurance around the existing weather stations. The Programme will facilitate study tours for Insurance Board and select insurance company managers as well as Government officials to India, where weather index based insurance products have been in operation for more than a decade. This will offer insights in design and distribution.

The Programme, in coordination with Insurance Board and MADCs and Ward-level CAESC, will impart insurance training to Local Resource Persons (LRP). In all, about 100 LRPs will be trained for the mandatory hours and the Insurance Board will license them as insurance agents. These agents will earn commission on non-life insurance products. LRPs will distribute insurance products, enabling farmers to enrol for insurance and also facilitate farmers to fill in forms and complete other formalities for claim settlement. LRPs will also be trained how to carry out insurance as a business service. LRPs acting as insurance agents at local level, will lead to better distribution and also on time filing of claims.

Building on HVAP's business literacy training model, the Programme will also include modules on insurance literacy for improving farmers' awareness and knowledge of insurance. There will be four modules: (i) the risks farmers face and insurance as risk mitigation strategy; (ii) crop/plantation insurance products; (iii) livestock insurance products; and (iv) enrolment and claim processing; do's and don'ts. Business and financial literacy facilitators will undergo ToT arranged by the Programme (section below).

46. *Output 3.2: Support to credit access.* In all, about 1,000 facilitators will be trained who, in turn, will train the value chain group members. It is assumed that about 70 per cent of the 35,000 value chain farmer stakeholders will need and undergo this training. This output has one activity: Business and financial literacy for value chain members.

- *Business and financial literacy for value chain members.* HVAP is facilitating business literacy class for women, especially from marginalised sections such as Dalit, Janajati and the poorest households with the aim of commercialising agriculture. The classes aim for improving members' awareness and skills about various aspects of the value chain in which they are participating. Well trained business literacy facilitators, chosen from the groups, deliver the training at village level on social dynamics, technical aspects of value chain they are participating in, basic numeracy and business aspects of the commodity. This is resulting in better awareness and skills among the women about the business aspects of the commodity they are producing. This initiative will be scaled up under the ASDP, enlarging the scope of the training to include financial literacy aspects as well.

The Programme will review the existing training modules and materials, improve the content to suit the training needs of the participants based on past experience (including more pictorial content as compared to text) and include modules on financial literacy. The modules on financial literacy will include aspects of: (i) savings and returns; (ii) usage of credit for improving income, avoiding multiple loans and over indebtedness; and (iii) insurance literacy.

Value chain groups will select a facilitator who will be provided a ToT course at a centralised location. She will deliver the training to other members of the VC group in about 45 modules of 3 hours each delivered twice a week. The learning group will consist of women from Dalits, Janajatis, and very poor households and also risk-averse members. The group size will be 25 to 30 to facilitate learning. The BFLC facilitator will be paid an honorarium for delivering each session. A study to measure the outcomes of the training will be carried out after the initial batch is completed to further improve the content and efficacy of the training.

47. Sub-component 3 Monitoring indicators;(with disaggregation for gender, dalit and janjati) will include:

- **Strengthening financial institutions for value chain financing**
 - *number of products developed and rolled out,*
 - *number of value chain members availing loans.*
 - *Amount of loans disbursed*
 - *Portfolio quality of loans*
- **TA for MFDB and provincial cooperatives**
 - *a) Number of agriculture loan products developed and rolled out,*
 - *b) Number of members availing loans.*
 - *c) Amount of loans disbursed.*
 - *d) Portfolio quality of loans*
- **Capacity development of municipality co operatives**
 - *a) Number of participants in each training,*
 - *b) Amount of savings*
 - *c) Amount of loans disbursed and outstanding for agriculture.*
 - *d) Loan portfolio quality*
 - *e) Number of cooperatives covering their costs and operationally self sufficient.*
- **Improving insurance off take**
 - *a) number of products developed and products modified,*
 - *b) Number of persons buying insurance for crops/plantations and livestock and premium collected*
 - *c) Number of persons receiving payouts and amount of pay out.*
- **Business and financial literacy training**
 - *a) Numbers of business facilitators trained*
 - *b) Numbers of VC members trained*

Sub-component 4. Agriculture services sustainably support innovation and value chain development

48. In line with the provisions of the new Constitution and the ADS 2014, ASDP will support the development of participatory, pluralistic extension and service delivery systems for agriculture and livestock sectors at the municipal and ward levels. It will involve setting up and activating sustainable mechanisms at appropriate levels in the Local Bodies for governance, active farmer participation and the engagement of the private sector in service delivery. This outcome also proposes to build off HVAP achievements on women's development by further empowering women, particularly in their households and by translating improved household income into improved nutrition. This outcome includes two outputs: (i) *Participatory and pluralistic extension services and strengthened farmers organizations*; and (iii) *Women's empowerment and household nutrition*.

49. *Output 1. Participatory and pluralistic extension service development.* The success of this output will be measured by the "number of CAESCs in Programme Wards delivering publicly and privately funded services to producers through pluralistic extension providers (disaggregated by funding source)". The objective of this output is to *facilitate the establishment of a sustainable, pluralistic and participatory institutional mechanism at the level of Local Bodies for the delivery of extension services to farmers in consonance with the provisions of the new Constitution and ADS*

2014, to be used by effective farmer organizations. The strategy will be to draw on the new constitutional provisions pertaining to local bodies, those of the LSGA 1999 pertaining to decentralised participatory extension and service delivery and the proposals outlined in ADS 2014 under DSTEP, and the HVAP experience of linking farmers to service providers and businesses. The Swiss Development and Cooperation (SDC) supported NASDP is being implemented by HSI in nine districts across four provinces, including three (Dailekh, Jajarkot, Kalikot) of the proposed ASDP districts in Province 6. The initiatives proposed here are similar to those included in the NASDP. SDC will support the ASDP, providing a grant for USD 3.0 million for Technical Assistance (TA) implemented by HSI to expand the coverage of NASDP to ASDP impact areas in all 10 districts, with specific focus on organising and capacitating farmer groups and cooperatives and provision of pluralistic services to farmer's groups linked to the value chains selected under ASDP. SDC will transfer TA fund to HSI directly.

50. Activity 1. Extension service development: Actions proposed under this activity include: (i) establish MADCs at municipal level⁹⁹; (ii) establish CAESCs at ward level¹⁰⁰; and (iii) Private sector engagement in agriculture extension and service delivery.

- *Establish MADCs at municipal level:* The LSGA 1999 had envisaged creation of Agriculture, Forestry and Environment Committees (AFECs)¹⁰¹ as a sectoral committee at the VDC level¹⁰² to assist it to plan and manage agriculture, forestry and environment related services. As the VDCs no longer exist and local governance functions earlier earmarked for it have been brought to the level of municipality, the appropriate location for a similar sectoral committee is the municipality. MADC is being proposed as the sectoral sub-committee of the municipal executive¹⁰³ for the agriculture and livestock sector and would have five to seven members from among the members of the municipal executive, including the Chair¹⁰⁴ and with at least 50 percent of the members as women¹⁰⁵ and at least one *Dalit/Janajati* person nominated by the municipal executive, and heads of the sectoral departments at the municipality. It will be responsible for the agriculture, livestock and forestry sector activities in the municipality. Specifically, it will: (i) develop policies for approval by the Municipal Assembly; (ii) develop the agriculture extension and service

⁹⁹ The Constitution does not specify any committees as part of the Municipalities or Wards. It is expected, however, that the Municipalities would have a governance and oversight structure for the agriculture sector (as well as other sectors in its domain), such as to recommend policies, plans and budgets to the Municipal Executive Committee for presentation to the Municipal Assembly and for management and oversight as the subject has been placed in their domain by the Constitution. As is the normal practice at municipal levels, such structures take the form of a sub-committee of the municipal executive committee. In the course of interactions with the newly elected Mayors/Chairpersons in Province 6, it was suggested that a committee should be set up exclusively for agriculture (perceived by them to be a key sector for the development of the region) so that it receives undivided attention. The precise nomenclature is likely to be known when an Act is passed by the Government of Nepal regarding the management procedures at the Local Level, the name tentatively proposed is Municipal Agriculture Development Committee (MADC).

¹⁰⁰ ADS 2014 had proposed CAESCs to be set at the VDC level as a key measure to promote pluralistic, decentralised and farmer-responsive extension system. ADS is undergoing revision to align itself with the new Constitution. However, in line with the policy of decentralisation, CAESCs are likely to remain as a part of the policy, regardless of eventual nomenclature.

¹⁰¹ AFEC was one of five Sectoral Committees, each with three members from the VDC, envisaged as per the Regulations under LSGA 1999; the other four were: Infrastructure and Construction Development Committee, Population and Social Committee, Organization and Administration Committee and Water Resources and Land Committee.

¹⁰² The same committee structure was envisaged at the Municipality and the District Development Committee.

¹⁰³ The Municipal Executive has directly elected Chairperson/Mayor and Vice-chairperson/Deputy Mayor, all Ward Chairs, four women members from Wards and two members from *Dalit/Janajati* nominated by the Municipal Assembly.

¹⁰⁴ As per the Regulations pertaining to LSGA 1999, the AFEC (as other Sectoral Committees of the VDC) was to have been chaired by one of the ward members of the VDC. The same arrangement may be followed as the Chairperson/Mayor has other responsibilities and may not be burdened with committee responsibilities. That would also ensure the neutrality of the Chairperson/ Mayor with respect to deliberations in the committees.

¹⁰⁵ A woman Deputy Chairperson of a Rural Municipality present during consultations with elected Mayors/Chairpersons and their deputies from six districts of Province 6 held at Surkhet made a strong demand that at least 50 percent of the members of **ALL** committees of the Local Bodies must be women.

delivery systems within the municipality; (iii) identify potential value chain and agri-business development opportunities; (iv) facilitate engagement with various stakeholders/service providers in the sector; (v) exercise oversight over the sectoral function; (vi) engage with the national and regional agricultural research institutions to influence their research priorities; (vii) recommend budgets to the municipal Executive Council; and (viii) register, monitor and backstop the CAESCs to be set up at each ward in the municipality. Actual implementation of extension and service delivery strategies will be by the CAESCs. ASDP will initially work with about 60 municipalities in Province 6¹⁰⁶, 50 in the first year and 10 in the third year¹⁰⁷. The following implementation steps are envisaged:

Orienting stakeholders on MADC roles and responsibilities: A two-day workshop will be conducted in each of the 10 districts for the municipality Chairpersons/Vice-chairpersons, Mayors/Deputy Mayors, Ward Chairpersons, administrative officers and technical staff in the selected municipalities and wards. The workshop will deliberate on the Constitutional provisions regarding the role of the municipality in agriculture; the concept of MADC in that context, its roles and *responsibilities*, structure, by-laws; various (public, private, cooperative and farmer-to-farmer) mechanisms for agricultural service provision; the challenges and opportunities for the development of the sector in the municipality; and the concept of CAESC and its structure and financing. As the average size of rural Municipal Executive Committees is 10 (urban 14), and including three officials, the average number of participants will be about 13 per municipality, there will be about 750 participants in the entire Province. Therefore, 15 workshops may be organised by splitting the larger districts into two events;

Assessment of technical staff capacity at Municipalities and Wards: Pending the passage of an Act by the Parliament to specify procedures for the conduct of official business by the Local Bodies, MOFALD in June 2017 issued the procedures to be followed by the elected Local Bodies. According to these, the physical assets of the government at the Local Levels, such as ASCs, LSCs, schools, health centres, etc. are to be transferred to the Local Bodies. The corresponding personnel are to report to the Local Bodies. Thus, the sectoral staff from the districts, including extension managers and those working at the ASC and LSC will be shifted to the municipalities and wards and additional staff may be recruited¹⁰⁸. An assessment of their technical knowledge in the agro-ecological context of the municipality, including organic agriculture, climate change adaptation, various extension methodologies, issues of inclusion and exclusion, use of ICT for extension, the roles and responsibilities of Local Bodies and wards with respect to agriculture under the new Constitution, the opportunities and challenges for the development of agriculture and livestock sectors and the proposed value chains in the respective municipalities will be carried out and capacity development needs, including in technical knowledge, extension methodologies, business development, value chain development and community mobilisation will be identified through a participatory process;

Resourcing Municipal technical staff: Budgetary support will be provided to the MADC to enable the municipal technical staff to engage with the value chain development processes (MSPs and selection of value chain actors) and for coordination with and backstopping the CAESCs;

¹⁰⁶ There are in all 82 municipalities (26 urban and 56) in the 10 districts, including 8 (6 rural) in Dolpa and 7 (6 rural) in Humla, districts to be taken up later.

¹⁰⁷ ASDP would only work in municipalities that are included in any of the approved SIPs. The total number of municipalities to be taken up and their phasing over the years will depend on the phasing of SIP implementation.

¹⁰⁸ The MOFALD guidelines also specify the number of staff to be appointed at the Local Body and Ward levels. Though elections to the Local Bodies, including the DCC have been completed, these transitions have not yet materialized but are likely to be completed by the time ASDP gets underway.

Building the capacity of municipal technical staff: Based on the assessment of the capacity development needs of the municipal technical staff a capacity development plan will be prepared and updated periodically and will, inter alia, include topics such as various extension methods, group formation and management, organic and sustainable agricultural practices, climate change adaptation, farm budgeting and business plan preparation, use of ICT in extension, issues of gender equity and social inclusion, value chain development, etc. besides agricultural technologies relevant to the agro-ecological context of the municipality. Capacity development activities will be organised yearly for the staff on the basis of these plans, updated on a yearly basis;

Support for enabling farmer access to technology: Based on the policies and priorities set by the municipalities, resources will be provided to the MADC to augment support provided by them to CAESCs at the ward level for providing technology extension services based on the latter's plans on a yearly basis. The plans will include activities supported by the municipality out of its extension budget for the ward, resources allocated from ASDP as well as those supported from CAESC's resources, including fees from users.

- *Establish CAESCs at the ward level:* A CAESC will be established at each of the wards that have farming households and a budget for agricultural extension¹⁰⁹ in each of the selected Municipalities, broadly along the lines proposed in the ADS 2014¹¹⁰ and guided by the policies and priorities set by the municipalities. It will be a membership organisation with membership open to farmers, private sector/freelance service providers and agro-enterprises in the ward. Thus, while the MADC is part of the governance structure at the municipality, the CAESC is a community based organisation (CBO) that will both contribute to policy and programming at the municipality level through the MADC and facilitate/source service delivery¹¹¹. The CAESC will elect a Board/Executive Committee of seven to nine members with at not less than 50 per cent representation of women farmers, small and marginal farmers and *Dalits* and *Janajatis*. The CAESC will be registered at the Municipal level. ASDP will work with about 480 wards across the 60 chosen municipalities¹¹² to establish CAESCs. The following initiatives are proposed to facilitate the establishment of CAESCs:

Orientation of stakeholders to the concept of CAESC and its roles and responsibilities: The purpose of this activity is to sensitize stakeholders (farmers, their groups, service providers, women, youth, etc.) about the need for a multi-stakeholder forum to develop and manage sustainable and responsive farmer services. The ward in the new local government set up is largely co-terminus with the erstwhile VDC and will have between eight to 12 settlements. As the CAESC is a membership organisation, it is imperative that as many stakeholders as possible know the plans for its formation so that they can exercise the choice to join it so that it becomes an inclusive CBO. To ensure this, the elected and nominated ward members and the ward chairperson will conduct informal, neighbourhood meetings in all the settlements in their respective wards to familiarise the community about CAESC and plans for its formation prior to its formation. In preparation for such interaction, workshops will be conducted for the ward members and ward chair to familiarise them about CAESC, its purpose, roles, responsibilities, structure, etc. so that they can effectively engage with the wider community as mobilisers. The average

¹⁰⁹ While municipalities have been classified as urban and rural, wards have not been so classified. Many urban municipalities have rural settlements as is evident from the HVAP experience where about 46 percent of the 14,500 project households are from VDCs now included in urban municipalities. It is expected that urban municipalities will provide budgets for agricultural extension in wards with farming households. Since CAESC is at the level of wards, ASDP will include all wards that have provision for agricultural extension in selected municipalities.

¹¹⁰ ADS 2014, pp 158

¹¹¹ Guidance for the structure of the CAESC will be provided by the municipality based on the recommendations of the MADC.

¹¹² The likely number of rural wards.

number of wards per municipality is nine in province 6 and, excluding the predominantly urban settlements, on average about eight wards will be taken up for orientation per municipality. There will be about 3 360 participants as there are five committee members and about two staff in each ward and 120 orientation workshops will be organised over three years with about 28 participants in each workshop. Following the orientation, CAESCs will be formed;

CAESC establishment fund: Once formed, the CAESC will be assisted to develop work plans for its area of operation, including sources of funds and likely partners. Based on a viable plan, the CAESC will be provided seed capital¹¹³ for minor equipment and supplies and to support pluralistic extension services in the ward. The recurring costs of CAESC will be met through budgetary subventions from the municipality¹¹⁴ via the MADC, membership fees and fees for services charged by the CAESC;

Annual CAESC participatory planning: The CAESC will be assisted to develop a participatory planning process to identify priorities for agriculture and livestock extension and services in the ward and the modalities for their delivery. This will include plans for the delivery of services by the CAESC itself and development of service delivery contracts with potential service providers, such as Agro-Vets, traders and aggregators. A participatory plan will be developed on a yearly basis and presented to the MADC for mobilising budgetary resources from the Municipality. It will include a financial plan. ASDP support and technical assistance will be provided to the CAESC for developing the annual plan;

Pilot a voucher system for provision of extension services: ADS 2014 has proposed introducing a voucher system to enable farmers the choice of service provider. ASDP will pilot a voucher system to be administered by the CAESC in selected municipalities. Based on the results, the systems may be expanded at the time of MTR. Though the ADS has proposed the voucher system for extension services as well as subsidised inputs, the pilot proposed here will be only for extension services to minimise complexity. To minimise abuse and encourage payment by farmers for services, the users (farmers' groups/farmers) will buy the vouchers from the CAESC at a price representing their contribution to the cost of services. The redemption value of the voucher will comprise of contributions from CAESC out of its extension budget, a contribution from the traders/aggregators linked to their contract with producers and the users' contribution. The service provider will receive the redemption value from CAESC upon presenting the voucher. In case the farmers do not use the voucher, they will receive a refund of the price paid by them. Details of the system will be worked out by HSI following further consultations in the field as ASDP implementation gets underway.

- *Private sector engagement in agriculture (including livestock) extension and service delivery:* In harmony with the strategies outlined in the ADS 2014 and guided by the policies and priorities set by the *municipality* on the basis of MADC recommendations, support will be provided to develop the capacity of the private and cooperative sectors to deliver agricultural extension and services, both as embedded services as well as standalone businesses. ASDP will support one such enterprise in each of 25 rural municipalities¹¹⁵ chosen through MSP guidance. Support will be provided on the basis of viable business

¹¹³ Similar to the seed capital proposed under DSTEP in ADS 2014. The ADS had proposed that seed money would be provided only under the condition that it leverages larger investment by the VDC and the community/cooperatives/private sector for the establishment of the CAESC. Following the same principle, ASDP contribution would be on a matching basis with contributions from the municipality and stakeholders in the CAESC.

¹¹⁴ A GoN Directive requires that at least 15 per cent of the local block grants should be allocated to agricultural development and services and it has been attached with the Minimum Condition Performance Measure.

¹¹⁵ More municipalities may be included at Mid-term based on implementation experience.

plans to agro-vets¹¹⁶ to set up extension and service (including inputs) delivery enterprises in the selected municipalities. The following activities are proposed to develop private sector engagement in the provision of agriculture extension and service provision:

Training of Agro-Vets in entrepreneurship: Support will be provided to train up to two potential Agro-Vet candidates in each of the 25 selected municipalities from among youth (women and men) who have already undergone training as VAW, VAHW or JTA. Candidates will have demonstrated means to set up Agro-Vet services and interest to do so. The seven-day training module will cover entrepreneurship motivation and enterprise plan preparation and business management;

Investment support to Agro-Vets: Support will be provided to Agro-Vets to cover 30 per cent of the investment, based on a viable business plan. The business plan will include names of up to three LRPs with prior training as VAW or VAHW to be engaged by the Agro-Vet to work in the chosen municipality with the latter's consent letters. There will be a tripartite contract between CAESC, Agro-Vets and the LRPs to be engaged by the latter;

Support for LRPs to be engaged by Agro-Vets: Support will be provided to the Agro-Vets to engage up to three LRPs including at least one woman, each as their sales persons, service providers and extension agents. Support will be on a declining basis against pre-set performance benchmarks for three years at the rate of 50, 30 and 10 per cent of the cost in the first, second and third year of engagement, respectively and will be contingent upon signing a tripartite contract between the CAESC, the Agro-Vet and the LRPs;

Training of Agro-Vets and LRPs: Support will be provided to train the contracted Agro-Vets and up to three LRPs per Agro-Vet. The training will cover production technologies concerning the selected value chains and home gardens.

51. *Implementation Arrangements.* Using SDC TA support, the programme will contract HSI cooperation through an outcome-based TA contract to implement the activities in this sub-component. Under this agreement:

- HSI would facilitate the Executive Committee at the municipality to set up the MADC as one of its committees. It is a part of the elected local government. The role of HSI in this is only to orient the members of the municipal executive committee and the public officials placed at the municipality to the roles and responsibilities of MADC as outlined in the LG Act 1999 and as envisioned by the newly constituted municipal government;
- HSI *will assess the technical capacity of the sector staff* within the municipality with respect to knowledge of the sectoral disciplines and the tasks the staff are expected to carry out. This will be done by HSI in consultation with key elected representatives of the municipality and the concerned staff. HSI will develop detailed terms of references for the sectoral function at the municipality as the basis for such an assessment, including topics such as extension methods, organic and sustainable agricultural practices, farm budgeting and business plan preparation, use of ICT in extension, issues of gender equity and social inclusion, value chain development, etc. besides agricultural technologies relevant to the agro-ecological context of the municipality;
- *support for the MADC* to enable it to engage with the value chain development process, such as participation in MSPs, contributing to the process of selecting partners, etc. will be provided by the PCO on the basis of planned events and estimates of costs;
- HSI *will organise capacity building events* for the municipal technical personnel in collaboration with the experts in agriculture and livestock services sectors in the province

¹¹⁶ The term Agro-Vet is used to represent providers of inputs, such as seeds, veterinary medicines, small implements as well as services pertaining to agriculture and livestock.

and by hiring resource persons where necessary on the basis of the capacity building needs;

- *support to augment MADC's resources* to partly finance extension services facilitated by CAESCs will be provided by the PCO. These will be based on the SIP and matching criteria to be developed in the MSP;
- *the elected ward representatives* and ward technical staff have an important role in supporting and nurturing the CAESC as a membership association of farmers and other sectoral stakeholders in the ward. HSI will orient the elected representatives about the CAESC and develop modalities for its formation¹¹⁷, who will in turn sensitize the wider community of stakeholders;
- *the CAESC establishment fund* will be provided by the PCO on the basis of viable plans developed by the CAESC with the assistance of HSI;
- HSI *will assist the CAESC* to develop annual plans for provision of farmer services. These will include financing plans, plans for participation of the private service providers and the role of municipal and ward level technical staff;
- *entrepreneurship development training* for potential Agro-Vets will be organised by HSI, using material available in-house and other material¹¹⁸, leading to enterprise development plans by them, of which 25 will be supported by ASDP;
- HSI *will assist in developing tripartite contracts* between Agro-Vets, CAESCs and LRPs for co-financing of up to 30 per cent of investment costs to set up Agro-Vet services and support for engaging LRPs to provide services to farmers. The Agro-Vets will be chosen in the course of MSP processes, based on value chain development plans;
- *training of Agro-Vet entrepreneurs and LRPs* engaged by them will be organised by HSI with contracted support from Agriculture and Livestock departments in the province and other resource persons identified by HSI.

52. *Phasing of Activities* Programme activities will be initiated in eight of the 10 districts in the first and second years and in the third year in two districts (Dolpa and Humla). Establishment of MADCs and CAESCs will be the first activities in every programme district as all subsequent activities are to be carried out by them. The indicative phasing of activities is presented in the Table 4.

Table 4. Indicative phasing of activities for participatory and pluralistic extension service development

Activity	Unit	PY1	PY2	PY3	PY4	PY5	PY6
Establish MADCs at Municipal level							
• Assessment of Municipality technical capacity	No.	30	20	10	-	-	-
• Stakeholders' orientation on MADC	Workshops	8	5	2	-	-	-
• Resource Municipal technical staff	Municipalities	30	20	10	-	-	-
• Capacity building for Municipal technical staff	Municipalities	30	20	10			
• Farmer technology understanding and access	Municipalities	-	50	60	60	60	60
Establish CAESCs at ward level							
• CAESC establishment fund	# of CAESCs	120	240	120	-	-	-
• Stakeholders' orientation on CAESC	Workshops	30	70	20	-	-	-
• Annual CAESC participatory planning	# of CAESCs	120	360	480	480	480	480

¹¹⁷ A possible way to form the forum is for each settlement in the ward to identify a few (volunteer) members and call an assembly of such members at the ward level to draft by-laws, initial fees, etc. and then canvass/enrol members.

¹¹⁸ For example, from the Industrial Enterprise Development Institute, Nepal, the ILO-promoted Start and Improve Your Own Business (SIYB), etc. India also has a large number of institutes devoted to entrepreneurship training, mostly drawing on the pioneering work by David McClelland in the early 1960s in the country.

Activity	Unit	PY1	PY2	PY3	PY4	PY5	PY6
Private sector engagement in agriculture extension services							
• Investment support to Agro-Vets	Agro-Vets	-	5	15	5	-	-
• Support for LRPs engaged by Agro-Vets	Person year		7.5	27	22.5	9	1.5
• Training in enterprise plan preparation	No.	-	1	-	1	-	-
• Training of Agro-Vets and LRPs	No.	-	2	-	2	-	-

53. *Mainstreaming Gender and Social Inclusion.* In line with the strong emphasis in ADS 2014 on gender and social inclusion, the programme will ensure participation of women, *Dalits* and *Janajatis* in its activities. In the course of orientation of the Municipal Executive, the need for adequate representation of women and *Dalit/Janajati* communities will be strongly emphasized in line with the provisions of the Constitution.¹¹⁹

54. Depending on availability of technically qualified (JT/VAW/VHW) women and *Dalit/Janajati* members, the programme will endeavour to induct at least 50 per cent of the LRPs and one third of the Agro-Vets from among women and *Dalit/Janajati*.

55. *Monitoring Aspects* An indicative list of outputs for different activities to be monitored is provided below:

- Establish MADCs at Municipal level:
 - The programme will monitor the number of orientation workshops conducted district-wise, number of participants in each, disaggregated gender and social and ethnic composition-wise;
 - Training events organised for municipal technical staff with number of municipalities covered district-wise, number of staff trained in each, disaggregated gender and social and ethnic composition-wise; and
 - Number of MADCs established district-wise.
- Establish CAESCs at ward level:
 - Number of orientation workshops conducted district-wise, with number of participants disaggregated gender and social and ethnic composition-wise;
 - Number of CAESCs established district-wise, with number of farmer groups, number of other stakeholders and total farmers represented;
 - Number of participatory plans prepared district-wise.
- Private sector engagement in agriculture extension services:
 - Number of Agro-Vets trained in entrepreneurship and enterprise development, disaggregated gender and social and ethnic composition-wise;
 - Number of Agro-Vets given technical training, disaggregated gender and social and ethnic composition-wise;
 - Number of LRPs given technical training, disaggregated gender and social and ethnic composition-wise;
 - Number of Agro-Vets establish enterprises with programme support, disaggregated gender and social and ethnic composition-wise.

56. The result expected is that farmers would have effective say in setting extension support priorities at the Ward and Municipal levels, farmers will receive effective extension support, the Agro-Vets will become viable enterprises creating employment for youth trained as LRPs and the CAESCs

¹¹⁹ The Constitution requires that at least 50 percent of ward members will be women but there is no such provision in the election of ward chair. *Dalit/Janajati* community members are to be separately inducted (besides those any already elected) in the Assembly. Four women and two *Dalit*/minority members are required to be inducted in the municipal executive besides any directly elected.

will progress on the path to financial self-sufficiency/sustainability. Some of the outcome indicators are:

- Number of farmers receiving extension and agriculture service support with the facilitation of CAESC, both in value chains and traditional agriculture, disaggregated district-, municipality- and gender- and ethnic composition-wise;
- Number of farmers adopting modern production technologies;
- Number of Agro-Vets functioning as profitable businesses;
- Number of LRPs employed, disaggregated gender-, social and ethnic composition-wise;
- Financial self-sufficiency of CAESCs.

57. The key impact from these activities is enhanced farm productivity, reduction in hungry periods and enhanced incomes.

58. *Sustainability.* The elected Municipalities and Executives are now in place though an Act spelling out the rules and procedures for their business is yet to be passed by the Parliament. Actual structure and operating procedures of MADC would emerge once these procedures are in place, existing local level personnel are transferred to Local Bodies and the latter become fully functional. Its formation and continuance, however, is ensured by virtue of the fact that agriculture extension is the responsibility of the Municipality and it will need to create a mechanism to manage the same as it will for all other devolved sectoral activities, such as education, health, etc. Finances for its operations will be provided through the Municipal budget as part of the sectoral allocation.

59. CAESC is envisaged under ADS 2014 to decentralise and devolve agricultural extension, make it participatory and pluralistic. ADS 2014 has committed resources to capitalise it. The activities proposed will ensure that CAESC is an inclusive and broad-based institution.

60. The programme activities are aimed at developing Agro-Vets as profitable service enterprises, delivering agriculture and livestock services to farmers. The programme has budgeted resources to reduce their risk by partially capitalising them, providing capacity building and financial support as they begin operations and by embedding them in multi-stakeholder forums, including the CAESC and value chain MSPs.

61. *Activity 2. Strengthening farmer organizations.* The objective of the activity is to organise farmers into sustainable, self-managed producer groups and commodity cooperatives so that they can remain engaged with value chains as growing and profitable producer businesses. Building on the HVAP experience of working with FGs and cooperatives, ASDP will draw on the rich and extensive experience of developing groups and cooperatives in Nepal as well as in neighbouring South Asian countries. Farmer mobilisation and group development will be carried out by local NGOs¹²⁰ selected jointly by the PCO and HSI, contracted by the PCO and suitably oriented by the PCO and HSI. Consolidation of mature groups into commodity cooperatives under extant laws and developing their capacity as viable business units will be contracted out to a national TA provider with proven expertise in cooperative formation and development. This activity includes five key actions: (i) Orienting Governments at the Province and in Municipalities to ASDP; (ii) Developing Farmer Institutions; (iii) NGO orientation to market-led development; (iv) Strengthening farmer groups; and (v) Consolidation of groups into commodity cooperatives.

- Orienting Governments at the Province and in Municipalities to ASDP: Under the new Constitution, powers concerning themes that encompass various ASDP activities have been placed in the respective domains of municipalities and Provinces. The municipal list of

¹²⁰ The term NGO has been used to denote Local Service Providers (LSP) to be engaged for social mobilisation and group development. HVAP had used NGOs as LSPs for social mobilisation and group development. As the overall responsibility for social mobilisation and group development is with HSI, they may recruit NGOs as service providers or directly recruit a social mobilisation team, with a coordinator and social mobilisers, based on consultations between PCO and HSI. Contracted by the PCO, the LSPs will be jointly selected by the PCO HSI, and work under the guidance and supervision of HSI.

powers includes 'management, operation and control of agricultural extension', 'agriculture and animal husbandry, agro-products management, animal health, cooperatives', 'local roads, rural roads, agro-roads, irrigation', 'cooperative institutions', 'local market management' and 'forests, wildlife, birds, water uses, environment, ecology and bio-diversity'. The list of powers of the Provinces includes 'agriculture and livestock development, trade, business, transportation', 'use of forests and waters and management of environment' and 'cooperative institutions'. Provinces are likely to have departments for agriculture, livestock, forestry and cooperatives and municipalities are likely to operate through the sub-committee mechanism. It is imperative that the key individuals in governments at the Province and selected municipalities are fully on board with the ASDP concept, design and activities to ensure an enabling environment, budgetary support (e.g. for extension, infrastructure) and participation (e.g. in mobilisation at the municipal and ward levels). The following activities are proposed:

Programme orientation at the Province: A two-day workshop will be conducted for the heads and key officials of the departments of agriculture, livestock, forestry, irrigation and cooperatives and DOLIDAR. The workshop may begin with a short general orientation session to provide a brief overview of the HVAP experience and an outline of ASDP, where a wider circle of policy makers including the Chairpersons of the 10 District Coordination Committees (DCC) may also be present¹²¹. This will be followed by technical sessions with detailed presentations on the Programme concept, design, implementation arrangements and support expected from the government at the Province. The number of participants is likely to be 25 to 30. The workshop will be conducted by the PCO with HSI participation;

Programme orientation at municipalities: A two-day orientation workshop will be conducted in each of the 10 districts to orient the Chairperson and Vice-chairperson of the DCCs, the Members Secretary of the DCC, Chairpersons/Mayors, Vice-chairpersons/Deputy Mayors, Administrative Officers and all Technical Officers (up to 4) of the selected municipalities. The number of participants will be 25 to 50 per district, depending on the number of municipalities chosen in the district. In all, there will about 450 participants. The workshop will be conducted by the PCO with HSI participation and will include a presentation on the HVAC experience, the concept, design and implementation modalities of ASDP and the expected roles of the DCC and municipal governments in implementation, including areas where municipal budgets are expected to contribute.

- *Developing Farmer Institutions:* Mobilisation of farmers, enabling unorganised farmers to organise into groups where groups do not exist and developing their capacities would be done by local NGOs jointly selected by PCO and HSI and contracted by the PCO, one per district, with the support of HSI and Institution Development Officer (IDO) and Assistant IDO (AIDO) of the PCO. The SIP would have identified potential clusters, Municipalities and Wards for developing value chains around specific commodities. Based on the SIP, an initial inventory of settlements in the wards included in the identified clusters with potential for value chain development will be carried out. The NGO coordinator will visit the selected wards with the Social Mobiliser (SM) assigned to the wards and the ward chair to ascertain the possibility of inclusion in the value chain based on specified parameters, such as road access, agro-ecological potential for development, present status of production, interest among farmers, presence and quality of groups, etc. The concept and the stipulated process

¹²¹ The precise structure, format and likely participants in the workshop would become clear once elections to the assembly at the Province are completed later in 2017 and the administrative structure and Rules of Business are decided. Since the event would also serve as the inauguration of ASDP, it would be in order to invite the elected heads from the districts. They would also individually participate in the full deliberations during orientation for municipalities.

for selection will be explained to the farmers¹²². The NGO coordinator will prepare a brief situation paper in a prescribed format provided by the PCO for all the settlements/wards so explored¹²³ to plan targeted publicity when the Expression of Interest (EoI) is floated seeking Investment Proposals (IPs) as described in Output 1.2.

- Based on the EoIs shortlisted for participation, the NGO coordinator and concerned SM will restructure groups, if existing groups are selected, and promote groups where EoIs are received from unorganised farmers. They will follow the strategies and methodologies developed through TA and overall guidance and support of HSI, the Institution Development Officer (IDO) and Assistant IDO (AIDO) of the PCO. The following investments are proposed:

International TA Support: Provision has been made for international TA support to develop social mobilisation and group development methodologies, including training materials to be used for mobilising and strengthening farmer groups. The TA provider will work closely with the IDO, review the status of existing HVAP groups and cooperatives, review the materials being used by HVAP, identify gaps and develop materials for use in ASDP, including training packages and group evaluation formats;

Exposure/study tours to India: There is extensive experience of organising rural communities (farmers, women, artisans, etc.) in India. It includes self-help groups and cooperatives and their associations. Some of the more creative work has been done by NGOs and large government programmes, such as the National Rural Livelihood Mission that has promoted millions of women's self-help groups across the country. Structured methodologies and training materials have been developed for forming and strengthening groups and cooperatives. ASDP will facilitate study and exposure tours for the IDO, the AIDOs, HSI and NGO coordinators, social mobilisers and selected group leaders and ward chairs to nearby Indian States¹²⁴ to visit. Three study tours each with 30 to 35 participants will be organised;

NGO support to farmer associations: In HVAP, mobilisation of farmers and farmer groups and capacity development of groups was done by NGOs recruited for this purpose. NGOs presently are registered in the Districts¹²⁵, have to set up office with an executive committee in every district where they work and have to work in coordination with the (erstwhile) District Development Committee. A clear picture about how NGOs will in future be registered and regulated in the context of the new federal system and whether the Provinces will formulate new laws for registration and regulation of NGOs will emerge once the Local Bodies and Provincial Governments become fully functional. It is possible that NGOs may be required to register with the Local Body where they are based and/or work as districts only have a coordination function under the Federal Constitution. A fair number of NGOs work in the province, including those working in HVAP. One local NGO will be recruited for each of the 10 districts for the entire Programme duration. The NGOs will be recruited following Fixed Budget basis of selection¹²⁶. The budget will include

¹²² This pre-EoI process was not used in HVAP and is included in ASDP in the interest of targeting and inclusion. This would also ensure the involvement of the elected local government members in the implementation process.

¹²³ This pre-EoI process was not used in HVAP and is included in ASDP in the interest of better targeting and inclusion. The data from this would be used for targeted publicity about the EoIs and providing handholding support in developing IPs. Over time, as CAESCs and MADCs have been established and capacitated, this process would be led by them as an integral part of preparing agriculture development strategies and plans for the Ward as inputs to the MADC and data about the potential and constraints for various agricultural commodities would be available from their plans and strategies for agriculture development.

¹²⁴ There are strong groups and federations in Bihar promoted under the World Bank aided Amerika project and strong groups and producer cooperatives exist in Jharkhand, promoted by NGOs.

¹²⁵ Registration is done under a 2034 (1977) law applicable to all kinds of civil society organisations. They can work outside the district of registration by setting up a project office or registering a local branch with a local executive committee.

¹²⁶ This is to ensure that NGOs do not quote low budgets and are then unable to recruit and retain quality SMs.

salaries of one Coordinator and five Social Mobilisers¹²⁷ per district and overhead/management costs.

- *NGO orientation to market-led development:* Most NGOs in the country, especially the smaller ones working locally in or around the district of their registration implement donor funded projects, operate from contract to contract and do not have their own stable development programmes. Most, with the exception of a few larger ones registered in Kathmandu and engaged in consulting and partnerships with multiple donors, do not have more than one or two regular staff. Staff are recruited against contracts, typically for social mobilisation roles. The Programme coordinators and social mobilisers recruited by the NGOs/HSI will therefore need to be oriented to the concept, design and implementation modalities of ASDP and their staff. ASDP will support separate orientation events for the NGO coordinators and chief executives and SMs as below:

Orientation of NGO coordinators and chief executives: One six-day workshop will be conducted for the coordinators of NGO and their chief executives/executive committee chairs on the Programme concept, theory of change, its activities, implementation modalities and roles of different actors including the NGOs, issues of inclusion, their reporting requirements and performance evaluation. The workshop will be conducted by the PCO with HSI support;

Orientation of SMs: Orientation courses of two days each will be conducted for the SMs recruited by the NGOs on how to assess groups and cooperatives prior to developing capacity building strategies, social mobilisation, value chain development and business planning, respectively. The modules will be repeated after the Programme MTR. As there will be 50 SMs between the 10 NGOs, the courses will be delivered in two batches of 25 participants each.

- *Strengthening farmer groups:* Once mobilised, groups need to be provided adequate capacity building inputs so that they will not only function effectively without external props and financial support but also grow over time to attain larger goals for their members. These pertain to housekeeping functions, such as accounting and keeping minutes that promote transparency and trust; group dynamics, such as setting group norms, articulating values, defining a shared purpose, conflict resolution and rules of governance that stimulate solidarity and cohesion; strategic capacities, such as building a shared vision for the future, networking and business development and advocacy to create value for their members. Some of these capabilities are developed in the course of interaction/facilitation by promoters during regular group meetings¹²⁸ in the early stages while others require formal, off-group training using appropriate pedagogies, including games, films, role plays, etc. The group development and training schedule and training materials will be developed through the TA support specified earlier. These will also feed into the capacity building of the SMs. While the exact number of off-line training events will be specified by the TA provider¹²⁹, two have been budgeted as below:

Membership training: The objective of membership training is to stimulate behaviours among group members that enhance group cohesiveness, solidarity and efficiency. Through games, role plays, storytelling and discussions, it stimulates members to individually and collectively reflect on the utility and benefits of working as groups, articulate the need for norms of member behaviour vis-à-vis the group and other

¹²⁷ The populations and number of wards differ considerably across districts and the coverage of households and wards is likely to vary considerably. This may get further skewed due to road access, distance from markets opportunities for value chain development. The number of SMs per district would be adjusted once the SIPs are available.

¹²⁸ Participation of group promoter/facilitator in the first few (about six) meetings to stimulate discussion/reflection among group members (discretely and without imposition/interference) about the functioning of the group and members' behaviour plays a critical role in group development.

¹²⁹ Those pertaining to business development would be included in value chain development.

members, group values, mutuality, active listening and participation in group meetings, need for and systems of transparency, etc. Two events of two days each have been planned for all the groups. The training will be conducted by the SMs using the training modules developed by the TA provider;

Leadership training: The objective is to develop strategic capabilities of groups; develop resource persons in groups; introduce ideas of participatory planning, vision building and decision making; build capacity for conflict resolution, negotiation, networking and advocacy; knowledge of relevant government/regulatory policies; leadership rotation and good governance practices, etc. Four events of two days each have been planned at each value chain cluster.

- Consolidation of groups into commodity cooperatives: In order to realise scale economies and enhance bargaining power, facilitate sharing of services, community infrastructure and value addition (sorting, grading, packaging and minor processing), the groups will be consolidated into cooperatives, commodity-wise. It is proposed to form cooperatives with 150 to 200 members, with possibility of expansion in future as more households join the respective value chains. Consolidation will be initiated when groups have stabilised and expanded as more groups mature in the specific commodity. Consolidation around commodities is proposed as services, market linkages, credit delivery and value addition (sorting, grading, packaging) opportunities will be commodity-specific. Cooperative formation will begin in the second year, expand as new clusters/groups develop and will be completed by the fifth year so that the last of the cooperatives have time to settle down before Programme completion. As cooperatives are legal entities governed by the Cooperatives Act and have to have more elaborate record keeping, accounting, audit and reporting requirements than farmer's groups and the regulatory framework itself is slated to undergo changes under the new Constitution¹³⁰, it will be necessary to bring on board domain expertise to consolidate groups into new cooperatives and build their self-management capacity. It is proposed to seek the assistance of a national organisation experienced in forming and strengthening cooperatives through a TA to assist the PCO and NGOs consolidate the groups into commodity cooperatives. The investments proposed as follows:

TA for the consolidation of groups into commodity cooperatives: A national organisation with experience in forming and developing cooperatives¹³¹ will be contracted to work closely with the PCO, HSI and NGOs to form and develop commodity cooperatives;

Preparing detailed plans for consolidating groups into cooperatives: The TA provider in consultation with the PCO, HSI and NGOs will map out the status of groups across clusters and commodities and develop plans for consolidation, identifying groups that will be brought together under one cooperative;

Community discussions on group/cooperative consolidation: The SM and PCO (IDO) will, with guidance from the TA provider, hold discussions with the leaders and members of the groups, explaining the rationale for and benefits from forming larger entities as cooperatives and prepare the ground for the TA provider to help the groups form themselves into cooperatives. The TA provider will draw up the by-laws with the participation of members; help form the executive of the cooperative and its various sub-committees; help the cooperative get registered with appropriate authorities; help set up internal systems, including with respect to induction of new members, conduct of meetings, planning, making business and investment decisions, savings and loans activities, financial and social audit, periodic elections to the executive, etc.; help recruit

¹³⁰ Under the new Constitution powers regarding cooperative institutions are in the Provincial, Local as well as concurrent lists, i.e. all three levels of government have powers to make laws regarding cooperatives. A Bill to amend the existing Cooperatives Act is presently before the Parliament.

¹³¹ This is described in Output 3.1.

and train accountants/record keepers, help identify auditors and hand-hold the cooperative for a year till it becomes stable and capable of managing itself. The executive committee of the cooperatives will have at least 50 per cent women and at least one Dalit and one Janajati as members and at least one of the three office bearers will be a woman. In a nutshell, the TA provider will be responsible to facilitate and nurture the cooperative into an efficiently run 'going business' that is socially inclusive in its composition and is accountable to its stakeholders;

Consolidated group/cooperative support: Small lump-sum support will be provided to each cooperative to meet initial establishment expenses and training costs.

62. *Implementation Arrangements.* Recruitment of international TA to design group development strategy and national TA to carry out consolidation of groups into cooperatives will be done by the PCO, based on specified ToR¹³² (draft ToR provided in Appendix 4, Annex 3).

63. The orientation of the Governments at the Province and Municipalities will be conducted by the PCO with the participation of HSI. The workshop for the Provincial Government will be at the Provincial capital where as those for the Municipal Governments will be conducted in each of the respective District Headquarters. PCO will seek the support of the HVAC staff and IFAD Country Office.

64. Mobilising and organising the farmers into groups will be done by the SMs of respective NGOs for the districts under the overall supervision of the NGO coordinator with the support and guidance of HSI, the IDO and AIDO. The SMs will use the methodologies and tools developed by the provider of Institutional Development TA.

65. The orientation of NGOs and SMs will be done jointly by the PCO and HSI using local trainers where necessary. The respective sector specialists at the PCO will anchor the orientation of the SMs concerning their domains. For example, the IDO will anchor the orientation pertaining to assessment of groups and social mobilisation.

66. Exposure and study tours will be organised by the PCO with guidance from the provider of the Institutional Development TA and IFAD Country Office. Training of group members will be conducted by the AIDOs in their respective road corridors with HSI support, using the training material developed by the Institutional Development TA. Plans for consolidation of groups into commodity cooperatives will be prepared jointly by the provider of TA for consolidation, the PCO/Road Corridor office and the concerned NGO.

67. *Phasing of Activities.* Programme activities will be initiated in eight of the 10 districts in the first and second Programme years and in the remaining two districts (Dolpa and Humla) in the third year. Orientation of the Provincial and Municipal Governments will be the first activity of ASDP soon after the PCO is set up and staffed so that governments are on board as implementation begins on the ground. Recruitment of TA provider for institution development will be done in parallel with recruitment of NGOs so that NGO coordinators are on board before the TA assignment is completed and the TA provider can conduct a Training of Trainers (ToT) programme for the IDO, AIDOs and NGO coordinators; they will conduct the ToTs for the SMs. The task of consolidation of FGs into cooperatives will begin only in the second year once an adequate number of FGs have reached a level of stability in each of the value chains. The TA for consolidation of FGs into cooperatives will come on board in the second year and will remain engaged till closure. The indicative phasing of activities is presented in Table 5 below.

Table 5. Indicative phasing for farmer engagement in value chain development

Activity	Unit	Total	PY1	PY2	PY3	PY4	PY5	PY6
Orienting Governments to ASDP								
Orientation at Provincial Level	Workshops	1	1					

¹³² Drafts have been presented as Annex 2.

Activity	Unit	Total	PY1	PY2	PY3	PY4	PY5	PY6
Orientation at Municipality	Workshops	10	4	4	2			
Developing Farmer Institutions								
TA Support to Develop Strategy & Materials	Consultant Contracts	1	1					
Exposure/Study Tour to India	No.	3	1	2				
NGO Support to Farmer Associations	NGO Contracts	48	8	8	10	10	10	10
NGO Orientation to Market-led Development								
Orientation of NGO Coordinators & Chief Executives/ Board Chair	Workshops	1	1					
Orientation of SMs on Assessment of Groups and Coops	Workshops	4	2			2		
Orientation of SMs on Social Mobilisation	Workshops	4	2			2		
Orientation of SMs on VC Development	Workshops	4	2			2		
Orientation of SMs to Business Planning	Workshops	4	2			2		
Strengthening Farmer groups								
Membership Training	Training Events	3,332	332	668	1,136	1,064	132	
Training Group Leaders	Training Events	172	32	32	40	40	28	
Consolidation of Groups into Commodity Cooperatives								
TA for consolidation of groups into cooperatives	TA contract	5		1	1	1	1	1
Consolidation of Groups into Commodity Coops	Cooperatives	138		36	47	55	1	
Group to Cooperative Consolidation Planning	Plans	4		1	1	1	1	
Community Discussions on Group to Cooperative Consolidation	Districts Consultations	28		7	9	10	2	
Consolidated Cooperative Support	Cooperatives	139		36	47	55	1	

68. **Mainstreaming Gender and Social Inclusion.** Building on the HVAP experience where 62 percent of participants in POs are women, ASDP will ensure that at least two-thirds of the group and cooperative members are women and at least 50 percent members of executive committees in the cooperatives are women and at least one of the three office bearers in the FGs and cooperatives is a woman. ASDP will also ensure representation of *Dalit*, *Janajati* and poorest of the poor households in groups and cooperatives is at least proportionate to their population. ASDP encourage formation of all women groups.

69. In recruiting NGOs, all things being equal, ASDP will give preference to NGOs that have women, *Dalits* and *Janajatis* among their Programme personnel.

70. **Monitoring Aspects.** An indicative list of outputs for different activities to be monitored is provided below:

- Orienting Governments to ASDP:
 - Number of participants in the Province level workshop and sectoral departments represented;
 - District-wise number of municipalities attending the orientation and number of participants by designation and gender.
- Developing Farmer Institutions:
 - Year-wise and cumulatively, number of farmer groups formed, disaggregated municipality, value chain and road corridor-wise;
 - Number of households included in groups, year-wise and cumulative, disaggregated gender and social category-wise;

- Status/grading of groups reflecting levels of maturity;
- Number of exposure/study tours and gender-disaggregated number of participants.
- NGO Support to Farmer Associations:
 - Yearly update on number of NGOs engaged, number of staff in the field and performance rating of NGOs;
 - Number of participants in NGO orientation, disaggregated gender, social category-wise;
 - Number of SMs participated in orientation events, theme-wise, disaggregated gender and social category-wise;
 - Rating score of the orientation events by participants.
- Strengthening Farmer groups:
 - Number of membership training events, number of participants disaggregated gender and social category-wise;
 - Number of group leaders training events, number of participants disaggregated gender and social category-wise.
- Consolidation of Groups into Commodity Cooperatives:
 - Number of cooperatives formed value chain-wise, number of groups incorporated into cooperatives, number of members in the cooperatives, disaggregated gender and social category-wise;
 - Overall rating of cooperatives as organisations, classification into level of financial self-sufficiency;
 - Number of cooperatives provided establishment support.

71. The key result of the activity (besides enhanced income, monitored elsewhere) are the ability of poor farmers to participate in value chains, ability of farmer collectives to independently negotiate profitable contracts with traders/aggregators, sharing of services (collective marketing, collective procurement of inputs, sharing of assets/services, contracts with service providers), graduation up the value chain (own transport, storage, diversification into related activities, value addition activities), development of leadership among women/*Dalits/Janajatis*, capital formation (corpus with cooperatives), access to financial services and advocacy. Some of the outcome indicators are:

- Number of poor/Dalit/Janajati farmers participating in value chains;
- Cooperatives negotiating value chain contracts independently,
- Cooperatives engaged in collective marketing, transport-sharing, sharing of assets (equipment, facilities) and services;
- Cooperatives taking up value addition activities;
- Cooperatives accessing financial services without individual collateral;
- Women/Dalit/Janajati elected chair persons of cooperatives;
- Cooperatives registered as members of chambers of commerce, etc.

72. *The principal result* from this activity is farmers' ability to realise higher share of the market value of their produce as farm-gate price, higher incomes, acquisition of assets and reduction in hungry periods.

73. Implementation process for Value Chain Development Fund (VCDF) financing of Groups and Cooperatives: In the context of decentralised governance under the new Federal Constitution, ASDP support to farmers and farmer groups for value chain development would be planned and provisioned

through the budgets of Local Bodies¹³³ and channelized through the Wards, the grassroots level rung of government and the lowest level of budget disbursement. The first elections to the Local Bodies, however, were held only in May 2017 and there will be by-elections to fill vacancies caused due to the election of some of the elected Local Body and Ward representatives to the Executive of the District Coordination Committees (DCC)¹³⁴. An Act to spell out procedures to be followed by Local Bodies for the conduct of their business is yet to be passed by the Parliament¹³⁵, elections to Provincial Assemblies are yet to be held¹³⁶ and the process of placement of staff is yet to be completed¹³⁷.

74. In accordance with current MoF decisions, the PCO would be the “Cost Centre” for disbursement of funds to beneficiaries and/or implementing agencies. While MoF regulations require that the loan financing of resulting investments flow through the ASDP, the Programme will revise its disbursement strategies in accordance with prevailing GoN regulations, including devolution of conditional funding for activities implemented by the municipality, on completion of a fiduciary due diligence of the municipality as a cost center.

75. The approval of ASDP IPs by Local Body Executives would be based on the recommendations of the Municipal Agriculture Development Committee (MADC) in response to competitive farmer group IPs that have undergone a bipartisan Field Evaluation by the Ward-level Community Agriculture Extension Service Centres (CAESCs) and PCO/HSI technical/administration teams¹³⁸. Once Ward-level IPs have been prioritised and approved by the MADC in accordance with the budget limits set by the PCO, that committee would forward the IPs to the Local Body Executive for no-objection and subsequent request to the ASDP Project Coordinator (PC) for financing. The IPs would be included in the ASDP annual work programme and budget (AWPB), and, upon MoF approval, the PCO would prepare a quadripartite contract (Municipality, Ward, beneficiary and PCO) on which basis the PC would advance ASDP funds to contract-identified beneficiaries.

76. . The underlying process for identifying VC-led IPs would be as follows:

- *A Strategic Investment Plan (SIP)* endorsed by Multi-Stakeholder Platforms (MSPs)¹³⁹ for a specific commodity would list the Wards and Local Bodies eligible for ASDP support based on viability criteria. Also, based on the endorsed SIP, the PCO will, on a competitive basis, select Lead Entrepreneurs (LE) or Value Chain Gate Keepers for co-financing for specific commodity VCs. Once the eligible Wards/Local Bodies and LEs are known for a specific commodity VC, the process of selecting Groups/Cooperatives for competitive co-financing under ASDP would be initiated through a PCO call for investment proposals (IPs) from farmer groups/cooperatives through local and national newspapers, local FM radio and notices at the concerned Ward, Local Body and DCC offices. The call for IPs would specify the eligibility criteria and terms of financing. As outlined in Sub-component 4, Local Bodies would be informed through workshops facilitated by the HSI team, Social Mobilisers (SM) engaged by HSI/ Local Service

¹³³ Gaon Palika (rural municipality) or Nagar Palika (urban municipality), as the case may be.

¹³⁴ As per the Constitution, members, Chairpersons and Vice-Chairpersons of the DCC have to be elected by the District Assembly from among the members of Local Body and Ward Assemblies, i.e. all elected persons in the Local Bodies and Wards. Those elected to the DCC cease to retain their elected positions in the Local Bodies/Wards and By-Elections would be held to fill these vacancies.

¹³⁵ The Ministry of Federal Affairs and Local Development (MOFALD) issued guidelines in June 2017 regarding the procedures to be followed at the level of Local Bodies for the current financial year for the conduct of local government business whereby the executive powers are to be exercised by the relevant administrative staff till the elected executives take charge.

¹³⁶ Following elections, the Provincial Governments would also presumably formulate policies and procedures for the functioning of the Local Bodies as they would also be providing budgetary support to them.

¹³⁷ The MOFALD guidelines referred above specify the number of staff to be appointed at the Local Body and Ward levels and also requires that the personnel from various line agencies previously working at these levels must now report to the newly elected bodies but the transition has not yet been completed.

¹³⁸ Staff of the PCO, ASDP mobile teams, and HSI.

¹³⁹ Chairpersons/Mayors and their deputies from the concerned Local Bodies would participate in the MSP so that the selected commodity chains have their endorsement.

Providers (LSP)¹⁴⁰ and the project teams about the provision for competitive co-financing of groups and cooperatives under the Programme, the eligibility criteria and the terms of financing. The social mobilizers (SM) for the concerned Local Bodies will give wide publicity regarding the call for proposals to groups, cooperatives, CAESCs and MADCs in the concerned Local Bodies. Templates for submission of IPs will be made available at the concerned Ward offices of the concerned Local Bodies;

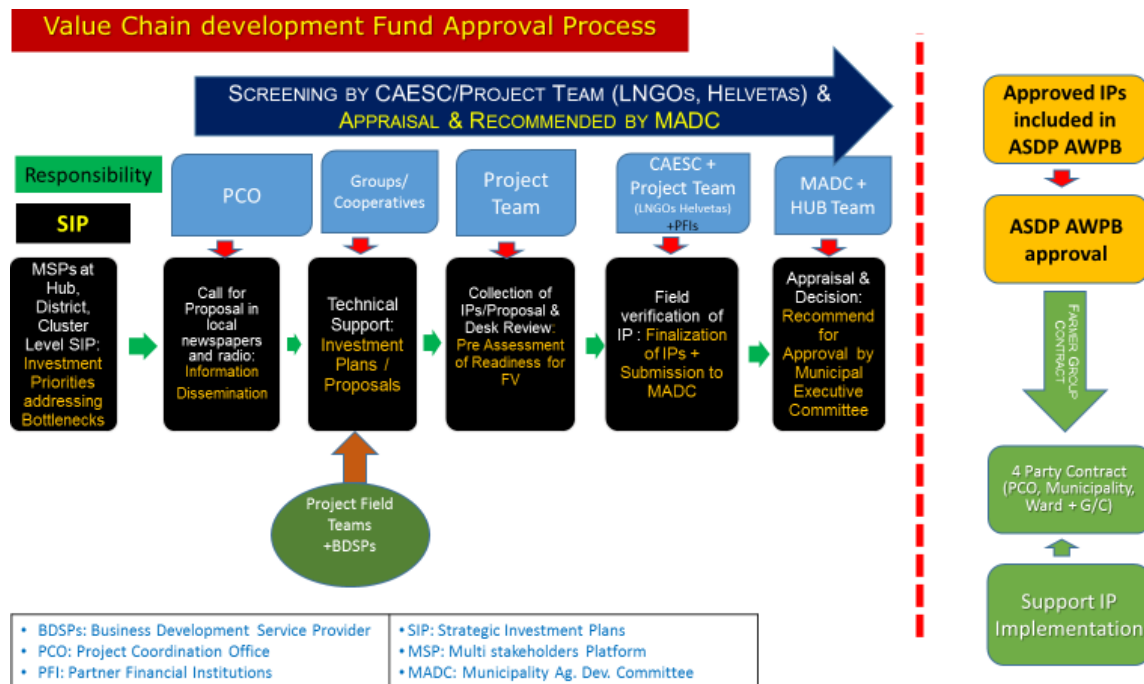
- The HSI team, Project mobile teams, business development service providers and SM will assist the interested groups and cooperatives to prepare the IPs in the prescribed templates, including requirements for community infrastructure. The proposals would be submitted to the mobile teams who would carry out a desk review of the IPs and identify IPs for field verification¹⁴¹. A team under the aegis of the CAESC, comprising of its technical staff, mobile team member, SM and a representative of the proposed private financing institution (PFI)¹⁴² would carry out the field verification and shortlist viable IPs with necessary modifications in consultation with the proponents and send the same to the MADC through the Ward Chairperson. The MADC would review and prioritise the submitted IPs in accordance with the budget limits set by the PCO and recommend the selected IPs to the Chairperson/Mayor for approval and recommendation to the PCO for financing. The PCO would include the recommended IPs in its Annual Work Plan and Budget (AWP&B). Following budget approval, a quadripartite agreement would be signed between the Group/Cooperative, the Local Body, Ward and PCO¹⁴³ and filed with the PCO with copies to the other three signatories. Funds for enterprise investment would then be released by the PCO out of the VCDF, as per an agreed tranche schedule, to the bank accounts of the Group/Cooperative for disbursement to the members with information to the Local Body, Ward and PFI (where relevant). Where relevant, funds for investment in community infrastructure would be released by the PCO out of the Market-led Infrastructure Fund to the Local Body with information to the concerned Groups/Coops and Wards;
- The CAESC, the Project's mobile teams and SM would, under HSI guidance provide implementation support to the Group/Cooperative and monitor implementation progress. The supported Group/Cooperative will furnish periodic reports to the PCO with copies to the Ward and Local Body as per the contract. Releases of further instalments, if any, would be made by the PCO on the recommendation of the CAESC. A project completion report will be filed by the Group/Cooperative to the PCO, Local Body and Ward once the planned investments have been completed.

¹⁴⁰ The PCO and HSI will jointly recruit suitable LSPs to carry out the social mobilization and group/cooperative development activities under HSI guidance and supervision. These may be local NGOs. Where suitable LSPs are not available, HSI will directly recruit SMs, thereby assuming the role of the LSP.

¹⁴¹ This responsibility may be transferred to the MADC (with support from the project team and HELETAS during the ASDP tenure) once it has been set up and adequately capacitated.

¹⁴² The PFI would come into picture where the IP includes loans for financing a part of the investment.

¹⁴³ Over time, as the financial management and reporting capabilities and communication infrastructure develop at the level of the Local Bodies, funds for the IPs included in their Annual Plans (approved IPs) may be transferred to them for release to concerned IP proponents with responsibility for M&E and audit.



77. Output 4.2. Women's empowerment and household nutrition. The objective of this output is to empower women, particularly within their household, and, through that process to enable them as managers of household agricultural development and growth, and family nutrition. This output has two activities: (i) women's empowerment; and (ii) household nutrition.

- Women's empowerment. Socially, women and girls in Nepal are disadvantaged by traditional practices like the dowry system, early marriage, son-preference, stigmatization of widows, seclusion of women (purdah), family violence, polygamy, and the segregation of women and girls during menstruation (chhaupadi). The post-conflict Government has been legislating for more gender equality: Nepal was the first country in Asia to develop a National Action Plan on Women Peace and Security in 2011 and women and girls' rights are protected in the Comprehensive Peace Accord. Women nevertheless face an onerous triple burden as their role of caretaker is taken for granted and thus the economic contribution goes largely unnoticed. The Programme will begin to address these issues through the following actions:

A Gender and social inclusion (GESI) action plan will assess the overall situation of women farmers, evaluate disaggregated information on the extent of agriculture extension service outreach, and assess the existing institutional mechanism and capacity needs of the executing agencies/implementing agencies on GESI;

Drudgery reduction technology: The Programme will carry out a study assessing the various technologies that are available for reducing women's drudgery to come up with simple and reasonably priced toolkits that can be distributed as a pilot Programme to some of the women groups. These toolkits can be used either at the farm level or the household level and will primarily address the reduction of drudgery and to free up valuable time of the women. The toolkits can be used in the groups with a small fee for maintenance. The Programme will also construct multipurpose water infrastructure. This will serve the irrigation, washing and safe drinking water needs of the community and will decrease the time women and girl children spend in fetching water;

Household Methodology: The Programme will implement the Household Methodology (HHM) as a pilot in about 4,000 households initially. As part of the HHM process, household members realize that inequalities in gender roles and relations can be part of the reason they stay poor. Hence, a household's ability to understand the causes of their current situation – and their willingness to act upon the findings – is crucial for unlocking a household's potential. The HHM approach, which will be tailored to fit cultural norms in the Programme area is expected to include the following elements: (i) *Focus on people*. - household strategies are designed by and for household members who define who they want to be and what they want to do. They define and implement their own strategies for developing and improving their livelihoods, based on their goals, strengths, opportunities and assets; (ii) *Empowerment* - the cornerstone of the HHM empowerment process is strengthening the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes. This can be achieved by building on a mutual understanding of different roles and responsibilities; (iii) *Self-generated solutions* - willingness to change is generated by household members themselves (women and men of all ages) by placing them in the driver's seat of the development process. They take responsibility for the changes they want to see and work closely with one another, friends and the community to make them happen; and (iv) *Equal opportunities*. Women and men, as well as youth, people with disabilities and other vulnerable groups, have an equal voice in setting the household vision and equal access to development opportunities, productive assets, decision-making and benefits;

Engendering trainings, capacity building and communication: The Programme will adopt the following guidelines for making trainings and capacity building gender sensitive: (i) adapt programmes to women's needs and skills; (ii) ensure that the training venue is accessible and safe for women and can accommodate children who are under their care if required; (iii) allow sufficient time to enable women to acquire new skills and adjust schedules to fit women's existing workloads; (iv) adapt the time of the trainings to the time availability of the women; (v) ensure that the language is simple and catered towards the understanding levels of the participants; (vi) make all teaching methods and learning approaches inclusive, participatory and "gender transformative" in order to ensure women's full and equal participation; (vii) use trainers who are not only technically competent and up-to-date, but who empathise with the needs and aspirations of rural women; and (viii) produce messages in written, oral, and visual media, targeted to women farmers and presented by women announcers and performers to supplement face-to-face extension efforts.

- *Household nutrition.* A Multi-Sectoral Nutrition Plan (MSNP) 2013-2017 serves as a common results framework for improving nutrition outcomes; and setting out plans of action for implementing nutrition-sensitive policies and strategies for key sectors, including agriculture. The Programme proposes to support supply side nutrition interventions through homestead gardens for disadvantaged households and the evaluation of nutrition-sensitive value chains and the demand side through farmer nutrition schools and nutrition behavioural change communication (BCC).

Theory of Change for Nutrition: The theory of change identifies the pathway applicable for the chosen intervention and defines the activity promoted and how this activity leads to better nutritional outcomes. There are two critical mediators of impact across the three pathways. First, women's empowerment and gender equality. Given the implications of women's time allocation, decision making and control over resources for household nutrition, as well as their own health and nutritional status being crucial for child nutrition, women's empowerment and gender equality are essential for catalysing the effects of these pathways. Second, nutrition awareness. Without nutrition awareness and appropriate knowledge and practices, increases in income and production will have limited effects on changing food choices and diets, and so, limited impact on improving nutrition. Behaviour change communication, nutrition education and information are essential to turn changes in production and income into changes in consumption – eating and feeding habits. The importance of nutrition education and behaviour change communication counts for the entire family and should not be limited to women and girls only. The nutrition education component needs to be very explicit on the improvement of maternal nutrition and nutrition of adolescent girls.

Supply-side nutrition interventions: The Programme will support poor Dalit and women-headed households to develop *homestead gardens* producing traditional food crops like nettles, garden cress, traditional tubers, etc. that can be grown in small patches of land to supplement diets¹⁴⁴. Where required, this will be supported by multi-purpose water supply. The Programme will, as part of the SIP process, also evaluate the market potential for nutritious crops including buckwheat, minor millets, upland beans and the orange-fleshed sweet potato.

Demand-side nutrition interventions: HVAP value chain beneficiaries have doubled their household income. In Nepal, higher income, in combination with nutrition interventions and gender equality (allocation of the family budget and informed decision making on food purchase and dietary pattern) leads better household

¹⁴⁴ HSI has developed and successfully applied this model in Nepal.

nutrition outcomes. The Programme will support the regional training and health information departments to expand and intensify their implementation of BCC activities, which uses various media and methods and is based on local needs¹⁴⁵. The BCC programme, which will target women and adolescent girls, will be supported by household “nutrition schools,” held every two months, which will be facilitated by ASDP gender, nutrition and social mobilisers and the GoN health department. Those nutrition schools will cover nutritious food production and collection, and food preparation storage and processing to retain nutritional value and assure food safety. This will be supported by a pilot No Junk Food Campaign, to be conducted in a number of villages with the technical support of the health department.

Staffing: The Programme will recruit a Health and Nutrition Specialist at the PCO, who will report to the Senior Gender Adviser. This position will be for the full duration of the Programme. The Health and Nutrition Specialist will be overall responsible to ensure that the health and nutrition interventions are managed and implemented effectively and efficiently. This position will ensure that all BCC/nutrition education interventions will be in line with the government mandated messages and the Programme team to be trained in basic nutrition and nutrition-sensitive agriculture and the strong linkages between gender and nutrition. At the field level, there will be Gender, Nutrition Social Mobilisers in each Ward who will be the main conduit for all the gender and nutrition related interventions. This position will be recruited from the village/Ward itself and preferably should be female. A total of 60 per cent women social mobilisers should be recruited for this position.

Monitoring and Evaluation: The current anchor indicator for nutrition is “reduced prevalence of childhood malnutrition”. IFAD is addressing all forms of malnutrition but the main focus is on chronic undernutrition (stunting). Acknowledging that stunting is a result of a combination of various underlying causes (food security, care for women and children, and environmental health), IFAD’s investments have limitations in addressing stunting in its complexity. The current indicator, therefore, cannot really reflect on achievements in nutrition. To aid in identifying an indicator, there will be a Minimum Dietary Diversity for Women (MDD-W) study carried out to establish the baseline for the new programme. This study will identify the new indicators for the Programme and recommendations for the integration of specific nutrition interventions apart from the ones designed. This will be carried out once a year throughout the duration of the Programme to track the nutrition levels of women and girls in the reproductive age groups.

- Youth interventions in ASDP. The community-based market infrastructure activity will be supported by youth-and women-targeted vocational training in skills that could be quickly applied through the community infrastructure investments. Presently there is a thrust to increase the skills in vocational training across the country and led by the government through various donors. Youth targeting will be a two-pronged approach. The interventions will target both educated and uneducated youth. The Programme will facilitate the trainings with relevant training institutions and identify eligible youth. The World Bank Programme Enhanced Vocational Education and Training Programme (EVENT), currently being designed for its second phase, provides grants for vocational training in government accredited institutions. It is the responsibility of the organisation providing/facilitating the training to assure job placement to the trainees after the training. The Programme will identify such training where

¹⁴⁵ Behaviour change communication (BCC) is an interactive process of any intervention with individuals, communities and/or societies (as integrated with an overall program) to develop communication strategies to promote positive behaviours which are appropriate to their settings. This is not to be confused with nutrition education.

employment will be easily available in the rural areas. If required, the Programme should also re-design training curriculums to suit the demands of the profession eg: for the Junior Technician Assistants (JTAs), a sub course on entrepreneurship will enable the trainees to become more business oriented.

Educated youth who are interested in becoming Junior Technician Assistants in agriculture or livestock will be provided with training and certification through credited courses offered by the government approved certification courses. Other opportunities for educated youth include lab assistants, local resource persons etc. For the uneducated youth, opportunities lie in developing skills in community infrastructure related training. The youth can be trained in on-the-job vocational training, which could focus on such skills as concreting, carpentry, road levelling and surfacing, brick laying, semi-skilled machine operation, painting and public infrastructure maintenance. A quota of 25 per cent will be kept for women and 20 per cent for Dalit, Janajati and Muslims for all vocational trainings.

It is seen in the present Programme that the Social Mobilisers spend up to 25 per cent of their time in data entry for the Programme demands. This significantly reduces their time to be spent productively in the villages. To aid in the collection and entry of data, the Programme will introduce an internship component whereby young educated youth who have either passed high school or who are in school can be paid a small stipend to help the Programme collect data. This could also be done by the LRPs, JTAs, etc. for a small fee. Not only will the collection of data be expedited, but the people involved will also become part of the Programme earning a small income. High school girls can be taken on board as the income can go towards their higher education and other essentials that need financing.

- *Women in construction:* The Programme will ensure the safety and security of women who will work as construction workers in the infrastructure component. Prior to building the infrastructure, a robust social and environmental assessment will take place. This assessment will look at all gender concerns and map out social constraints. The assessment will be taken very seriously in the implementation of the infrastructure. The African Development Bank has come up with a set of guidelines¹⁴⁶ that will be applied while implementing the infrastructure component.
- *Staffing:* At the village level, the Gender and Nutrition Social Mobiliser will be responsible for all tasks related to health, nutrition and the household methodology. At the PCO level, there will be a Senior Gender Equality and Social Inclusion Adviser who will lead the process. This position will be filled with an experienced Gender Specialist of not less than 12 years of experience. This position will be supported by a Health and Nutrition Officer and a Household Methodology Officer. Terms of reference are provided at the end of this document. The Programme will recruit a higher number of female Gender Nutrition Social Mobilisers – at least 60 per cent of them will be women and will be recruited from the villages where they will work as mobilisers. They will be provided training in nutrition, household methodologies and social mobilisation techniques. The Gender and Nutrition Social Mobilisers will be the main conduit for the social aspects of the Programme.

Programme preparatory stage

78. The HVAP will carry out preparatory work that will build into the Gender Equality and Social Inclusion strategy and implementation modalities of the ASDP. The Programme will ensure that the Women's Empowerment Index and the Minimum Dietary Diversity for Women will be carried out prior to the development of the Gender Equality and Social Inclusion Strategy

¹⁴⁶ https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Checklist_per_cent20for_per_cent20Gender_per_cent20Maintstreaming_per_cent20in_per_cent20the_per_cent20Infrastructure_per_cent20Sector.pdf

and Action Plan (GESISAP). The GESISAP will be built on the information and recommendations emerging from the two studies. ToRs are detailed in Annex 3 below.

47. **Women's Empowerment Index:** A gender specialist will be engaged for technical assistance for 2-person months to carry out the Women's Empowerment Index in the operational areas to understand the present status of the women and to identify recommendations that can be included in the Gender Equality and Social Inclusion Strategy and Action Plan (GESISAP).

48. **Women Minimum Dietary Diversity:** The Programme will apply, as a baseline for the ASDP, the FAO tool on Measuring Women's Dietary Diversity,¹⁴⁷ which focuses on women in the reproductive age groups of 15 – 49 years. This age group is nutritionally vulnerable because of the physiological demands of pregnancy and lactation. Nepal has been able to address the 1000 golden days for children pregnant and lactating mothers; however, further work is needed on adolescent girls and reproductive aged women. Outside of pregnancy and lactation, other than for iron, requirements for this age group may be similar to or lower than those of adult men, but because women may be smaller and eat less (fewer calories), they require a more nutrient-dense diet. The Minimum Dietary Diversity for Women (MDD-W) is a dichotomous indicator of whether or not women in reproductive age (WRA 15–49 years) have consumed at least five out of ten defined food groups the previous day or night. The proportion of WRA who reach this minimum in a population can be used as a proxy indicator for higher micronutrient adequacy, one important dimension of diet quality. The recruitment of this position should be made after the studies on women's empowerment and women-minimum dietary diversity will be completed in order to be able to include the recommendations in the GESISAP.

49. **GESI Action Plan:** A social development and gender specialist will be engaged under the Programme preparatory technical assistance (PPTA) for 2 person months to undertake gender and social analysis, including preparing the gender and social inclusion (GESI) action plan and a budget for gender and social development related activities. The gender equality and social inclusion action plan will assess the overall situation of women farmers, disaggregated information on the extent of agriculture extension service outreach, and assess the existing institutional mechanism and capacity needs of the executing agencies/implementing agencies on GESI. The recruitment of this position should be made after the studies on women's empowerment and minimum dietary diversity will be completed in order to be able to include the recommendations in the GESISAP. If possible, the same person will be able to do the Women's Empowerment Index as well as the GESISAP.

¹⁴⁷ <http://www.fao.org/3/a-i5486e.pdf>

Annex 1. Template for Preparation of value chain Strategic Investment Plan

Nepal

Agriculture Sector Development Programme

Final Design Mission

Strategic Investment Plan – <Insert Crop/Commodity>

Contents

Acronyms and Abbreviations

Executive Summary

I. Introduction	142
II. Crop/Commodity Description	142
III. Commodity Setting	143
IV. Economic Infrastructure	144
V. Value Chain Mapping	144
VI. Analysis of Opportunities and Constraints	147
VII. Sample Business Plan	149
VIII. Value Added Analysis	150
IX. Value Chain Governance	151
X. Sustainability	152

List of Figures

Figure 1 Net Revenue Distribution NRS '000 per tonne [EXAMPLE]	151
--	-----

List of Tables

Table 1 Value chain stakeholders	144
Table 2 Value chain functions	145
Table 3 Value Chain Actor – Function Matrix	145
Table 5 <Insert Commodity Name> Basic Value Chain Map	146
Table 5 <Insert commodity name> Value Chain Analysis of Opportunities and Constraints	148
Table 7 <Insert commodity name> Value Chain Financial Analysis	149
Table 8 Key Financial Parameters	149
Table 9 Estimated Number of Beneficiary Household	150
Table 10 Summary of Economic Impacts	150
Table 11 Simplified Value Added Distribution [EXAMPLE – REPLACE]	150
Table 12 Value Chain Governance Mapping	151
Table 12 Alignment with Sustainability Principles	152

Appendices

Appendix 1 Map of <insert name> Road Corridor and Target Area	153
Appendix 2 Yields and Inputs <insert name> Model	153
Appendix 3 Financial Analysis <insert name> Model	153

Abbreviations and acronyms

ASDP	Agriculture Sector Development Programme
NRS	Nepalese rupee
SIP	Strategic Investment Plan
VC	value chain

etc

Executive Summary

General Guidance Note:

Executive summary should be one page.

Each of the report sections should be:

- Concise
- Not more than 2 pages
- Lengthy text is to be avoided
- Diagrams and graphs used where possible
-

Delete this box

[Text – ONE PAGE LIMIT]

Introduction

- This report presents...

Maximum length 1/2 page

Delete this box

- [Text]

Maximum length 2 pages

Delete this box

Crop/Commodity Description

- **Crop/commodity type(s)** [Add text here].....
- [Text]

Crop/Commodity Type Guidance Note:

Describe the types of crops, varieties (traditional/improved), trends, etc

Delete this box

- **Agro-ecological requirements** [Add text here]

- [Text]
- [Text]

Agro-ecological requirements Guidance Note:

Describe the required conditions, temperature range, slope, aspect, soil type, rainfall etc as appropriate
Delete this box

- **Farming system context** [Add text here]....
- [Text]
- [Text]

Farming System Context Guidance Note:

The purpose of this section is to briefly describe the farming system within which the identified commodity is to be found. Outline the following aspects of the existing situation of the typical household:

- Size of farm cropped and grazing areas
- Components: Crops or cropping systems, livestock system, trees, etc., together with any interactions
- Internal and external inputs: Materials, information and energy utilised.
- Household labour by age and gender
- Typical household and community infrastructure utilised
- Products and by-products consumed and traded
- Other household activities, handicrafts etc

Delete this box

- **Management practices and issues** [Add text]....
- [Text]

Production Management Guidance Note:

Describe:
 agronomic practices and calendar.
 production issues
 Delete this box

Maximum length 2 pages

Delete this box

Commodity Setting

- **Relevance to the Provincial and National Economy** [Add text]
- [Add text]

Economy Guidance Note:

Describe:
 Quantity and value of production provincially and nationally
 Trading practices, import substitution, exporting practice and destination
 Direct and indirect employment
 Other relevance information on the economic setting

Delete this box

- **ASDP Setting** [Add text]
- [Text]

ASDP Guidance Note:

Describe:

- Identify the villages / village clusters / districts related to this commodity
- Other ASDP initiatives in the area(s)

Delete this box

Economic Infrastructure

Maximum length 2 pages

Delete this box

- **Transportation infrastructure** [Add text]
- [Add text]
- **Other infrastructure** [Add text]
- [Add text]

Infrastructure Guidance Note:

Describe:

- The existing proposed road corridor developments (route, standards, timing) related to this commodity
- Other related infrastructure: storage, processing, market facilities, communication, power

Delete this box

Value Chain Mapping

Maximum length 2 pages

Delete this box

- **Stakeholders** The actors or stakeholders in the <insert name> value chain are summarised as follows in **Table 8**.

Table 8 Value chain stakeholders

Stakeholder / actor type	Description
[Text]	[Text]

Stakeholder Mapping Guidance Note:

Actor types:

Input suppliers (companies who sell to, farmers' associations and to household- farmers)

Producers (households- smallholder producers and Poor household-farmers)

Small-scale traders

Small-scale processors –local sale

Medium/large-scale processors-exporter sale

Description could include, estimated number, location, business names

Delete this box

- **Value chain functions** The functions performed by the actors in the value chain are summarised in **Table 9**. One function may be performed by more than one actor, and each actor may perform more than one function.

Table 9 Value chain functions

Value chain functions	Description
[Text]	

Value Chain Function Guidance Note:

Actor types:

input supply

production

assembly

processing

wholesale

export

Description could include, estimated number, location, business names

Delete this box

- **Actor – function value chain matrix** The matrix is provided in **Table 10**. This matrix informs that construction of the basic value chain map – see next section.

Table 10 Value Chain Actor – Function Matrix

Functions	Value Chain Actors				
	Input suppliers	Producers	Small-scale traders	Small scale processors – local sale	Medium/large processor- wholesale / exporter
Exporting					
Wholesale					
Processing					
Trading					
Production					
Input supply					

Note: The headings in the table above may have to be adjusted according to findings

- **Value chain map** The VC map based on the actor – function matrix is shown in **Table 10**.
- [Text]

Value Chain Map Guidance Note:

A basic map should answer the following questions:

What is being done in the value chain?

Who are the key players that are doing it?

How is the product/service reaching end markets?

What market channels are available to reach those end markets?

Assistance in map formulation can be found at: <https://www.microlinks.org/good-practice-center/value-chain-wiki/value-chain-mapping-process>

Delete this box

Table 11 <Insert Commodity Name> Basic Value Chain Map

<Insert map here>

Analysis of Opportunities and Constraints

Maximum length 2 pages

Delete this box

- The VC analysis is summarised in **Table 12** describes the current situation, opportunities / constraints and recommendations for improvements across the key structural and dynamic elements.

Opportunities and Constraints Guidance Note:

For each factor in the left column affecting performance, list successively the opportunities, the constraints that prevent those opportunities from being seized, the factor's potential for contributing to chain upgrading, and the quality of the relationship. Each factor should be analysed in terms of its contribution to the upgrading of the value chain under consideration.

The constraints should draw on the descriptions in the sections above.

Delete this box

- [Text]

Table 12 <Insert commodity name> Value Chain Analysis of Opportunities and Constraints

Framework	Situational analysis	Opportunities for Upgrading	Constraints to Upgrading	Recommendation for Upgrading Constraints (How, who and financing)
Structural Elements				
End market	[Text]	[Text]	[Text]	[Text]
Business enabling environment	[Text]	[Text]	[Text]	[Text]
Vertical linkages	[Text]	[Text]	[Text]	[Text]
Horizontal linkages	[Text]	[Text]	[Text]	[Text]
Supporting markets	[Text]	[Text]	[Text]	[Text]
Dynamic Elements				
Value chain governance	[Text]	[Text]	[Text]	[Text]
Inter-firm Relationships	[Text]	[Text]	[Text]	[Text]

Value Chain Analysis of Opportunities and Constraints Table Guidance Notes:

The Framework

Situational analysis: What are the current circumstances?

Constraints to Upgrading: What problems and issues have the actors described

Opportunities for upgrading: What does ASDP offer to address the constraint(s) identified?

Structural Elements

End market: Describe where the final transaction takes place, including location, buyer characteristics, price and quality. Also consider emerging trends and preferences, regulatory changes

Business enabling environment: Description of the financial, technical and social services and supporting public and collective rural infrastructure

Vertical linkages: Are there examples “up the chain” of mutually beneficial relationships between the actors e.g. sharing of quantity and value information, promotion of quality standards, additional services offered by lead firms (e.g. supplier credit, working capital loans, leasing services)

Horizontal linkages: Are there examples of formal or informal cooperative arrangements among firms at each level that involve interdependence, trust and resource pooling in order to jointly accomplish common goals. Examples could include: bulk purchase of inputs and services, collective learning, new marketing strategies, pooling resources

Supporting markets: Is there evidence of or potential for services in support or VC activities? Examples include: financial (lending, leasing), Cross-cutting services (business advice, communications, advertising); and, sector specific (equipment supply, veterinary services, design services)

Dynamic Elements

VC governance: Describe the relationships among the buyers, sellers, service providers and regulatory institutions that operate within or influence the range of activities required to bring a product or service from inception to its end use.

Inter-firm relationships: Is there any evidence for relationships: supportive (mutually beneficial, repeated, voluntary); adversarial; and/or social

Delete this box

Maximum length 2 pages

Delete this box

Sample Business Plan

- **Technical interventions** Based on the recommendations described above proposed interventions are listed as follows:

- Intervention 1
- Intervention 2
- Etc

- **Financial analysis.** The key indicators indicating the financial viability of the proposed interventions at enterprise level are shown below in **Table 13**. The analysis has been conducted using the existing (without ASDP) and new (with ASDP) technologies to allow for an assessment of the impact of the value chain development. Full details of the physical and financial modelling are provided in **Appendix 2** and **Appendix 3**.

Table 13 <Insert commodity name> Value Chain Financial Analysis

Parameter	Unit	Without	With ¹	% change
Yield	kg			
Net income – before labour	NPR '000			
Net income – after labour	NPR '000			

¹ At full development – Without = Without project, With = With project
Full details in Appendix 3

- The outcome of the farm budget analysis for the value chain household models described above is shown in

Table 14 Key Financial Parameters

VC Household Type	Internal Rate of Return %	Net Present Value @ 10% (NPR '000) ¹	Returns per Family Day of Labour (NPR) ²
Type 1 HH	XX	XX	XX
Type 2 HH	XX	XX	XX
Etc.			

Notes:

\1 IRR and NPV derived from discounted cashflow analysis

\2 Full development value.

Financial Analysis Guidance Note:

The financial analysis can initially be based on the Detailed Design Report analysis for the commodity.

The approach taken is to present a gross margin budget for the commodity as well as an overall farm budget as indicated above

Delete this box

- **Economic impacts.** The estimated number of direct beneficiary household based on consultations with stakeholder platform is XXX. The build up of this estimate, in incremental and cumulative terms over the implementation period is indicated in **Table 15**.

Table 15 Estimated Number of Beneficiary Household

Parameter	2018	2019	2020	2021	2021
Incremental	XXX	XXX	XXX	XXX	XXX
Cumulative	XXX	XXX	XXX	XXX	XXX

- The economic impacts of the <insert name> value chain development across a range of dimensions are summarised below.

Table 16 Summary of Economic Impacts

Parameter	Description
Stakeholder income	
Employment	

Economic Impacts Guidance Note:

Describe the broader economic tangible impacts in terms for example, of

- Increased income of the respective VC actors
- Employment creation along the VC actors
- Import substitution resulting
- Export increases

Describe the intangible impacts resulting, such as:

- Ensuring the viability of farm businesses and the economic security of the household
- Maintaining or increasing the quality of life for farm families and workers
- Reduction in drudgery
- Growth in knowledge, human, social and entrepreneurial capital
- capital

Delete this box

Value Added Analysis

Maximum length 2 pages

Delete this box

- The distribution and magnitude of the value added along the value chain is shown in **Table 17**.

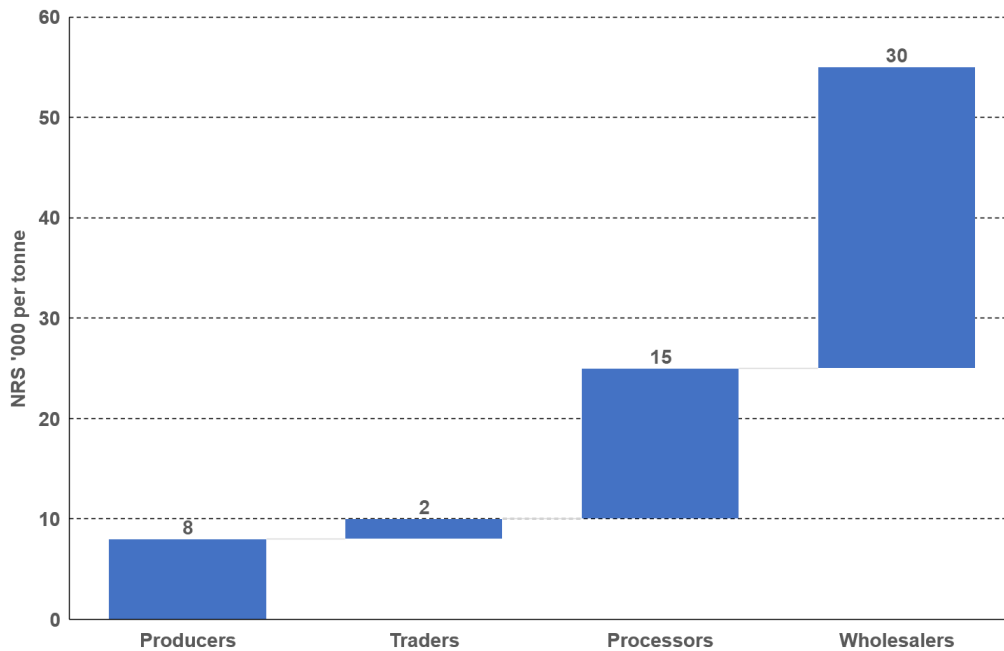
Table 17 Simplified Value Added Distribution [EXAMPLE – REPLACE]

Elements	Value Chain Actors / NRS '000 per tonne				
	Producers	Trader	Processor	Wholesaler	
Intermediate goods					
Inputs	10	25	30	56	
Labour	5	1	6	12	
Transport	2	3	2	50	
Other	-	-	4	10	
Total inputs [A]	17	28	42	88	
Sales [B]	25	30	56	110	

Value Added / Net Revenue	[B minus A]	8	2	14	30	
---------------------------	-------------	---	---	----	----	--

- The findings of the value added analysis as presented graphically in **Figure 3**. The figure indicates

Figure 3 Net Revenue Distribution NRS '000 per tonne [EXAMPLE]



Simplified Value Added Distribution Guidance Note:

The purpose of the table is to show the value of the intermediate goods, the magnitude of the sales price and hence derive the value added for each actor in the chain.
The headings in the table above may have to be adjusted according to findings
The example shown should be deleted.
Delete this box

Value Chain Governance

Maximum length 2 pages

Delete this box

- **Current situation.** The relationships between the various actors in the value chain and the key operation parameters that define the governance arrangements are summarised in **Table 18**.

- [Add further explanation here....]

Table 18 Value Chain Governance Mapping

Key parameters	Producers	Trader	Processor	Wholesaler	Sector
Who chooses what is to be produced?					
Who chooses how it is to be produced in terms of:					
• the technology?					
• the quality systems?					
• the environmental standards?					
Who determines how much and when to produce?					

--	--	--	--	--	--

- **Changes in governance due to upgrading** [Add text here...]
- [Text]

Value Chain Governance Guidance Note:

The purpose of this section is twofold.

The first element is a description of the VC governance. Value chain governance refers to the relationships among the buyers, sellers, service providers and regulatory institutions that operate within or influence the range of activities required to bring a product or service from inception to its end use. Governance is about power and the ability to exert control along the chain – at any point in the chain, some firm (or organization or institution) sets and/or enforces parameters under which others in the chain operate. Governance arrangements help in determining / understanding a range of aspects including: the acquisition of production capability, market access, how to influence the distribution of gains and where leverage exists for policy change.

The table included above is designed to assist in thinking through the governance of the commodity in question and describing the existing situation. Adapt as required

The second element is an assessment of how the upgrading strategies defined above in the analysis of opportunities and constraints may change these governance arrangements.

Delete this box

79. Sustainability

Maximum length 2 pages

Delete this box

- An assessment of the sustainability is undertaken through an examination of the alignment of proposed the value chain development with the 5 agreed principles which guide the process of transition to greater sustainability in food and agriculture.¹⁴⁸ This assessment is presented in **Table 19**.

Table 19 Alignment with Sustainability Principles

Principle	Comments on the alignment
Improving efficiency in the use of resources is crucial to sustainable agriculture	[text]
Sustainability requires direct action to conserve, protect and enhance natural resources	
Agriculture that fails to protect and improve rural livelihoods and social well-being is unsustainable	
Enhanced resilience of people, communities and ecosystems is key to sustainable agriculture	
Sustainable food and agriculture requires responsible and effective governance mechanisms	

¹⁴⁸ FAO 2014, Building a common vision for sustainable food and agriculture - Principles and Approaches 2014. <http://www.fao.org/sustainability/background/en/>

Alignment with Sustainability Principles Guidance Note:

Principle 1 – examples

- Genetically diverse portfolio of varieties
- Conservation agriculture
- Judicious use of organic and inorganic fertilisers, improved soil moisture management
- Improved water productivity, precision irrigation
- Integrated pest management

Principle 2 – examples:

- Use of better practices for biodiversity conservation
- Use of better practices for soil and water management

Principle 3 - examples

- Increase / protect farmers access to resources
- Improve rural nutrition
- Increase rural employment

Principle 4 – examples

- Promote risk assessment and communication
- Prepare for/adapt to climate change
- Respond to market volatility

Principle 5 – examples

- Increase effective participation
- Encourage formation of associations
- Increase frequency and content of stakeholder consultations
- Develop decentralised capacity

Delete this box

Appendix 1 Map of <insert name> Road Corridor and Target Area

Maps Guidance Note:

To the extent possible this section should develop thematic maps that show:

- Commodity value chain area
- Districts and village / village clusters involved
- Existing and proposed road infrastructure development(s)
- Existing and proposed ancillary infrastructure development(s) e.g. markets, storage, processing, collection points etc

Cross references to these maps should be included in the body of the report.

Delete this box

Appendix 2 Yields and Inputs <insert name> Model

Appendix 3 Financial Analysis <insert name> Model

Annex 2: Draft sample application for farmer group co-investment

**Government of Nepal
Ministry of Agricultural Development
Agriculture Sector Development Programme (ASDP)**

**Template for Investment Proposals by
Groups/Cooperatives
Off Season Vegetable Value Chain**

**Project Coordination Office
(Address)
Xx January 2018 (Nepali date)**

Basic Details:

Name of Group/ Coop	
Address	
Name of Ward	
Name of Municipality	
District	
Legal Status	

Date of Formation of Group/Coop:

Name of Promoter Agency:

Number of Households in the Command Area of Group/Coop:

Total	Janajati	Dalit	Muslim	Other	Women Headed

Group Composition

Total Members	Women	Men	Janajatis	Dalits	Muslims	Woman Headed Households

Names of Office Bearers:

Chairperson: (M/F); (Dalit/JJ/Muslim/Other); (Literate: Yes/No)

Secretary: (M/F); (Dalit/JJ/Muslim/Other); (Literate: Yes/No)

Secretary: (M/F); (Dalit/JJ/Muslim/Other); (Literate: Yes/No)

Are any of the Office-Bearers related to each other: Yes/No

If Yes, Give Details:

Does the Group Engage in Savings & Loan Activity: Yes/No

If Yes, Savings Rate: Rs/Month Total Group Corpus: Rs

How Many Members are Part of Another Group:

How Many Members are Part of a Cooperative:

Road Access:

Distance from Main Road Corridor: Km

Of which, Feeder Roads: Km

Farm Track (power tiller access): Km

Dirt Track (walking trail): Km

Details of Present OSV Cultivation

Name of Veg	Irrigated (Ropani)	Yield Kg/Ropani	No. of Farmers	Unirrigated (Ropani)	Yield, Kg/Ropani	No. of Farmers
Cauliflower						
Cabbage						
Tomatoes						
Chillies						

Irrigation Source:

Present Sources of Inputs and Services:

Seeds:

Fertilizers:

Pesticides:

Equipment (e.g. tillers, sprayers, etc.):

Investment Capital (Credit):

Technical Know-how:

Others (Specify):

Present Market Access:

Local Market (Where):

Trader at Farm Gate (Details):

Supply to Outside Trader (Details):

Approximate Volume Traded Last Year:

Commodity ->						
Quantity ->						
Price ->						
No. of Farmers who Sold ->						

Support from any Other Programme:

Constraints to Expansion:

Opportunities for Expansion:

Investment Proposal

Purpose (Items) of Investment:

Item	Total, Rs	Group's Contribution, Rs	Grant Sought, Rs	Loan, Rs	Source of Loan

Details of Proposed OSV Cultivation

Name of Veg	Irrigated Ropani	Expected Output, Kg	Proposed Investment Rs	No. of Farmers	Unirrigated Ropani	Expected Output, Kg	Proposed Investment Rs	No. of Farmers
Cauliflower								
Cabbage								
Tomatoes								
Chillies								

Proposed Fund Flow:

Year 1: Rs Year 2: Rs Year 3:

Proposed Sources of Inputs and Services:

Seeds:

Fertilizers:

Pesticides:

Equipment (e.g. tillers, sprayers, etc.):

Investment Capital (Credit):

Technical Know-how:

Others (Specify):

Proposed Market Access:

Local Market (Where):

Trader at Farm Gate (Details):

Supply to Outside Trader (Details):

Name of Authorized Group Representative: Position:

Signatures of Office Bearers:

Chairman

Secretary

Treasurer

Annexure 1: List of Group Members

Sl	Name	Male/Female	Social Category	Investment Proposed	Remarks
1					
2					

3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

For Use by Field Verification Team

Group is Registered (has certificate)	Yes/No
Group Has Bank Account	Yes/No
Group Details are Correct	Yes/No
Proposal Linked to Selected VC	Yes/No
Proposal Linked to Selected VC Gatekeeper	Yes/No
Meets Social Inclusion Criteria	Yes/No
Technically Viable	Yes/No
Has Potential for Scaling Up	Yes/No
Recommended	Yes/No

Signatures of Field Verification Team Members:

Name					
Title					
Signature					

Annex 3. Terms of reference for ASDP Technical Assistance

A. Terms of reference for the study on mapping of financial institutions in the programme area

1. HVAP will carry out a mapping of the financial institutions functioning in the programme area. The financial institutions will include a) Commercial banks, b) Development banks, c) Micro finance development banks, d) All Co operatives that are under taking financial services, e) financial services provided by NGOs, f) informal groups.
2. The mapping will cover the following aspects for a to e above:
 - number of branches, branch less banking outlets and present Municipality and VDC (ward) coverage, distance of operation;
 - for commercial banks and development banks with branch network in the programme area, collect details of total loan portfolio, lending to productive sector, lending to deprived sector, for bank as a whole as well as for the branches in the programme area. Information of value chain financing, wholesale lending to co operatives will be collected from the Head offices of the banks;
 - methodology of mobilisation/lending – (individual, group);
 - number of clients/members being covered – savings, loans, insurance - and the volume of business by type of product will be collected. Loan portfolio quality details will also be collected;
 - types of products being offered under savings, loans and insurance for programme target group with details of the product. i)Savings product details will include – minimum and maximum amount, voluntary or compulsory, purpose, withdrawal limits, periodicity and term of savings, rate of interest. ii)Loan product details include purpose, individual or group loan, minimum and maximum amount, repayment terms, moratorium period if any, rate of interest, type of collateral. Details of agriculture loans will be given emphasis. iii) Insurance product details will include type of insurance (crop, plantation, livestock), commodity covered, sum assured, premium details, risks covered, indemnity, payouts;
 - financing to agri businesses – type of business, quantum of loan, repayment terms, moratorium period if any, rate of interest, type of collateral;
 - present human resources in the branches, number of persons for agriculture lending, and persons trained in agriculture lending;
 - likely capacity development requirements for improving financial services for agriculture.

B. Terms of reference for technical assistance for value chain financing

1. Hiring terms- Technical assistance will include both international and national experts. The TA will be need-based and hiring on monthly/split months or days basis.
2. Location – PCO Surkhet, Nepal with travel to Kathmandu to work with head offices of banking and financial institutions.

Job Requirements & Experience for TA

3. The candidate should have following experience, skills and knowledge mix:
 - work experience in rural financial services for at least 10 years in small farmer and agri business credit in South Asia region;
 - sound knowledge and prior experience in value chain financing – receivable financing, agri dealer/processor financing, innovative collaterals etc. is critical for international TA;
 - good working knowledge of the different national banking and financial institutions, insurance companies, concerned with agriculture finance and insurance in Nepal and strong ability and readiness to communicate, and work with them;
 - gender sensitivity in working with rural men and women understanding and addressing their needs;
 - strong group facilitation skills and communication skills with farmers;
 - fluent written and spoken English for international TA and in Nepali as well as English for national TA;
 - creative and patient approach to problem solving.

Duties and Responsibilities

- complete responsibility along with Rural Finance Programme manager for development, roll out and scaling up of value chain financing products by commercial banks;
- work in close co ordination with partner banks in developing Value Chain financing instruments;
- study the existing relationships and internal value chain mechanisms between farmers and agri businesses;
- select potential clusters and VC commodities;
- in consultation with interested banks, ensure adequate data collection on producers. Devise data formats along with national TA, train social mobilisers/LRPs in data collection, supervise data collection on sample basis;
- identify agri businesses with good reputation in dealing with farmers;
- select agribusinesses with clear intention of increasing their business through VCF arrangement;
- carry out a risk assessment of the VCF along with the banking personnel in understanding the VCF risks and devising the product;
- hold joint consultations among agri businesses, farmer groups and bank to work out the contours of financing and ensuring repayments of bank loans;
- discuss with the banks on cash flow based lending mechanisms and new forms of collaterals such as first loss default guarantee (to be provided by the client and producers);
- devise tri partite agreement among bank, agri business and farmers spelling out the terms of financing – amount, rate of interest, repayment period etc.;
- facilitate development of banks' credit policies towards VCF including risk assessment tools, due diligence exercise, loan monitoring and early warning systems;
- draw up the protocols of pilot to scaling up;
- facilitate monitoring formats and tools for the banks and programme management to monitor the roll out of the VCF;
- make necessary adjustments for the product for scaling up;
- facilitate development of training material for training bank staff in VCF.

C. Terms of reference for technical assistance for rural insurance product development/modification

1. Expert – National individual consultant
2. Location- Programme office Surkhet, Nepal with travel to Kathmandu to work with Insurance Board and Head offices of insurance companies.
3. Term- short term consultancy and hiring on monthly/split months or days basis based on need.

Job Requirements & Experience for TA

4. The candidate should have following experience, skills and knowledge mix:
 - work experience in insurance services for at least 10 years and at least 3 years in rural agri insurance;
 - sound skills and knowledge in insurance product development including field surveys;
 - good working knowledge of institutions involved in insurance in Nepal;
 - gender sensitivity in working with rural men and women understanding and addressing their needs;
 - strong group facilitation skills and communication skills with farmers;
 - fluent written and spoken Nepali and preferably in English as well;
 - creative approach to problem solving.

Duties and Responsibilities

- contribute to the product development related activities in collaboration with Rural Finance Programme Manager;
- facilitate field survey of VC member needs by a) designing data formats in consultation with province/municipality agriculture/livestock authorities and test checking them, b) training social mobilisers/ LRPs in data collection and supervising their work on sample basis;
- collate information on a) Risks and Coping strategies, b) Insurance Literacy and Consumer awareness c) Capacity to pay for insurance d) Effective Distribution mechanisms for insurance;
- based on field reports develop the contours of new products/ modification necessary in existing products;
- work with government departments and Insurance Board to develop/ modify the products;
- facilitate launching the insurance products;
- ensure that insurance literacy materials are appropriate and trainings are carried out for VC members;
- ensure along with assistant rural finance managers that LRPs are trained well and performing their role as insurance agents well;
- develop monitoring systems and formats for uptake of insurance products, claims processing and claims settlement, renewal etc.

D. Terms of reference for technical assistance provider for institutional development

1. The Government of Nepal (GoN) is implementing a Value Chain (VC) Development programme titled Agriculture Sector Development Programme (ASDP) in 60 selected municipalities (rural and predominantly rural) across all 10 districts of Province 6. The programme is supported by the Internal Fund for Agriculture Development (IFAD), GoN and contributions from the participating farmers. ASDP will scale up the approach methodologies developed to promote agricultural value chains and link poor farmers to such VCs to enable them to enhance their incomes in the course of another IFAD supported GoN programme called the High Value Agricultural Programme (HVAP) being implemented in the erstwhile Mid-western Development Region.

2. ASDP has developed a strategic investment plan (SIP) that has identified several commodity VCs for development in Province 6 based on local agro-ecological parameters and presence of road networks. Several geographic pockets have been identified as potential production clusters for specific VCs. ASDP envisages organising farmers with potential to produce specified commodities in the selected clusters into small groups, link them to the relevant commodity VC as producer organisations (PO) and develop the capabilities of the POs to function as self-reliant and autonomous organisations and eventually be graduated and consolidated into commodity cooperatives.

3. A key requirement is to ensure participation of women (at least two-thirds of the participants), *Dalits*, *Janajatis* and very poor and poor farmers.

4. ASDP invites Expression of Interest from (National and) International Consultants to develop Strategies and Implementation Methodologies for promoting and capacitating farmers organisations to participate in the Value Chain development programme. The specific tasks and deliverables by the Consultant are:

- develop a methodology to evaluate/grade community-based producer organisations based on a preliminary field study of the existing POs (farmer groups and cooperatives) promoted by HVAP;
- review the status of the existing POs (farmer groups and cooperatives) promoted by HVAP, based on a representative sample;
- review the implementation manuals/methodologies in use by HVAP for community mobilisation and group and cooperative development;
- review the training programmes and pedagogies in use by HVAP for developing the capabilities of groups/ cooperatives;
- based on the above, develop:
 - a detailed strategy for ensuring farmer engagement in VCs, including mobilisation of farmers, organising them into groups and building the capacity of the groups to function as inclusive (women, *Dalit*, *Janajati*, poorest and poor farmers), self-reliant and autonomous organisations that contribute to enhanced farmer incomes through profitable engagement with VCs;
 - a step-by-step methodology to implement the above strategy, using various tools and techniques, audio-visual aids, etc.;
 - a usable repository of the prescribed/proposed tools;
 - methodologies to assess the training needs of groups/group members/ group leaders;
 - training programmes and schedule of trainings for the groups, along with training material and details of pedagogies;
 - methodologies for rating the performance of groups.
- develop a training of trainers (ToT) programme for trainers of groups/group members/ group leaders;
- conduct a ToT for the present staff of ASDP and NGOs recruited by ASDP for community mobilisation and group development (about 25 to 30 participants).

5. **Timeline:** Six months from the date of signing of contract.

6. **Support available from ASDP:** ASDP will provide local logistical support for field work, local meetings and trainings.

E: Terms of reference for technical assistance provider for consolidation of groups into commodity cooperatives

1. The Government of Nepal (GoN) is implementing a Value Chain (VC) Development programme titled Agriculture Sector Development Programme (ASDP) in 60 selected municipalities (rural and predominantly rural) across all 10 districts of Province 6. The programme is supported by the Internal Fund for Agriculture Development (IFAD), GoN and contributions from the participating farmers. ASDP will scale up the approach methodologies developed to promote agricultural value chains and link poor farmers to such VCs to enable them to enhance their incomes in the course of another IFAD supported GoN programme called the High Value Agricultural Programme (HVAP) being implemented in the erstwhile Mid-western Development Region.
2. ASDP has developed a strategic investment plan (SIP) that has identified several commodity VCs for development in Province 6 based on local agro-ecological parameters and presence of road networks. Several geographic pockets have been identified as potential production clusters for specific VCs.
3. A key requirement is to ensure participation of women (at least two-thirds of the participants), *Dalits*, *Janajatis* and very poor and poor farmers.
4. ASDP has been organising farmers with potential to produce specified commodities in the selected clusters into small groups, linking them to the relevant commodity VC as producer organisations (PO) and developing the capabilities of the POs to function as self-reliant and autonomous organisations.
5. ASP now plans to consolidate the farmer groups into commodity cooperatives. The task of such consolidation will be assigned to a National Consultant with proven expertise and experience in promoting and capacitating farmer cooperatives. With this background, ASDP now invites Expression of Interest from national co operative capacity development institutions to develop Strategies and Implementation Methodologies for consolidating the farmer groups into suitable Commodity Cooperatives to continue to participate in respective commodity Value Chains and to carry out the task of consolidation and capacity development over the next four years till Programme completion.
6. The institution will have the following qualifications; (i) a mandate and strategic interest in capacity development of agriculture and savings and credit cooperatives; (ii) have proven experience of 10 years in capacity development of cooperatives; (iii) have capability to facilitate credit linkages for wholesale credit with commercial banks, development banks and micro finance development banks; and (iv) have established software based MIS and monitoring systems for the cooperative to track financial services and commodity specific activities.
7. The institution will work closely with the ASDP staff and service providers working in the programme as Social Mobilisers. The specific tasks and deliverables by the institution are:
 - develop district-wise, yearly plans for consolidation of farmer groups into cooperatives;
 - develop a methodology for consolidation into cooperatives;
 - assist farmer group members to join exist well functioning co operatives; or else encourage farmer group members presently holding membership in other cooperatives to disengage with such cooperatives as per prescribed procedure;
 - implement the strategy on the ground jointly with the service providers and ASDP staff to form commodity cooperatives, with suitable governance structures, by-laws and internal systems of management, governance, social and financial audit and get the cooperatives registered with appropriate authorities;
 - develop a capacity building plan for the cooperatives;
 - implement the capacity development plan in phase for all cooperatives;
 - develop self-review and rating systems for cooperatives;
 - facilitate computer based MIS and monitoring in co operatives;
 - facilitate whole sale lending for cooperatives based on their business plans.
8. **Time line:** The consultant will begin working from July 2019 (second year of ASDP) and continue to remain engaged for five years till Programme completion in June 2023.
Support available from ASDP: ASDP staff and service provider staff will work closely with the consultant to implement the consolidation programme and will provide local logistical support.

F. Terms of reference for the gender and social development specialist for the gender action plan and the women's empowerment index

1. The scope of the work will cover the following assignments:

A. Women's empowerment index

- carry out the Women's Empowerment Index tool to understand the levels of empowerment of women in the operational areas;
- recommend within the Programme framework, specific interventions that need to be included to strengthen the GESI initiatives;
- identify robust empowerment indicators for the logframe, M&E and methods of collection of data for ASDP;
- design the index for use at mid term and end term to measure the impacts of the Programme on women's empowerment.

B. GESI action plan

- the person will undertake gender and social analysis, including preparing the gender and social inclusion (GESI) action plan and a budget for gender and social development related activities;
- develop Gender Equality and Social Inclusion (GESI) strategy, action plans with budgets required for the Programme. These strategies should address the issues and problems of Gender and Social Inclusion based on Government GESI policy to consider how women and the poor, excluded (Dalit, Janajati, unemployed youths, disabled, single women, etc.), will be included in the Programme. The GESI strategy and action plan should include the recommendations made from the Women's Empowerment Index and the Household Dietary Diversity for Women;
- identify and compile examples of outcomes and outputs, outcomes indicators and outputs indicators that can be used by task managers. The indications should include the recommendations made from the Women's Empowerment Index and the Household Dietary Diversity for Women;
- provide support to incorporate GESI in Annual Work Plan and Budget for the first year of the Programme, Quarterly Progress Reports, Trimester Progress Reports for government and Annual Progress Report for IFAD from GESI perspectives;
- provide input to any guidelines, manuals or other such documents of the Programme in order to ensure that they are fully sensitive to GESI;
- Train the staff of the Programme (PCO) in the implementation of the GESI Strategy and action plan.

Deliverables

- development of GESI strategies, guidelines for gender mainstreaming and action plan;
- a set of examples of outcomes indicators and outputs indicators;
- provided technical inputs to prepare AWPB, and other Progress Reports from GESI perspective;
- revised Financial Literacy Training Package from GESI Perspective;
- conduct training session for staff on the guidelines for gender mainstreaming and implementation of the GESI action plan.

Timing of the work

2. The timeline for developing guidelines of gender mainstreaming in the Governance Sector and delivering the training is 45 working days over 3 months following the signature of contract.

Qualification and expertise of the consultant

- the Consultant should have at least a Master's degree in a relevant discipline;
- the Consultant should have extensive operational experience (at least 10 years) in the field of gender mainstreaming in various sectors, in particular the livelihood sector;
- ideally, the Consultant should have direct practical experience on mainstreaming gender into value chain programme delivery;
- the consultant should also be experienced in developing and delivering training programs in an international setting, including workshop design, preparation of training curriculum and materials, and application of interactive training methods;
- the ideal candidate will have strong organizational ability, excellent presentation and facilitation skills, a strong command of English and/or Nepali language; and ability to relate well to staff from different nationalities and diverse cultures.

G: Terms of Reference for Social Mobilizer

Location: Respective Local Bodies (Gaon Palika/Nagar Palika)

Qualification:

Higher Secondary (10+2) Certificate or JTA Diploma. Preference would be given to women, Janajatis and those with Undergraduate Degree (preferably in Social Work or Rural Development).

Experience:

At least 5 years' experience in social mobilisation/Group promotion/Cooperative promotion or other rural development work requiring extensive mobilization and organization of village communities. Prior experience in gender development and household nutrition would be an advantage. Experience of working in Province 6 will be an advantage.

Job Description:

- Mobilisation of farmers, organizing farmers into groups, facilitating group meetings, facilitating restructuring and consolidation of groups.
- Facilitating groups to form cooperatives.
- Assist the NGO Coordinator in collecting data regarding potential for the development of commodity value chains in identifies wards and municipalities.
- Assisting the NGO coordinator to collect data about groups and their functioning.
- Assist in all baseline and impact assessment studies.

H. Terms of reference for infrastructure feasibility, design and construction supervision

INTRODUCTION

1. Government of Nepal (GON) has received loan and grant to implement the **Agriculture Sector Development Programme (ASDP)**, with financial assistance from the International Fund for Agriculture Development (IFAD). A Part of this financial assistance is to be used for hiring firm for consultancy services for **Feasibility, Design and Supervision** of the infrastructure component of ASDP.

2. The ASDP is a follow-up to the High Value Agriculture Project in Hill and Mountain Areas (HVAP). The justification for the ASDP stems from a number of elements: (i) a favourable policy and institutional framework originated by the new Nepal constitution and the 2014 ADS, which places greater emphasis on market (value chain)-driven agriculture development; (ii) a significant stock of knowledge on value chain development produced by a number of Programmes, most of which will be completed during 2018, as a source of good practices and lessons learnt for this new operation; and (iii) the opportunity of scaling up the HVAP approach through its replication of proven value chain interventions in a larger, including more remote, geographic area (enabled by improved rural infrastructure, notably the expanding district road corridors) and by further expanding the outreach of the activities underway, while ensuring the sustainability of development results.

3. The Programme would be implemented in Surkhet, Dailekh, Salyan, Jajarkot, Kalikot, Jumla, Mugu, Dolpa, Humla and (western) Rukum districts in Province 6 of Nepal. The four highlighted districts are incremental to the HVAP area and would be integrated into the Programme in line with the development of the (i) Chhinchu-Jajarkot–Dolpa; (ii) Surkhet-Kalikot-Jumla-Mugu; (iii) Surkhet-Dalilekh road corridors; and (iv) Mid-hill highway. The programme would commence immediately in the six existing HVAP districts and in Mugu and Rukum, with Dolpa and Humla being integrated in to the Programme as road access improves. The Programme Coordination Office (PCO) would continue to be based at Birendranagar in Surkhet district, while three corridor-based coordination units would be established for technical backstopping, field level coordination and programme monitoring and supervision.

4. The programme would target smallholder farmers and landless rural people (value chain labour, small livestock, etc.) interested to engage in targeted value chain activities. HVAP experience indicates that this is a very inclusive process with most households in HVAP-supported hamlets and villages progressively participating in value-chain linked production and processing activities. Women would form 2/3rds of the Programme beneficiaries and disadvantaged households including Dalits, Janajatis, Muslims, youth, landless and other disadvantaged groups would be specifically targeted for Programme inclusion (25 per cent target). The Programme would develop specific mechanisms for poor households to be able to join appropriate value chains, however, poor and marginalised households would also benefit from expanding local agriculture employment opportunities associated with value chain-driven growth. It is expected that the ASDP would serve around 35,000 direct beneficiaries (producers households and agri-industry entrepreneurs and employees) and around 40,000 indirect household beneficiaries (through public infrastructure, financial services and agricultural services development).

5. The Programme would have two components: (i) Value chain development, and (ii) Programme coordination.

6. Component 1, Value chain Development, would include four outcomes: (i) Inclusive and sustainable agriculture value chains expanded and diversified; (ii) Market-oriented community infrastructure established; (iii) Rural financial services fund value chain development; and (iv) Agriculture services sustainably support innovation and value chain development. Component 2¹⁴⁹, Programme coordination, would have a single outcome: Stakeholders manage Programme outcomes creatively, efficiently and effectively.

¹⁴⁹ ASDP Final Design Report

Outcome 2. Market-oriented community infrastructure functional

7. Output 2.1. The Programme would allocate loan funds for market-linked infrastructure investments that provide public good and collective¹⁵⁰ benefits essential to the successful development of targeted commodity value chain engagement and/or climate change adaptation. Public or collective market-linked infrastructure investment schemes would be identified and prioritized through: (i) the SIP/MSP process; (ii) subsequent participatory community planning; and (iii) their alignment with Municipality infrastructure plans. Investments could include, inter alia, village and farm access roads, commodity storage, ponds, small-scale irrigation and multi-purpose village water supply. As this is a demand driven process, there is the likelihood that communities, MSPs and SIPs would identify the need for other types of infrastructure that have not been anticipated here. The programme would be structured to cater for innovative demands as they emerge. For public infrastructure (village roads, trails, markets, etc.) funds would be transferred to Municipalities as tagged block grants for municipalities to implement with Programme support. Collective good infrastructure would be primarily built through community action unless their scale or complexity required contracting. All infrastructure investments would be climate change adaptive. In line with the Local Infrastructure Development Policy LIDP, infrastructure development shall follow the following process: identification, selection, prioritisation, implementation, operation and maintenance. This process has been developed further by HELVETAS for farmer managed irrigation systems development. The same approach, with modifications, would be used for all types of Programme local infrastructure.

8. The identification of infrastructure Programmes would be through the high value chain strategic investment plans (SIP) and approved by local government authorities. The criteria for selection of transport infrastructure would include the criteria in Table 1.

Table 1. Example selection criteria

Parameter	Scoring Unit	Score
Population	Population/NRP 100,000 investment cost	50
Cultivated land under the target high value commodity	Area cultivated (ha)/km	25
Population x walking hours	Population x walking hour/km	15
Total population of poor, Dalits and marginalised Janajatis	Population/km	10

9. Infrastructure construction would use a mix of labour intensive methodologies and machinery as appropriate. Local government and design engineers would determine the best mix of community labour and machinery, as allowed by law. The selection of irrigation and water supply development would occur in the high potential pockets/cluster areas and would depend on technical feasibility. Rehabilitation and upgrading of irrigation schemes would be prioritised depending on the: (i) number of beneficiaries; (ii) value of crops to be grown; (iii) number of disadvantaged communities benefitting; (iv) linkage with a commercial trader to buy the produce and (v) availability of road access. The process for selection and development of local infrastructure is summarised in Table 2. The detailed implementation arrangements would be developed in the Programme implementation manual.

¹⁵⁰ Semi-public good

Table 2. Process for selection and development of local infrastructure¹⁵¹

Phase	Steps	Responsibility	
PREPARATION, SELECTION AND PRIORITISATION	11	Request submission of potential Programmes, as identified in the Programme SIP , by communities to local government directly or by service providers, line agencies or others for initial screening.	PCO Local government
	12	Socio-economic and technical survey of screened proposals.	Local Service Provider (LSP)
	13	Prioritisation of Programmes and allocation of funding.	Local government PCO
SURVEY, DESIGN & FORMALISATION of PROGRAMME	14 4	Social and technical Detail Survey, Design, Cost Estimates <ul style="list-style-type: none"> • Evaluation of prioritized Programmes. • Linkage to high value agricultural commodity support • Determine cash and in-kind contribution at 15 per cent of investment cost. 	External Service Provider (ESP) and / or Local government
	15 .	<ul style="list-style-type: none"> • Public Hearing for Communicating Results of Detail Survey to the Community and local government (municipality/ward) concerned and announcement of selected Programmes 	Local Service Provider (LSP) and / or External Service Provider (ESP) Local government (municipality or ward)
	16	<ul style="list-style-type: none"> • Formation of User Committee (UC) • Preparation of Operation & Maintenance Plans and Financing System (OMPF/S) • Signing of Agreement with UC • Construction Management Training 	Local government PCO UC
& CONSTRUCTION COMMISSIONING	17	Procurement of material or contractor.	Local government Service provider/PCO
	18 .	Construction and construction supervision Monitoring and Verification of required community contribution	Local governments Local building groups Contractor/UC Service provider/UC
	19	Programme completion commissioning and reporting including public audit	Local government UC Service provider/PCO
Operation and maintenance	20	Prepare asset maintenance plan Implementation of maintenance plan Operation of infrastructure as required	Contractor UC Local government

Detailed surveys for roads and irrigation Programmes need to be done in the driest periods – i.e. in the pre-monsoon months of mid-February to mid-May.

10. Co-financing of construction costs of public and collective good infrastructure works would be in accordance with the accompanying Table 3. Individual infrastructure

Table 3. Breakdown of infrastructure financing

Activity	Financier (%)		
	IFAD Loan	Municipality	Beneficiary
Roads	75 per cent	15 per cent	10 per cent
Trails & trail bridges	75 per cent	15 per cent	10 per cent
Markets	50 per cent	35 per cent	15 per cent
Water	85 per cent	0 per cent	15 per cent
Design	100 per cent	0 per cent	0 per cent
Supervision	100 per cent	0 per cent	0 per cent

¹⁵¹ Adapted from FMIS Operational Infrastructure for Livelihood Improve

investments (IFAD Component) exceeding USD 50,000 would require no-objection from IFAD. The Programme would, wherever practicable, use force account processes for community infrastructure investments, designed to create local jobs, while recognising that most major infrastructure investments would require some machine support.

11. **Details of Potential Infrastructure and Technology Investments.** The rural hill and mountain areas of Nepal are among the least developed in the country. Road and electricity connectivity are very low, with some village centres having neither road nor electricity access. Life for the poor is characterised by long hours of walking, carrying heavy loads. Women spend long hours fetching water and travelling to markets, or for other government services. Development of all-year-round transportation services and energy access can significantly improve the livelihood of rural communities.

12. Local transport infrastructure links production areas to market centres, village roads, district roads or strategic road networks. The infrastructure would follow standards as stipulated in the Nepal Rural Roads Standards (2010). The Programme would develop transport links that have the least investment cost. All transport links should be built to consider a 10-year projected traffic volume. The design of the link would aim to achieve the lowest life cycle costing (cost/km), which would include: (i) the amortised cost of the investment for the link (new or rehabilitation); (ii) the annual maintenance cost; and (iii) any annual operation costs for that link.

13. Local transport linkages are categorised into five classes based on the function of the link, traffic volume and type, and topography. The three that are relevant to the Programme include:

- District Road Class B (RRB) – linking Grade A market to grade C, linking grade B market to Grade C market, connecting VDC centres, linking Grade B or C market to SRN or LRN; connecting a place in a village (river ghat, mini-market, school, health post, residential area, forest, etc.) with a village centre or any other road link. Village roads are smaller and shorter than RRB roads. The ASDP would invest in RRB roads and village roads that are less than 5km in length and justified with linkage to significant production clusters/pockets of targeted high value commodities;
- Rural Road Class C (RRC) – all major non-motorable foot/mule trails which connect a VDC centre with a district headquarters, SRN, DRCN, village road and other major location. This class would include trail bridges. The ASDP would invest in RRC infrastructure. It is anticipated that the cost of development would be about USD 700/meter for trail bridges; and
- Rural Road Class E (RRE) – In the high mountains where construction of trails is not feasible, rope ways shall be considered. The rope ways shall be mainly justified based on socio-economic considerations but considering the amortised cost of construction, operation and maintenance.

14. The preferred approach is to have the infrastructure prioritised in line with the local government planning procedures, considering the main objectives of the Programme.

15. Under the ASDP, rural transport infrastructure would include motorised and non-motorised traffic focussing on RRB, village roads, RRC and RRE transport classes. All roads would fall under the jurisdiction of the local municipality, which would be responsible for managing their construction. Priority would be given to upgrading roads from fair weather access to all year access, whilst new roads may be included. All village roads to be upgraded or new development would be part of the district/municipality transport master plan. The municipality would make an undertaking to co-finance the construction and maintain the road after construction, as part of condition for selecting the road.

16. Trails and trail bridges would also be owned by the municipality and maintained jointly by the community and municipality. The municipality would co-finance the construction of the trail bridges and associated trails and the community would contribute towards the construction and maintenance of trails and trail bridges;

17. Road user committees would be formed for all village roads, trails and trail bridges. The committees would work together with the local government to ensure that maintenance is carried out for the infrastructure.

18. Water supply is a key constraint to development in the hill and mountain areas of Nepal. Over the years, the government has developed irrigation schemes with the assistance of donor organisations. The irrigation policy defines small-scale irrigation as less than 25 ha in mountain areas and 200 ha in the Terai. Small-scale irrigation is the responsibility of local government bodies. Larger irrigation schemes are the responsibility of the Department of Irrigation.

19. The ASDP would invest in new and old farmer managed small-scale irrigation systems. Existing small-scale systems would be rehabilitated and upgraded using modern technologies that promote water use efficiency and crop productivity. Drip irrigation, under solar, would be preferred where ever feasible. In all cases, irrigation development shall include improved domestic water supply systems for the community. The Programme would promote the use of water filtration systems that are appropriate for the areas to be selected for the supply of water for use at households. Supply of potable water, alongside irrigation water, would be a Programme objective in areas with no domestic water supply.

20. Marketing and Collection centres. Small towns in rural Nepal act as service centres providing for places to market excess farm produce. Local government authorities and the Department of Marketing facilitate the development of markets. The markets would be owned by the local government (municipality or province), but managed by the users, who would establish a Market Management Committee. The users of the market pay a fee for use that would be used to finance operation and maintenance and depreciation.

21. The ASDP, would finance the development of marketing infrastructure, according to the needs identified in the SIP and in line with local government priorities. The Programme would finance 85 per cent of the cost of the market and the local government would finance 15 per cent. This would include municipality-owned markets of different sizes depending on location and identified need. Markets would have women-friendly and safe spaces. The Market Management Committee would be assisted to organise for optimal operation and maintenance of the market.

22. Community-based collection centres are also proposed to be developed in line with the needs of traders. The collection centres would be farmer organisation owned and operated. The farmers who own a collection centre would be legally registered.

23. To facilitate the assessment and management of potential social impacts arising from ASDP, the Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) has developed an Environmental and Social Management Framework (ESMF). This framework formulated in accordance with GoN and the World Bank's environmental and social safeguard policies will be used to address the social and environmental safeguards in the sub-projects.

24. ASDP-PCO now wishes to hire firms for Feasibility, Design and Supervision based in road corridor, for assisting the Project Coordination Office (PCO) and related Urban/Rural municipalities in updating feasibility study, survey, design, cost estimation, assist in procurement of works, supervision of construction work including quality control procedure, reporting, environmental safeguard compliances etc.

2.0 OBJECTIVES OF THE CONSULTANCY SERVICES

25. The main objective of the consultancy services is to support the participating Urban/Rural municipalities in implementing the public infrastructure development, particularly for village/link roads, trail bridges/trails, irrigation works, market centres and water supply schemes. The consultant shall undertake sub project preparation, appraisal, implementation and supervision by assisting them to plan, conduct feasibility, survey, design, cost estimate preparation and supervision of the rural road sub-projects to be implemented. The following infrastructure are envisaged to be under the public infrastructure component:

- Feasibility study of around 90 Km of road out of which design/supervision of around 60 Km.
- Market Centres: 4 Nos.
- Irrigation schemes: 100 Ha (numerous)
- Trail Bridges: Dependent upon demand

2.2 Specific objective

26. The specific objectives of the consultancy services are as follows:

Part A: Project scoping, feasibility, design and cost estimation

- (i) Select the link roads, trail bridges/trails, irrigation works, market centres and water supply schemes, based on the agreed selection criteria somewhat similar to the sample given above and conduct feasibility study of those roads for implementation.
- (ii) To ensure that the roads so selected is according to the approach and modalities being followed by DoLIDAR for the construction/rehabilitation/maintenance of roads.
- (iii) To conduct feasibility of the roads, trail bridges/trails, irrigation works, market centres and water supply schemes to be subsequently taken up for detailed design.
- (iv) To ensure that sound social, environmental and up-grading of Rural Road Practices in improvement and maintenance work are followed as per GoN acts regulation and the IFAD guidelines.
- (v) To prepare designs, drawings, cost estimates and bid documents based on GoN standard bidding documents, or other document as agreed with IFAD, with necessary amendments for the construction/rehabilitation/maintenance of the selected roads, trail bridges/trails, irrigation works, market centres and water supply schemes. Design should be appropriate and cost effective in adherence with the technical guidelines as far as practicable, the designs should be specifically tailored to the technical and mechanical capability of local contractors and road user groups.
- (vi) To provide other technical and managerial support so as to enhance the urban/rural municipalities' capability to plan, implement and maintain the infrastructure.

Part B: Supervision of works

- (i) To ensure quality of the works implemented under the project with adequate field supervision.
- (ii) To ensure sound social and environmental practices in the works implemented under the project.
- (iii) To ensure timely completion of the works implemented under the project.
- (iv) To prepare quality assurance plan and to carry out the works according to the plan.
- (v) To verify and certify the works done through the contractors and users' groups for the payment.
- (vi) To prepare the work completion report.

3.0 DETAILED SCOPE OF THE CONSULTANCY SERVICES

3.1 General

27. The Consultant shall work under the management of the Urban/Rural municipalities. The Project Coordination Office (PCO) shall be responsible for coordinating the activities. The Consultant shall carry out the feasibility, design, cost estimate & supervision of the construction/rehabilitation/maintenance works of the rural roads, trail bridges/trails, irrigation works, market centres and water supply schemes including preconstruction activities such as sub-project appraisal and screening. The various activities of the services to be carried out are described below. The Consultant shall however ensure that the services carried out are fully adequate to attain the objectives set out in section 2.0 of these Terms of reference. The Consultant's duties shall include but not necessarily be limited to:

Part A:

- preparatory activities such as sub project preparation, screening and other related activities.
- to ensure that the project preparation is as according to the agreed approach and modalities.
- To conduct feasibility of roads, trail bridges/trails, irrigation works, market centres and water supply schemes to be subsequently taken up for detailed design.
- to ensure the application of sound social, environmental and up grading of Rural Road practices in the maintenance and improvement works as per GoN acts regulation, the IFAD guidelines.
- Carry out survey, prepare the designs, drawings, cost estimates and bid documents. Design should be appropriate and cost effective in adherence with the technical guidelines as far as practicable. The design should be climate resilient in line with the “Climate Resilient Planning – A tool for Long-term Climate Adaptation” by National Planning Commission, Nepal and other applicable guidelines. The designs should be specifically tailored to the technical and mechanical capability of local contractors and road user groups.
- provide technical and managerial expertise to the Urban/Rural municipalities so as to enhance municipalities’ capability to efficiently & successfully plan, implement and maintain the infrastructure.
- review the existing GoN/IFAD bidding documents for the above works as required, making suitable for the local condition, preparing and producing bidding documents for procurement of the works (small contract) on the basis of National Competitive Bidding (NCB), or other document as agreed with IFAD, with necessary amendments, and prepare detailed schedule of works to be completed.
- assist the municipalities/PCO on all the accommodation works, utilities relocation and encroachment made by public within the Right of Way.
- assist the municipalities in all technical matters and procurement processing for the contract.
- provide necessary training to the contractors and users groups for rural road works. Adopt and cause to adopt Labor-based construction techniques during execution of the civil works, as far as possible.

Part B:

- Assist the municipalities in Bid invitation, Bid evaluation and awarding the contracts for the proposed civil works.
- Ensure that all the works are carried out in accordance with the designs, drawings and specification.
- Ensure that the contractors prepare the Quality Assurance Plan (QAP) before start of the work activities and follow the plan.
- Maintain a permanent record of all measurements of works completed and results of test carried out for monitoring the quality of civil works.
- Regularly inspect and check by testing wherever required the civil works and ensure that they are carried out according to the schedule, specifications and drawings and specified standards of quality are to meet the desired standard quality of the materials and workmanship.
- Checking the bill of the works submitted by the contractors and recommends them for payments by the municipalities with the certification that quality of works executed by the contractor are satisfactory.
- Certify the completion of the works.
- Identify and recommend the municipalities about the equipment/tools needed for the maintenance works after the construction.
- Preparing the variation orders and guide the municipalities/PCO for negotiating with the contractor for the implementation of such changes. If such changes involve additional cost, prepare necessary documents for approval by the municipalities.
- Maintain all the records and reports according to the municipalities/PCO and/or ASDP/IFAD requirements.

- Assist the municipalities/PCO on all the accommodation works, utilities relocation and encroachment made by public within the Right of Way of each road in the course of the implementation of planned works.
- Support user's group by providing necessary information regarding quantity and quality of works and financial transactions.
- Discharge the Consultant's duties in the administration and supervision of the whole scope of works.

4.0 TEAM COMPOSITION & QUALIFICATION REQUIREMENTS FOR THE KEY EXPERTS

Team Composition

28. It is estimated that about 146 person-months of national experts will be needed to complete the assigned tasks. The breakdown of the estimated inputs (person months) of experts is given in the following table.

Experts

S.N	Position	Feasibility & Detailed Engineering Design(p-m)	Supervision (p-m)	Total (p-m)
1	Highway/Civil Engineer (1 No.)		36	
2	Inspector of Works (3 Nos.)		108	
3	Surveyor (1 No.)			
4	Other experts (unallocated)	8.0	2.0	10.0
	Total A		146	

(i) Highway/Civil Engineer

The Highway/Civil Engineers shall have at least bachelor degree in highway or civil engineering or equivalent and shall have minimum seven (7) years' of experience in road and infrastructure works.

(ii) Inspector of Work

The Inspector of Works shall have diploma or equivalent in civil engineering and must have five (5) years' experience in road and infrastructure works.

(iii) Surveyor

The Surveyor shall have diploma or equivalent in surveying /civil engineering and must have experience in surveying of road and infrastructure works.

(iv) Other Experts

Other experts will not be evaluated and the proposed expert shall have experience in their relevant field of expertise in which they will be proposed (e. g., trail bridge, structural engineer, hydrologist, geologist etc.).

5.0 REPORTING REQUIREMENTS AND TIME SCHEDULE FOR DELIVERABLEES

29. The Consultant shall submit the following reports in the standard formats, to be agreed between municipalities/PCO and the consultant, as provisioned below:

S. No.	Description of Reports	Dates of Submission
1	Feasibility, Design and Procurement	

1.1	Sub-project Screening report on technical, environmental and economic	As required
1.2	Feasibility Report	As required
1.3	Sub-project Design Report, Drawing & Cost Estimates Reports	As required
1.4	Field based Environmental Management Plan (EMP) Report	As required
1.5	Bid Documents	As required
2	Construction Supervision and Quality of Works	
2.1	Quality Assurance Plan	Within 30 days from the Contractor's Mobilization.
2.2	Reporting on missing quantities and preparation of VOs	As required
2.3	Field supervision report based on Daily Diary	First week of next month
2.4	Reports on material testing	First week of next month
3	Monitoring and Reporting	
3.1	Monthly Progress Report	First week of next month
3.2	Implementation Progress Report (IPR) on trimester basis	Within 15 days from the end of each trimester
3.3	Environmental Compliance Monitoring Report	First week of next month
3.4	Annual Progress Report	August 15 of each year
3.5	Contract Completion Report	Within one month after completion of contract
3.6	Other relevant reports if demanded by municipalities/PCO from time to time	As required

Note: Electronic copy of each report shall also have to be submitted.

6.0 CLIENT'S INPUT AND COUNTERPART PERSONNEL

30. There will be three offices headed by a civil engineer along the three road corridors for implementation of other infrastructure works under the project. In addition to working with the municipalities, the consultant also needs to intimate the technical personnel in those offices. The cost of all the facilities required by the consultant to carry out the assignment, included in the TOR, shall be included in the consultant's financial proposal.

7.0 DURATION OF CONSULTANT'S SERVICE

31. The duration of the Consulting services shall be for approximately 58 (fifty-eight) months. The services shall start tentatively from March 2018 and continue till December 2022.

Annex 4: Draft Agri-business investment proposal template

Investment Proposal Template

The Enterprise will be provided with below Investment Proposal Template, together with an excel template for financial /economic analysis of the proposed investment.

The text in red is explanation and detailed questions to help in preparation of an investment proposal. The red text is to be deleted and replaced by enterprise descriptions as per given headlines.

PROJECT FACT SHEET (1 page)

PPP Project Title:

Product description and key outputs of the investment :

Co-Investing Company:

Project Location:

Project Duration: (year)

Proposed Co-investment by PPP Fund: (VND, %)

Proposed Contribution by the Enterprise: (VND, %)

Total PPP Investment and Expected Duration of Return on Investment at Enterprise Level: (VND, year)

Estimated Number of Long Term Full Time Jobs Created: (non-poor, near-poor/poor people)

Estimated Number of Supplier Households Involved: (non-poor, near-poor/poor HHs)

Estimated Average Profit per Supplier HH: (VND)

Contact Details of Company and Responsible Person:

PPP Proposal Writing Team:

PART 1. ENTERPRISE OVERVIEW (max 5 pages)

1.1 Name, Location and Legal Status

1.2 Product and production facility description

- Description of the product/service produced by the company
- Quality, monthly/yearly volumes and pricing of the produce
- Facilities (including land, buildings, machines, vehicles, etc.) currently owned and used by the enterprise
- Production capacity with the existing facility
- Value of the facilities, operation and maintenance cost of the facilities
- Existing volume of raw material intake, and location of suppliers

1.3 Marketing and sales

Customers

- Who are the current customers and where are the customers located?
- Why do the customers buy produce from the enterprise?

Market Analysis

- Which other producers sell to the same customers?
- What is the difference between product of the enterprise and its competitors?
- What is the difference between price of the enterprise and its competitors?
- How did the markets of the produce change during last years?
- How will (can) the produce price and quality requirements change in the coming years? Any certification at use or foreseen? (eg. 4C, Rainforest, GAP)

Market Development Strategy

- How will the enterprise keep its customers and reach to new customers?
- What are the product quality and volume requirements of existing and new markets? Any certification mechanism?
- What channels of promotion will the enterprise use?
- What are seen enterprise risks and opportunities in changing markets?

1.4 Human Resources

- Company Organization Structure
- Management Team
- Professional staff and labourers

1.5 Stage of Development and growth vision

- When and in what size and production model did the enterprise start?
- How has the enterprise developed until now?
- What are enterprise objectives for the coming 5-10 years?
- What are the next strategic measures to reach the objectives?
- How will the enterprise finance its growth measures?

PART 2. ENTERPRISE LEVEL PPP INVESTMENT (5-10 pages)

2.1 Targets of the Proposed PPP Investment

- How will the enterprise increase its profitability as result of the investment?
- How much is the increased volume of production, or any?
- How will the product quality be improved?
- How will the raw material intake capacity of the enterprise be increased?

2.2 Description of Required Asset Investment

- What investment is required at the enterprise level to achieve the above targets? ((house, machinery, vehicles, utility installations, trainings, etc.)
- What are the planned items? Describe each item and purpose.

2.3 Description of Required Human Resources Development

- New management positions, professional staff and/or labourers required for installation and for operation of the new investment. Qualities and experiences of assigned staff. Tasks, duration and salaries of each new position. Estimated amount of poor and near-poor people employed.
- Skills required to manage the PPP and the proposed business operations. Technical skills required to install and operate the proposed new production systems. Required training for the management team, staff and/or labourers?
- Detailed list of required training and coaching items, including schedule.

2.4 Investment cost and profitability at the enterprise level (details in the annex)

- What is the total cost of the investment at the enterprise level?
- What is the cost of each proposed item at the enterprise level? (3 quotations when possible)
- What is the annual increased profit of the enterprise through the PPP investment?
- What is the duration of Return on Investment?

2.4 Risk Identification and Management

- What are the foreseen risks in the production
- Risk management strategy

2.5 Permits, Land Allocation and Government Incentives

- Which official permits are needed for the current operation and for the planned investment?
- Does the investment require land? Has such land been identified and allocated?
- Which government incentive policies such as subsidized lending, primary producer support, staff training or other inputs are available? How the government incentives can be utilized?

2.6 Environmental and Labour Standards

- Does the enterprise currently have any environmental risks? Any new risks foreseen as result of the planned investment? Environmental management plan
- Does the enterprise follow labour standards for its staff as per Vietnam Labour Law? Requirements for improvement and action plan

PART 3. FARM LEVEL PPP INVESTMENT (5-10 pages)

3.1 Raw material requirement for the PPP investment

- The required raw commodities for the production
- Quality requirement for the raw material
- Period of raw material purchase
- Cost of the raw material
- As result of the investment, how much more raw material the enterprise plans to procure during the coming years? Annual increase during 1-5 years?

3.2 Raw material producers

Number of HH expected to be supplying

- What is current average yield per Ha of the procured raw material?
- What is the improved average yield per Ha, as result of the PPP?
- How much is the average area of production per household?
- How many households currently sell raw material to the enterprise?
- After the investment, annual (1-5 yrs) increase of households required to produce the raw material?
- What percentage of the existing and new producers are poor/near-poor households?

Location of source of raw material

- Where is the raw material currently procured from?
- What are the new locations for raw material purchase?

Contractual arrangements with suppliers

- Are the HHs organized to groups or villages or led by lead farmers?
- Who helps the groups in group management and with technical issues?
- Is the enterprise dealing with groups of HHs or with individual HHs?
- Is the enterprise signing contracts with the HHs to buy the raw material?
- Is the contract signed at time of purchase, in the beginning of the season or for longer term?
- How is the price of raw material set in the contract?
- Is the enterprise lending inputs to HHs to increase quality and quantity (give input against reduced cost of purchase)?
- How is the arrangement between the enterprise and the required new producer households foreseen?

3.3 Development of supply chain

Capacity of the raw material producers

- Capacity of the existing producers to produce the required quality
- Capacity of the new producers to produce the required quality
- Potential to include poor households to the supply chain
- Do the existing and new raw material producers require improved inputs or technology?

Need of R&D and training services for the raw material producers

- Is there any need of R&D for the raw material supply?
- Who will be responsible and what is the total cost of the R&D?
- Is there need of training the existing/new raw material producers? How many producers?

- What are the total required training items, what is their cost and what is the source of funding (capital, lending, public resources, producer households, project funds)?
- Who will provide the required trainings? Can the enterprise provide technical assistance to the farmer households? Any other potential TA providers?
- What is the training methodology?
- When will the trainings be provided?

3.4 Investment and profitability at the farm level (details in the financial analysis annex)

Farm budget narrative

- Initial investment cost and its depreciation
- Annual working capital requirement
- Job creation at the farm level (non-household jobs)
- Revenues and gross income
- Duration of Return on Investment

Financing needs and sources for the producer households

- For both existing and new raw material producer HHs, what is the need of financing to sustain and improve the production?
- What are the current and potential sources of financing to the HHs?
- How can the project and the enterprise help HHs access financing?

3.5 Production environment of the raw material producers

Services and inputs

- What services and inputs the raw material producers require?
- Are these inputs available in satisfactory quantity and quality to the current producers?
- Are the inputs available to increased amount of producers after the investment?
- How the inputs can be improved in collaboration with the enterprise?

Public infrastructure

- What is the condition of public infrastructure supporting the raw material producers? Roads, bridges, irrigation, electricity, water & sanitation?
- What is the requirement of infrastructure construction/repairs works?

PART 4. PPP PROJECT BUDGET AND WORK-PLAN (2-6 pages)

Budget (table with comprehensive information, suggested to use excel for calculations)

- What is the cost of each proposed item in the overall PPP plan?
- What are the sources of funding for the investment, including enterprise capital, farmer capital, loan funds, PPP grant? Which are provided in cash and which in kind?

Work-plan (table with comprehensive information)

- Detailed work-plan to implement the investment including schedule and responsibilities
- Milestones for funds disbursement

Annex 1. FINANCIAL ANALYSIS OF THE PPP PROJECT

Financial analysis of the development impact at the household level (excel template provided)

- Household income with and without project: (i) Initial investment cost and its depreciation, (ii) Annual working capital requirement, (iii) Revenues and gross income, (iv) Duration of Return on Investment

Financial analysis of PPP viability at the enterprise level (excel template provided)

- Price and quantity of produce sold per annum or per season
- Detailed costs of the initial PPP investment and estimated annual depreciation value

(depreciation = investment cost / estimated no of years of use)

- Cost of new employment at the enterprise level
- Detailed annual running costs for the investment including purchase of raw material, electricity, water, fuels, transportation, maintenance costs, marketing costs, and any other cost
- Incremental revenues and savings to the enterprise through the PPP investment
- Profitability of the PPP investment including ROI, NPV and IRR analysis

Annex 2. REQUIRED FINANCIAL STATEMENTS BY THE ENTERPRISE

(for business households category, requirement assessed by PCU in each case)

a. Balance Sheet

b. Income Statement

c. Cash-Flow Statement

d. Valuation of Enterprise Assets (evaluation of in kind contribution value by authorized valuer, to be conducted after the approval of the PPP project proposal)

Annex 5: Infrastructure climate proofing

1. Since infrastructures such as transport, hydropower, irrigation, water supply and sanitation, housing, and communication are the lifelines of socioeconomic development, it is not surprising that about half of the annual development budget is spent on their development and maintenance. Floods, landslides, and siltation during the monsoon render many of these lifelines dysfunctional every year and their repair and reconstruction costs the nation dearly. In addition, damaged infrastructures impede the functioning of other economic sectors-sometimes for long periods-incurring a huge economic loss. A damaged road, for example, hinders the movement of people and goods and adversely affects industry, business, markets, and all other allied activities. Protecting infrastructure against disasters is crucially important to lower the costs of repair and maintenance as well as to continue to allow the unobstructed pursuit of business activities. Climate change, which forebodes ever more extreme events at ever greater intervals, is likely to pose a great threat to existing as well as future infrastructures. Increased instances of drainage congestion, scouring, inundation, slope instability, land subsidence, erosion, and collapse of structures are likely. Floods, landslides and debris deposits will affect hydropower, roads, bridges, irrigation, settlements, water supply and sanitation, while the drying up of water sources will impact drinking water and sanitation, irrigation, and micro hydro plants. In addition, temperature variations tend to accelerate structural fatigue and materials failure in road pavements and metal structures. The impacts could be severe in areas where infrastructures are not designed to cope with the effects of climate change. If investment in infrastructure is to be productive and sustainable, it needs to be made climate resilient¹⁵² by incorporating anticipatory measures during design and implementation.

2. Since the majority of the local population predominantly use road transportation, a need to plan and construct roads that can withstand extreme weather conditions is increasingly necessary. This cannot be over emphasised when perishable commodity of high value is involved. Adaptation, in general, is either adaptation through making changes in the structural design (engineering) such as specifying materials, having standard dimensions, constructing proper drainage systems, etc. or through non-engineering methods such as planning for maintenance, alignment, land use and environmental management. In addition to this, ADB's report on the "Guidelines for Climate Proofing Investment in the Transport Sector" (2011)¹⁵³ emphasizes that a "do nothing" approach could also be one of the actions to take in order to minimize costs on roads that have low economic feasibility. In addition, there are two types of responses that can be planned by the government: i) Pre-disaster response and ii) Post-disaster response. In the pre-disaster section it is important to discuss about policy, resilience design, quality of material use, regular basis inspection and maintenance (I/M), research and institutional development, etc to resist with the climate induced disasters and climate impacts. Post-disaster includes how to make the people and infrastructure adapt during and after the disasters. This part mainly covers management, maintenance, medical facilities, and public awareness, etc. for the resilience society.

3. At the moment in Nepal, most of the adaptation measures being taken are geared at mitigating the effects of natural disasters such as landslides, which frequently occur in different parts of Nepal. Bioengineering has played a major role in stabilizing the slopes of hills in different parts of Nepal. It is a cost effective, environmentally friendly and sustainable method that has proven to be successful in solving road weathering and blockage caused by landslides¹⁵⁴. However, bioengineering is only one way of disaster proofing roads. Other adaptation measures need to be included in the plan in order to make the road infrastructure of Nepal disaster as well as climate resilient. Currently, road construction and rehabilitation projects in Nepal don't consider the impacts climate change can have on road

¹⁵² Climate Resilient Planning - A Tool for Long-term Climate Adaptation (NPC), July 2011

¹⁵³ Asian Development Bank (ADB). (2011). Guidelines for Climate Proofing Investment in the Transport Sector: Road Infrastructure Projects.

¹⁵⁴ District Road Support Programme (DRSP). (2011). Bioengineering for Slope Stabilization in Rural Road Construction in Nepal. Swiss Agency for Development and Cooperation (SDC). Ministry of Local Development, Government of Nepal.

infrastructures. The only consideration that is made is on flood proofing road sections with priority, keeping in mind the 50 years and 100 years flood cycles.

4. The sensitivity matrix to climate change, as specified in the NPC document for Climate Resilient Planning, will be prepared. Once the matrix is prepared, the most sensitive components will be examined. Intervention options needed to reduce the risk for the most sensitive components are then identified. In addition to the measures normally taken in the design of infrastructures, the infrastructures will be made climate resilient by incorporating the anticipatory measures during design and implementation to reduce risk.

Appendix 5: Institutional aspects and implementation arrangements

1. The overall responsibility for ASDP will be assumed by the MoAD, which is the lead Programme agency. It will establish a PCO at Birendranagar in Surkhet district of Province 6 to coordinate Programme implementation and a PSC, which will assist the MoAD in leading government agencies, NGOs, Service providers (SPs), the private sector and communities at all levels to ensure achievement of the Programme objectives. A Technical Advisory Group will be established at Province 6 to guide technical aspects of the ASDP.

2. The organizational and management structure proposed for ASDP is based on the lessons learnt under HVAP, which can be summarized as follows:

- TORs specifying positions, roles and functions of the PSC and PCO at all levels and their reporting system are critically important to ensure the Programme implementation performance in its early stage;
- MSPs were vital in the Programme's efforts toward the development of value chains and private sector partnership;
- Financial management mechanism and flow of funds for all outputs and activities should be clearly specified in the Programme design and PIM;
- PCO staff at all levels should be encouraged diversify their interests with a view to maximising human resource availability;
- Programme management should not create different systems, parallel with the existing local institutional setups, particularly at municipal and ward level;
- The Programme capacity building interventions should focus on improving public services at the municipal and ward levels to ensure effective decentralization;
- Sufficient resources should be available to ensure performance accountability and competition amongst the Programme municipalities and wards;
- Coordination and information sharing between IFAD project and other donor-funded and NGO projects should be identified during the Programme formulation and negotiation;
- Programme M&E systems should be applied as a management tool for planning, strategizing and implementation.

3. In general, the Programme will adopt similar implementation arrangements to those used for the HVAP, incorporating the operational and managerial experience and lessons learned as detailed above. The Programme Management component is designed to maximizing Programme effectiveness and efficiency through the implementation of the following principles:

- The Programme management structure will adapt to the new constitutional structure of local institutions, building capacity to address poverty through market-based approaches, but these will now also incorporate climate-smart criteria to enable an effective response to the need for CC adaptation;
- The Programme will decentralize its resources to the municipal and ward levels while mobilising private participation and strengthening public market and value chain development service providers;
- The Programme will focus its support in about 60 priority municipalities across 10 districts in Province 6 using agreed criteria for selection, particularly through the SIP process;
- Application of the "learning by doing" approach to introduce innovations to value chain stakeholders and promoting replication on increasingly larger scales when concepts are effectively proven;

- Mainstreaming the participation of the private sector throughout the planning, implementation, monitoring and evaluation of the Programme activities; and
- Ensuring the synergies among other investments that are being carried out in Province 6.
- Strict implementation of IFAD policies and guidelines in result-based Programme management.

4. **Province and municipal governance.** Under the new Constitution, powers concerning themes that encompass various ASDP activities have been placed in the respective domains of municipalities and Provinces. The municipal list of powers includes ‘management, operation and control of agricultural extension’, ‘agriculture and animal husbandry, agro-products management, animal health, cooperatives’, ‘local roads, rural roads, agro-roads, irrigation’, ‘cooperative institutions’, ‘local market management’ and ‘forests, wildlife, birds, water uses, environment, ecology and bio-diversity’. The list of powers of the Provinces includes ‘agriculture and livestock development, trade, business, transportation’, ‘use of forests and waters and management of environment’ and ‘cooperative institutions’. Provinces are likely to have departments for agriculture, livestock, forestry and cooperatives and municipalities are likely to operate through the sub-committee mechanism. It is imperative that the key individuals in governments at the Province and Programme-selected municipalities are fully on board with the ASDP concept, design and activities to ensure an enabling environment, budgetary support (e.g. for extension, infrastructure) and participation (e.g. in mobilisation at the municipal and ward levels). To fast track this process, the Programme will run orientation workshops at provincial and municipal level and support the rapid evolution of representative farmer organizations (MADCs and CAESCs) to ensure close liaison between farming communities and local administrations.

5. **Programme Steering Committee.** The PSC is established by the MoAD, in partnership with Province 6 administration, to inform them on overall execution of Programme implementation and ensure effective coordination/integration/ cooperation among parallel government and donor-funded Programmes. The PSC will be co-chaired by the Secretary, MoAD and be comprised of the Technical Under-Secretaries, Technical head of the Agriculture Division/Department for Province 6 and Joint-Secretaries of concerned line-departments and representatives of NGOs and private sector entities related to the Programme. The PSC will inform the MoAD/Province 6 on matters concerning the strategic management of the Programme, including the decisions such as appointment of the Programme Coordinator (PC), approval of the PIM, AWPB, and other decisions related to Programme coordination, orientation and mobilization of resources. The PSC will meet each semester in Province 6 to coordinate Programme implementation, guide planning, review progress, and make recommendations for any modifications of AWPB as needed. PSC ToRs are detailed in Appendix 5, Annex 1.

6. **Technical Advisory Group (TAG)** A Province 6-led TAG, chaired by the Technical head of the Agriculture Division/Department for Province 6, comprising federal and provincial agriculture, livestock, forestry, agri-business and food technology/safety experts would be established to advise the PCO on technical aspects of programme implementation. The TAG would meet annually in Birendranagar to review the ASDP AWPB before submission and to liaise with MSP groups to discuss technical constraints to efficient VC development. The group would advise the MSPs and PCO on technical solutions to identified problems or on the development of participatory action research to identify solutions.

7. **Programme Coordination Office.** A PCO will be established at Birendranagar in Surkhet district of Province 6 to assist the PSC in coordination of the participating line agencies and municipalities and wards in actual management of GoN and IFAD resources. The PCO will be under the MoAD ADS Coordination Unit for the sake of management and action efficiency. The PCO will report directly to the PSC, acting as its Secretariat, and as an advisory body of the Secretary, MoAD and Province 6 Vice-chairperson. The MoAD/Province 6 Decision on the establishment of the PCO and TORs of the PCO should ensure that the PCO functions on behalf of the Secretary, MoAD and

Province 6 Vice-chairperson. The PCO will include a management team of government-deputed officers, a technical team of externally recruited experts, and support staffs hired by the PCO.

8. The mandate of the PCO will be to ensure: (i) coherence of the Programme approaches and strategies, and integration among Programme activities in order to produce the Programme outcomes, outputs and impact; (ii) coordination and synergy of the co-implementing agencies and technical service providers, and the municipal level agencies, and grassroots communities; (iii) contracting of suitable service providers to undertake various forms of research, studies, technical assistance and training; (iv) accountable management of IFAD and Government's resources, including preparation of the PIM, AWPBs, procurement plans, selection of technical assistance and audit service providers, establishment and operation of M&E and MIS systems, and other functions of the operational and financial management of the Programme; and (vi) knowledge sharing in collaboration with co-implementing agencies. PCO ToRs are detailed in Appendix 5, Annex 2.

9. *PCO staffing.* A PCO would be maintained in Birendranagar, Surkhet. The PCO would facilitate Programme implementation both by working through private and public-sector implementation agencies (MSPs, Municipalities, MADCs, CAESCs, Agro-vets, LRPs, etc.) and through more direct implementation for activities such as rural financial services. With SDC grant funding, HIS will be a co-implementer of the agricultural services programme. Key Programme staff would include a Programme Coordinator, a senior agriculture officer (deputed from Province 6), a funds and contract manager, an account officer and support staff, a planning officer and technical staff covering value chain development, engineering, institutional development, rural finance, climate change, gender and nutrition, monitoring and evaluation (M&E) and knowledge management (KM), and information technology. The Programme would also establish three field teams working along the four main road corridors having business, engineering, social/gender, finance institution and M&E/KM skills. An ASDP Liaison office would be maintained in Kathmandu. The Programme would be governed by a Programme Steering Committee (PSC), chaired by the Secretary, MoAD. Technical specialist recruitment will be on a competitive basis and all contracts will be performance-based on 2 year renewable terms¹⁵⁵.

10. *Municipal-level Programme Implementation Coordination*¹⁵⁶. Municipal Assemblies and Municipal Councils will have overall responsibility for the Programme in their respective municipality. Each participating municipality will have municipal-staffed agriculture and livestock officers who, with the support of the Programme mobile teams and PCO specialists will facilitate Programme implementation in their municipalities. An MADC will be established in each municipality (see Main report, para. 61). A District Coordination Committees (DCC) will provide oversight for municipal programmes within district boundaries.

11. *Elected Ward Committees (WCs)* will be involved in the Programme implementation in the targeted wards. The Ward's CAESC board (see Main report, para. 0) will be the focal point for coordinating the overall implementation of Programme interventions and activities by the related implementing agencies at ward level. Wards will not be budget holders under the new constitutional arrangements but will be eligible to receive budget advances from the municipality or the PCO.

12. *A Programme Coordinator (PC)*, who should have solid experience in working for a previous IFAD-supported Programme/Project, will lead the PCOs. It is recommended that the PC be confirmed prior to Programme final design, planned for September 2017. The PC shall be fully involved in the Programme design and negotiation to master the Programmes' new approaches and receive proper training from IFAD on new policies and management skills. The PC, as the Head of the PCOs, will work full-time for the Programme, and will have no additional responsibilities within any other provincial or federal department. The major responsibilities of the PC will be to ensure that the involved provincial agencies, municipalities and wards carry out the Programme activities in line with

¹⁵⁵ HVAP model.

¹⁵⁶ There are both Urban and Rural Municipalities, the latter defined as "Village" in some communications. As the Programme is expected to work across both types of Municipalities no distinction is made in this document between the two types of municipality.

the Programme approach, operating schedules and procedures. The PC will be provided with adequate executive authorities and accountability through a Decision of the MoAD. The PC will also act as Secretary of the PSC and will execute the PSC decisions on its behalf. ToRs for key Programme staff are detailed in Appendix 5, Annex 3.

80. *Programme Management at Municipal Level.* In accordance with current MoF decisions, **the PCO would be the sole Programme “Cost Centre”** for disbursement of funds to beneficiaries and/or implementing agencies. **The Programme will revise its disbursement strategies in accordance with prevailing GoN regulations, including devolution of conditional funding for activities implemented by the municipality, on completion of a fiduciary due diligence of the municipality as a cost center.**

13. The approval of ASDP IPs by Local Body Executives would be based on the recommendations of the MADC in response to competitive farmer group IPs that have undergone a bipartisan Field Evaluation by the Ward-level Community Agriculture Extension Service Centres (CAESCs) and PCO/HSI technical/administration teams¹⁵⁷. Once Ward-level IPs have been prioritised and approved by the MADC in accordance with the budget limits set by the PCO. That committee would forward the IPs to the Local Body Executive for no-objection and subsequently request to the ASDP Project Coordinator (PC) for financing. The municipal-approved IPs would be included in the ASDP annual work programme and budget (AWPB), and, upon MoF approval, the PCO would prepare a quadripartite contract (Municipality, Ward, beneficiary and PCO) on which basis the PC would allocate ASDP funds to contract-identified beneficiaries.

14. **Gender in the Organisation:** Unlike HVAP, this programme will ensure that at least 20 per cent women are recruited to middle and senior management levels. There will be additional scores for women in the recruitment process. If women candidates are found to excel in the recruitment process, they will be recruited and paid on par with their male colleagues. The Programme will maintain the maternity leave rule as applicable to all government establishments. If it is seen, that there are a number of small children of women staff within the PCO, the Programme will establish/or recruit the services of a crèche and the provision of a nanny. The operation and maintenance of the crèche can be equitably shared by the Programme and the staff. The Programme will deem to have flexi working hours so as to accommodate household and child care chores that the women staff members have to carry out in their personal life. The Programme will set up a Sexual Harassment Committee to address any complain of sexual harassment across all levels of the Programme and will also include the social mobilisers recruited by the NGOs. All programme staff will be provided with training on sexual harassment at workplace on a yearly basis. There will be, on a yearly basis, a gender sensitisation and gender in value chain training for all staff across all levels.

15. **Partnerships.** The mission has met with development partners supporting GoN in the implementation of market- led agriculture development and rural financial and technical services delivery with the aim of aligning the ASDP with lessons learned from those programmes, seeking complementarities and partnerships where possible. IFAD is in discussion with - the SDC about possible collaboration on extension service development and value chain stakeholder alignment; the ADB concerning its planned support for district road construction; and the DFID's RAP III on community infrastructure development. Other points of collaboration will be identified as the Programme design matures.

16. *Government partners.* The Lead Implementing Agency - MoAD is currently the regulatory body mandated to implement the ADS in Nepal. The ADS provides the overall strategic guidance framework for agriculture sector development, however, its implementation poses a range of technical and cultural challenges for MoAD management and staff. The Programme will work with the ADS Coordination Unit within the MoAD to support a change in service delivery from its current top-down and public sector service delivery modality to one where MoAD coordinates, technically supervises and monitors a pluralistic extension system largely delivered through municipalities, MADCs and

¹⁵⁷ Staff of the PCO, ASDP mobile teams, and HSI.

CAESCs. The Programme will also strengthen government partner skills in the fields of Programme management, M&E, gender mainstreaming, climate change adaptation and knowledge management.

17. *NGOs and implementation support.* Under the on-going constitutional reforms, municipalities will become the key administration and development entity in Nepal. Given that this reform is just beginning, it is anticipated that municipalities will need strong support for effective Programme implementation. The Programme will work closely with NGOs of proven competence and sustainability, particularly in community participatory planning, cooperative and MFI institutional reform and gender development and nutrition support at municipal level.

18. *Private sector.* Private enterprises, cooperatives, farmers' organizations, lead farmers and farmers' groups engaged in commodity production, the supply of goods and services, commodity processing, marketing or related fields will participate in Programme implementation as co-financiers and/or service providers. Free standing MSPs will support coordination along value chains.

19. *Academic and research organizations.* The Programme will, through MSPs, engage academics and research organizations under performance-based contracts for capacity building of value chain stakeholders and technical problem solving along value chain processes.

20. *MADCs and CAESCs.* The establishment of MADCs under Municipal Councils and CAESCs under Ward Committees will strengthen the grassroots-level management and operational capacity, fostering community-governed and equitable representation and participation of the vulnerable groups in community decision making structure.

21. *Community-level farmers' organizations.* Support to the farmers' organizations in the forms of groups or cooperatives, and the establishment of beneficiary self-managed O&M committees will foster grassroots organization of rural women and men, through sustainable, self-governed mechanisms, established in pursuit of enhanced self-development, management, and climate adapted production and marketing.

22. **Programme Contracting.** As a general principle, ASDP will use output-based contracts as a basic tool for service delivery. An 'output based' contract is an agreement between the Programme and a service provider which will be managed by the PCO for value chain and community level service delivery. The driving force behind the contract is that it focuses on deliverables in measurable terms, rather than checking that the activities have been undertaken, or assessing the service delivery methodologies. This signals a move from payments for inputs or activities (e.g. completing a training workshop) to payments for a tangible measurement of the results from such activity. For example, a tangible measure of a training program will be farmers applying some of the knowledge and skills attained on their farms to provide some measurable benefits. The main advantages of output-based contracts are:

- simplicity in administration as payment is based on delivery of specific milestones and milestone deliverables based on an agreed price, rather than on acquittal and reconciliation of all expenditure receipts;
- risks of non-performance are reduced, as, if milestones are not delivered, no payment is made;
- the definition of milestones based on Programme objectives and outputs makes measurement of impact much easier.

23. The main difficulty of output based contracts is the increased effort required to define and agree the milestones, deliverables and price. Milestones have two parts (i) milestone definition and (ii) milestone deliverables. It is easier to define milestones and deliverables for infrastructure contracts than for service delivery contracts (especially "soft services" such as extension where impacts are dependent on the recipients of the service making a decision to change or adopt).

24. Output-based contracts are lump sum. There is agreement on price for service delivery and the contract specifies that price and payment schedules. For the contract owner, the key task is to ensure

value for money. Once this has been achieved almost all the risks are borne by the service provider. If the service provider can provide specified services at a lower price, then there is additional profit to be made. The reverse applies, however, if the service provider costs are higher than the agreed price (budget). An example of an output-based service delivery contract is detailed in of Appendix 5 Annex 4.

25. Service Providers will be required to self-monitor the implementation of their contracts. In general, this will require delivery of Milestone Reports by the service provider to trigger milestone payments and CAESCs, MADCs and municipal administrations to inspect and provide assurance to the PCO that Programme milestones and deliverables have been completed to an acceptable level.

26. Service Providers are responsible for evaluation of the benefits the investment (infrastructure and service delivery). The process is to establish baselines prior to the commencement of the sub-project and at the end of the sub-project the changes in relation to the baselines will be documented. Simple formats for baseline surveys of sub-project beneficiaries will be developed as a template for infrastructure and service provider sub-projects and trained CAESC staff will assist Service Providers to tailor the standard template to their project. Service Providers may appoint (sub-contract) expertise (e.g. LRPs) to undertake sub-project baseline and completion surveys.

Trained evaluators will conduct an impact evaluation of at least 15 per cent of all service delivery sub-projects. Methodologies for impact evaluation will be developed by national specialists, but must include key evaluation criteria (relevance, effectiveness, efficiency, impact and sustainability). For service delivery contracts where financial information is available from baseline and end of sub-project surveys, estimates of benefit – cost ratios should be attempted.

Annex 1 - Terms of Reference: Programme Steering Committee

Programme Steering Committee

1. **Mandate:** The PSC is established by the MoAD to ensure overall execution of the Programme and effective coordination/cooperation among and coherent inclusion of the government agencies, farmer organizations and the private sector. The PPC will serve as the decision maker for strategic management of the Programme, such as appointment of the Programme Coordinator and Deputy Programme Coordinator and approval of the Programme Implementation Manual (PIM), Annual Work Plan and Budget (AWPB), Value Chain Strategic and Development Action Plans and other decisions related to the Programme coordination, orientation and mobilization of resources.

2. **Composition:** The PSC members shall include:

Chair person	Secretary of MoAD
Member	Joint Secretary, Planning Division, MoAD
Member	Joint Secretary, Policy and International Cooperation Coordination Division, MoAD
Member	MoAD Provincial Secretary/ Technical Head of the Agriculture Division/Department, Province 6
Member	Representative, Ministry of Federal Affairs and Local Development (MoFALD)
Member	Representative, Ministry of Finance (MoF)
Member	Representative, National Planning Commission
Member	Representative, Nepal Agriculture Research Council
Member	Representative, Federation of Nepalese Chambers of Commerce & Industry (FNCCI)
Member	SDC, HSI
Invitee Member	Financial Institutions / Bankers Association
Member/Secretary	Programme Coordinator, ASDP
Other Members (Depending on the new Federal and Local Body structure)	Ministry of Health, Ministry of Forest & Soil Conservation, Ministry of Livestock, NGO federation,

3. **Functions:** The main responsibilities of the PSC, to be duly notified through a Decision of the MoAD/Province 6, will be:

- (i). Ensuring complementarity between the Programme and other externally/internally financed projects/programmes and efficient use of Programme funded financial and manpower resources;
- (ii). Providing a supporting policy framework and guidelines for efficient Programme implementation;
- (iii). Soliciting/proposing new regulations and policies for government approval, where needed, to ensure implementation of the Programme, especially in regard to the enabling business environment for private sector engagement in agriculture and rural development;
- (iv). Reviewing and approving annual work plans/budgets for the Programme;
- (v). Recruitment/appointment of the Programme Coordinator and the Deputy Programme Coordinator in accordance to their specified terms of reference;

- (vi). Interfacing between PCO and MoAD/Province 6 on matters of policy formulation, revision and implementation, with a view to ensure effective implementation of the Programme;
- (vii). Ensuring effective cooperation and coordination among the provincial agencies, the PCO, the municipalities and the wards and instilling a system of accountability for performance and proper use of resources at all levels;
- (viii). Ensuring effective coordination and information sharing between ASDP and other government and donor-funded programmes and projects through annual review workshops and drawing upon and sharing of policy forums and communication facilities;
- (ix). Conducting a results-based review meeting of the programme progress of the past trimester and approving the work plan and budget for the coming trimester, ensuring timely corrective action on management and implementation issues towards the Programme objectives;
- (x). Ensuring timely provision of counterpart funds, in line with Programme needs as defined by annual work plans.

4. **PSC meetings:** The PSC will meet on a semester basis to coordinate Programme implementation, guide planning, review progress based on the information from the M&E, make recommendations for any modifications of AWPB as needed, and ensure cooperation among agencies and levels for the coming semester.

Annex 2 - Terms of Reference: Programme Coordination Office

Programme Coordination Office

1. The PCO is established to assist the PSC in ensuring timely and effective coordination of Programme implementing agencies and stakeholders. The mandate of the PCO will be to ensure: (i) coherence of the Programme approaches and strategies, and integration among Programme outcomes and activities in order to produce the Programme impacts, outcomes and outputs; (ii) coordination and synergy of the relevant government departments and other co-implementing agencies and technical service providers, and the municipal and ward level agencies, and grassroots communities; (iii) mobilization of resources from the private sector, mass organizations, professional associations, research institutes, technical centres and non-government organizations; (iv) accountable management of IFAD and Government's resources, including preparation of a PIM, AWPB, procurement plan, selection of technical assistance and audit service providers, establishment and operation of M&E system, and other functions of the operational and financial management of the Programme and (v) knowledge sharing and policy development interventions.

2. The main tasks of the PCO include:

- a) **Annual planning and coordination.** Together with the main implementing agencies, the PCO will draw up an AWPB that reflects both the previous year's achievements and performance and anticipated Programme progress. It will consolidate the AWPB for submission to the PSC and obtain prior IFAD comments. The PCO will ensure coordination between other government agencies and externally financed Programmes in the Programme area
- b) **Targeting and Gender.** In the planning and implementation of Programme activities, the PCO will ensure that the provincial agencies, municipalities and wards will maintain the focus on poor and near poor households and disadvantaged minorities and ensure that women have ample opportunities to participate in Programme activities. The PCO will ensure that gender is mainstreamed in all Programme activities as detailed in the PIM, to be developed by the PCO in the Programme activation period
- c) **Capacity building.** A series of provincial and municipal-level training workshops will be held on the following topics: market-led development, strategic planning and processes; using information and data; inclusive planning; and gender and ethnicity issues in planning. Annual workshops will be held in each municipality with participation of ward representatives
- d) **Monitoring and Evaluation.** The monitoring and evaluation unit in the PCO will establish an appropriate M&E and MIS system and ensure implementation of IFAD RIMS procedures. Staff in the implementing agencies will be trained in the requirements for M&E.
- e) **Financial management.** A Designated Account will be opened and maintained in USD for IFAD payments at the Nepal Rastra Bank and held by the PCO on terms and conditions acceptable to the IFAD. The ceiling of Designated Account will be USD 2.5 million for loan financing and USD 0.5 million for grant financing. Withdrawal application procedure will be used on a tripartite basis to initiate a withdrawal and to replenish the designated account. A Programme account will be opened and maintained in local currency for IFAD payments at a provincial commercial bank acceptable to IFAD. for disbursement and direct payment of goods and services during implementation phase.
- f) **Procurement.** The PCO will carry out all procurement according to the Government and IFAD Procurement Guidelines. It may delegate procurement to implementing agencies and, for community infrastructure, to communes that follow the local regulations on decentralization of investment ownership
- g) **Recruitment.** In collaboration with the relevant implementing agencies, the PCO will develop appropriate Terms of References for staff positions to be assigned to the PCO or

the respective agencies and to be funded by the Programme. It will organize a fair and transparent selection process and ensure IFAD concurrence for the candidates for the key positions

3. Apart from day-to-day Programme management and coordination, the PCO will organize:
(i) baseline and corresponding impact surveys; (ii) regular monitoring activities and Programme progress reporting; (iii) annual workshops to involve all Programme stakeholders in learning from the constant flow of management information, annual reporting exercise and recommending improvements; (iv) Programme midterm review after three years of implementation; and (v) Programme completion evaluation

Annex 3 - Terms of Reference for Key Staff at PCO

Programme Coordinator

General scope of the position

1. The PC will coordinate Programme management and ensure that implementation is realised according to the conditions of the loan agreement and based on the Programme appraisal report. S/he needs to ensure effective and timely implementation of the Programme, with special attention to providing overall inter-agency coordination and facilitation at various levels. Under the direction and supervision of the PSC, the Programme Coordinator coordinates the PCO to ensure that the strategic outcomes of the Programme are achieved. Particularly, the PC leads the PCO to ensure the M&E requirements described are developed and implemented in a timely manner that represents the views of key stakeholders. S/he is also responsible for making sure there are sufficient and appropriate personnel with the right level of resources and other support needed to implement the Programme.

2. In particular, the PC will serve as leader of the Programme coordination team in order to achieve the following responsibilities: (i) Programme Implementation Coordination; (ii) Financial/Asset Management; (iii) Contract Management; (iv) Personnel Management (v) Government Liaison/External Relations; and (vi) Knowledge Management and Policy Development.

Organizational relationships

3. The PC will be responsible for Programme progress and will be accountable to the PSC, the government ministries and relevant staff of IFAD. S/he will also be accountable to the Programme stakeholders for Programme progress, problems and improvements.

Responsibilities and tasks

Early implementation tasks:

- a) Lead formulation of Programme Implementation Manual (PIM) and other guidelines;
- b) Assist the PPC in establishment of the Programme Steering Committee;
- c) Appoint key PCO staff and supervise their activities;
- d) Guide the establishment of administrative, accounting and Programme-outcome M&E systems;
- e) Coordinate training workshops on the Programme strategy and approaches, AWPB and procurement for the first year with key stakeholders to ensure an updated and shared understanding of the Programme strategy and information needs;
- f) Ensure that an effective and participatory M&E system is established and effective.

Ongoing operational management tasks

- a) Prepare the AWPB and revise the M&E plan and system by seeking stakeholder inputs in order to produce these plans with the full commitment of all the organizations involved in the Programme. Present the AWPB and M&E plan to the relevant approval bodies in a timely manner for review and approval;
- b) For each service provider contract, ensure that detailed specifications are prepared in a timely, objective, fair and transparent manner, including the M&E responsibilities and administration of terms and awards;
- c) Ensure the holistic implementation of the Programme, ensuring the Programme outcomes and levels are seamlessly joined in the pursuit of market-led poverty alleviation amongst poor and minority households;
- d) Make sure the business of the Programme is conducted in an efficient manner by supervising and monitoring Programme implementation. Ensure that timely decisions on corrective actions are made and implemented;
- e) Direct and supervise the day-to-day operations of the Programme, guided by the Programme document and the AWPB, providing any necessary amendments to ensure smooth performance;
- f) Mobilize relevant technical assistance in a timely manner, with clearly demarcated responsibilities that are based on the participatory and equity principles of the Programme;

- g) Assure that all contractual obligations are adhered to and make the necessary contacts and efforts to ensure implementation meets Programme targets;
- h) Regularly appraise staff and provide feedback and support to enable them to do their jobs.

Ongoing financial management tasks

- a) Ensure that Programme expenses are kept, consistent with Government and IFAD administrative and financial procedures and practices;
- b) Ensure that Programme suppliers and locally paid staff are paid promptly and adequately through liaison with Ministry of Finance and the IFAD Country Office finance staff;
- c) Ensure that Programme expenditure is being coded correctly and consistently (that is allocated to correct category and budget line) and that Programme funds are used solely for the purposes for which they were granted and in accordance with relevant IFAD guidelines;
- d) Establish an asset register for all assets purchased by or provided to the Programme in line with standard IFAD policies;
- e) Check the monthly Programme financial report for accuracy and appropriateness. Regularly meet with the Finance Manager concerning financial reporting issues, errors, trends, payment delays and related matters;
- f) Monitor expenditure on a monthly basis against the approved AWPB in order to prepare and send timely fund withdrawal applications to IFAD. Review Programme expenditure to ensure that expenditure stays within budget. Significant actual or anticipated expenditure variances against the budget should be included in the monthly report to line management together with any recommendations for changes to the budget.

Communication

- a) Develop close working relationships with all Programme participants and stakeholders – including the primary stakeholders, line departments, private sector and NGOs – all parties required to establish a shared vision of the Programme to achieve objectives;
- b) Establish and maintain good working relations with the relevant government ministries, as well as other higher-level stakeholder groups;
- c) Ensure easy public access to M&E reports and data and make sure they are widely distributed;
- d) Submit required analytical reports on progress – including indications of planned actions and financial statements – on time and to the relevant bodies, with assistance from M&E staff;
- e) Encourage staff to report frankly on fieldwork, highlighting problems and possible solutions plus lessons learned. Reward innovation in critical reflection and learning;
- f) Ensure the planning of and participate in key reflection moments – in particular, the annual Programme reviews;
- g) Sign implementation agreements with the implementing partners, defining the modalities for implementation and M&E. Ensure that participatory M&E and learning initiatives are specified in terms consistent with the direction of the Programme;
- h) Control the budget and safeguard against Programme funds and assets misuse;
- i) Make all efforts to engage key stakeholders in important external evaluations to ensure an understanding of locally perceived impacts and problems;
- j) See that all ad hoc evaluation studies needed to gain timely and relevant insights into emerging areas of concern are undertaken. Make sure the resulting data is shared with all those involved in decision making and follow up on the implementation of any decisions;
- k) Support external missions in ways that foster a joint learning process that identifies how the Programme could be improved further to achieve impact.

Knowledge sharing and Policy interventions

- a) Consolidate a culture of lessons learning involving all Programme staff and allocate specific responsibilities of knowledge management to Programme staff, implementing agencies and Programme stakeholders;
- b) Ensure that the Programme captures and share lessons learned through the M&E system, supervision and evaluation missions and periodic visits to sites;
- c) Document, package and disseminate lessons frequently and not less than once every three months;
- d) Facilitate exchange of experiences by supporting and coordinating participation in knowledge sharing workshops, teleconferences, and any other existing knowledge sharing network of IFAD at the regional and country level;
- e) Identify and participate in additional networks, for example scientific or policy-based networks that may also yield lessons that can benefit Programme implementation.

Selection Criteria

Core Competencies

- a) People Skills: Ability to work independently and as a team player who demonstrates leadership and is able to support and train local and international staff and is able to work with ethnic minority communities in a sensitive and participatory manner;
- b) Communication Skills: Well developed written and oral communication skills. Able to communicate clearly and sensitively with internal and external stakeholders as a representative of an IFAD Programme. This includes effective negotiation and representation skills;
- c) Integrity: Works with trustworthiness and integrity and has a clear commitment to poverty reduction of local communities;
- d) Resilience/Adaptability and flexibility: Ability to operate effectively under extreme circumstances including stress, high security risks and harsh living conditions. Works and lives with a flexible, adaptable and resilient manner;
- e) Awareness and sensitivity of self and others: Demonstrates awareness and sensitivity to gender and diversity. Has experience and the ability to live and work in diverse cultural contexts in a culturally appropriate manner;
- f) Work style: Is well organized even within a fluid working environment and has a capacity for initiative and decision making with competent analytical and problem solving skills;
- g) Readiness to work with people of all backgrounds without bias;
- h) Ability to coach and mentor staff in a cross cultural environment.

Technical Competencies

- a) Sound experience in working for IFAD Programmes;
- b) Ability to develop and foster external organizational relationships and applied representation skills;
- c) Knowledge and skills: knowledge of Government and IFAD policies and procedures on gender, environment, corruption and general Programme finance and administration management;
- d) Have telecommunication skills and proficiency in information technology/ computer skills;
- e) Written and spoken English language skills preferred.

Head of Finance and Administration

General

1. The Programme will employ a Head of Finance and Administration Officer. S/he could be seconded from the regular government service.

Reporting

2. The Head of Finance and Administration will report to the Coordinator of the PPCO.

Responsibilities

3. S/he will be responsible for day-to-day administrative and financial management of the Programme. In particular, s/he will:

- a) Manage the PPCO office, including ensuring that office and communications equipment is in place and functioning.
- b) Oversee the establishment of an acceptable computerized bookkeeping and accounting system and supervise the accounts/book keeping staff.
- c) Provide monthly financial reports to the Programme Coordinator, indicating financial performance of the Programme compared with the annual work plan and budget;
- d) Organize and oversee tendering and procurement.
- e) Undertake financial management of contracts entered into by the Programme.
- f) Be responsible for the preparation of disbursement requests from IFAD, including the submission of all required documentation.
- g) Be responsible for compiling the consolidated AWPB, incorporating the inputs of other PPCO officers.
- h) Arrange for annual audits to be commissioned in a timely manner.

Qualification

S/he will be a qualified accountant or an administrator having strong public accountancy experience. S/he should have sound experience in financial management, preferably with internationally-funded development Programmes. Good organisational skills and an understanding of office technology will also be necessary. A good command of the English language will be an important asset

Programme Monitoring and Evaluation and Knowledge Management Officer

1. The Monitoring and Evaluation (M&E) system at the Programme level has four objectives: (i) to monitor and evaluate results and impacts; (ii) to provide a basis for decision making on necessary amendments and improvements; (iii) to promote accountability for resource use; and (iv) to document, provide feedback on, and disseminate lessons learned.

2. Programme monitoring and evaluation is conducted in accordance with established IFAD procedures and is undertaken by the Programme management team at all levels. The Logical Framework matrix provides performance and impact indicators for Programme implementation along with their corresponding means of verification. These, along with the objectives, procedures and tools described in the M&E plan presented in the Programme appraisal report will form the basis on which the Programme's M&E system will be built at the starting phase of the Programme.

General scope of the job

3. The M&E officer is responsible for guiding the overall M&E strategy and implementation of related activities within the Programme and Vis a Vis partners, plus providing timely and relevant information to the Programme Coordinator, PCO and Programme stakeholders. This requires close coordination and communication with the Province Line Agencies, municipalities and wards, Programme stakeholder groups, and field staff as well as consultants of external M&E-related missions.

4. Critical tasks for the M&E officer(s) include setting up the M&E system and ensuring it is implemented efficiently and effectively. The M&E system will be based on the Programme log-frame and the Programme M&E plan and will build as much as possible upon existing M&E mechanisms and systems among the Programme stakeholders. The M&E officer will report directly to the Programme Coordinator

Main tasks and responsibilities

5. *Setting up the M&E system.*
 - a) Develop the overall framework for Programme M&E in accordance to the Programme M&E plan;
 - b) Conduct a readiness assessment regarding M&E on what are the incentives at the system level, who are the beneficiaries;
 - c) Guide and coordinate the review of the Programme log-frame including:
 - i. Provide technical advice for the revision of performance indicators;
 - ii. Ensure realistic intermediate and end-of-Programme targets are defined;
 - iii. Conduct a baseline study (situation at Programme start);
 - iv. Identify sources of data, collection methods, who collects data, how often, cost of collection and who analyses it;
 - v. Ensure all critical risks are identified.
 - d) Identify the core information needs of PCO, the Programme Steering Committee, IFAD and the Ministry of Planning and Investment;
 - e) Identify the requirements for collecting baseline data, prepare terms-of-reference for and arrange the conduct of a baseline survey, as required;
 - f) Clarify M&E responsibilities of different Programme personnel;
 - g) Contribute to the development of the Annual Work Plan and Budget (AWPB), ensuring alignment with Programme strategy, agreement on annual targets and inclusion of M&E activities in the work plan;
 - h) Prepare detailed M&E budget;
 - i) Prepare calendar of M&E activities;
 - j) Identify M&E technical assistance that the Programme needs to contract and guide its recruitment.
6. Implementation of the M&E system
 - a) Oversee and execute M&E activities included in the AWPB, with particular focus on results and impacts as well as in lesson learning;

- b) Based on the AWPB design the framework for the physical and process monitoring of Programme activities;
 - c) Promote a results-based approach to monitoring and evaluation, emphasizing results and impacts;
 - d) Coordinate the preparation of all Programme reports. Guide staff and executing partners in preparing their progress reports in accordance with approved reporting formats and ensure their timely submission. This includes quarterly progress reports, annual Programme report, inception report, and ad-hoc technical reports;
 - e) Prepare consolidated progress reports for Programme management including identification of problems, causes of potential bottlenecks in Programme implementation, and providing specific recommendations;
 - f) Check that monitoring data are discussed in the appropriate forum (such as the review meetings of PCO, the quarterly meeting of the Programme Steering Committee) and in a timely fashion in terms of implications for future action. If necessary, create such discussion forums to fill any gaps;
 - g) Undertake regular visits to the field to support implementation of M&E and to identify where consolidations might be needed;
 - h) Foster participatory planning and monitoring by training and involving primary stakeholder groups in the M&E of activities;
 - i) Prepare M&E reports for annual supervision missions, mid-term review and final evaluation in accordance to IFAD guidance;
 - j) Facilitate, act as resource person, and join if required any external supervision and evaluation missions;
 - k) Monitor the follow up of evaluation recommendations;
 - l) Identify the need and draw up the ToRs for specific Programme studies. Recruit, guide and supervise consultants or organizations that are contracted to implement special surveys and studies required for evaluating Programme outcomes and impacts;
 - m) Organize (and provide) refresher training in M&E for Programme and implementing partner staff, local organizations and primary stakeholders with view of developing local M&E capacity;
7. *Acting as Knowledge Management Officer*
- a) Design and implement a system to identify, analyse, document and disseminate lessons learned;
 - b) Consolidate a culture of lessons learning involving all Programme staff and allocate specific responsibilities;
 - c) Ensure that ToRs for consultants recruited by the Programme also incorporate mechanisms to capture and share lessons learned through their inputs to the Programme, and to ensure that the results are reflected in the reporting system described above;
 - d) Document, package and disseminate lessons frequently and not less than once every three months;
 - e) Facilitate exchange of experiences by supporting and coordinating Programme participation in workshops and any other existing network of local government and IFAD programme;
 - f) Identify and participate in additional networks, for example scientific or policy-based networks that may also yield lessons that can benefit Programme implementation.

Qualifications and experience required

8. Suitable candidates should have a degree in a field related to development and/or management, experience in field research and statistics and at least several years of proven experience with:

- a) The logical framework approach and other strategic planning approaches;
- b) M&E methods and approaches (including quantitative, qualitative and participatory);
- c) Planning, design and implementation of M&E systems;

- d) Training in M&E development and implementation and/or facilitating learning-oriented analysis sessions of M&E data with multiple stakeholders;
- e) Data and information analysis;
- f) Report writing.

S/He should also have:

- a) A solid understanding of public policies, development approaches with a focus on participatory processes, market economy management, and gender issues;
- b) Familiarity with and a supportive attitude towards processes of strengthening local organizations and building local capacities for self-management;
- c) Willingness to undertake regular field visits and interact with different stakeholders, especially primary stakeholders;
- d) Experience in data processing and with computers;
- e) Leadership qualities, personnel and team management (including mediation and conflict resolution);
- f) English language skills preferred.

Desirable:

- a) Knowledge of the focal area in which the Programme operates;
- b) Understanding of IFAD procedures/

Rural Finance Manager

Location – Programme Coordination Office, Surkhet, Nepal

Term- 6 years (Performance-based contracts to be reviewed biennially).

Educational Background: University degree in economics, business administration, agri business, or other specialties related to agriculture. Masters' will be preferred.

Job Requirements & Experience:

The candidate should have following experience, skills and knowledge mix:

- Work experience in banking for 15 years out of which at least 7 years in agri banking and small farmer and agri business credit;
- Experience on implementation of internationally financed projects will be an added advantage;
- Good knowledge of the different national banking and financial institutions, insurance companies, concerned with agriculture finance and insurance strong ability and readiness to communicate, and work with them;
- Strong communication skills, especially written communications; group facilitation skills;
- Gender sensitivity in working with both men and women understanding and addressing their needs;
- Team player with ability to work with different stakeholders and programme team;
- Fluent written and spoken English and Nepali;
- Creative and pragmatic approach to problem solving; well-organised and well oriented to details.

Duties and Responsibilities;

- To take overall responsibility and leadership on the planning, implementation and monitoring of the Rural Financial Services sub component. This involves the preparation and monitoring of Annual Work Plans and Budgets (AWPB), progress reports and analytical reports;
- Manage the sub component in accordance with the approved annual work plans, coordinate and ensure complementarities with Value Chain Development activities;
- Develop ToR, and selection criteria for contracting national and international consultants, ensuring quality of their work and providing advisory support as required;
- Carry out due diligence, prepare the ToRs and develop partnership with banking and financial institutions, insurance board and insurance companies, capacity developers of cooperatives and training institutions;
- Ensure an assessment of annual credit requirement plans for the VC members and agri businesses and facilitate and monitor flow of credit;
- Participate in evaluation committee for selection of grant applicants especially agri businesses and ensure financial services;
- Maintain close coordination with implementation partners (banking and financial institutions, insurance companies, private service providers, NGOs and other stakeholders) and ensure satisfactory results;
- Participate in Multi stakeholder platforms and under stand and address issues related to credit and insurance;
- In close coordination with assistant rural finance managers and Institution development specialists, ensure that the municipal cooperatives are capacitated as per plans and deliver need based financial services;
- Plan, supervise and monitor the trainings on business and financial literacy trainings for effective results;
- Assume a lead responsibility for the organisation of sub component-related study tours, conferences and workshops;

- Provide support and guidance for the gathering of data and information needed to undertake an effective monitoring and evaluation of all the activities included in the sub component;
- Oversee the design and establishment of channels for regular information dissemination, sharing, and networking among stakeholders including VC members.

Assistant Rural Finance Manager

Location – Programme offices along road corridors in Province 6, Nepal

Number of posts - Three

Term- 6 years (Performance-based contracts to be reviewed biennially).

Educational Background: University degree in economics, business administration, agri business, or other specialties related to agriculture.

Job Requirements & Experience

The candidate should have following experience, skills and knowledge mix:

- Work experience in banking for 10 years out of which at least 5 years in agri banking and small farmer and agri business credit;
- Good working knowledge of the different national banking and financial institutions, insurance companies, concerned with agriculture finance and insurance strong ability and readiness to communicate, and work with them;
- Gender sensitivity in working with rural men and women understanding and addressing their needs;
- Strong communication skills, especially group facilitation skills and communication skills with farmers;
- Team player with ability to work with different stakeholders and programme team;
- Fluent written and spoken Nepali;
- Creative and pragmatic approach to problem solving.

Duties and Responsibilities;

- Responsible for the planning, implementation and monitoring of the Rural Financial Services sub component in the programme area. This involves providing inputs on the preparation and monitoring of Annual Work Plans and Budgets (AWPB), data collection for progress reports and analytical reports;
- Implement the sub component in accordance with the approved annual work plans, coordinate and ensure complementarities with Value Chain Development activities in the field;
- Work with contracted national and international consultants, providing implementation support as required especially in field level data collection;
- Work with agreed partners in the field (banking and financial institutions, insurance board and insurance companies, capacity developers of cooperatives and training institutions) to ensure that need based financial services are provided to the value chain members;
- Carry out an assessment, with the support of social mobilisers and LRPs, of the annual credit requirement plans for the VC members and agri businesses and facilitate and monitor flow of credit in the field;
- Smoothen the processes for credit and insurance to grant applicants and ensure these financial services; co ordinate with government departments for timely settlement of insurance claims;
- Maintain close coordination with implementation partners at field level (banking and financial institutions, insurance companies, private service providers, NGOs and other stakeholders) and ensure satisfactory results;
- Participate in Multi stakeholder platforms at municipality level and understand and address issues related to credit and insurance;
- In close coordination with Institution development specialists, ensure that the municipal cooperatives are capacitated as per plans and deliver need based financial services;
- Plan, supervise and monitor the trainings on business and financial literacy trainings at field level for effective results;
- Provide support for the gathering of data and information needed to undertake an effective monitoring and evaluation of all the activities included in the sub component.

Gender Equality and Social Inclusion Adviser

Under the general supervision and policy guidance the Programme Manager, the Programme Gender Equality and Social Inclusion Adviser should:

- Be familiar with gender mainstreaming policies including any national policies, policies of ministries, implementing institutions and financing agencies, including IFAD
- Serve as a channel of communications between your Programme and others working on gender issues in government, implementing agencies, other development projects, and IFAD.

The Gender Specialist will perform the following functions:

A. At the organisational level:

- Provide leadership to implementation the Programme's GESI and particularly lead and coordinate all gender mainstreaming components. Ensure that the Gender Strategy is implemented across all components and sub components and is incorporated into the M&E
- Work to sensitise all Programme staff and partners that Programme outcomes should be achieved with respect for the principle of gender equity, inclusion, diversity and women's empowerment.
- Review basic Programme implementation processes and outputs to provide feedback and suggestions when needed on how to achieve best possible programme outcomes with respect to targeting, gender equity and women's empowerment. The basic processes are:
 - Preparation of the Annual Work Plan and Budget;
 - Design and implementation of programme M&E system;
 - Programme Progress Reports;
 - Programme Supervision; and,
 - Human Resource Management of programme staff.
- Review programme plans and budgets to ensure that adequate attention is paid (and resources allocated) to support practical and strategic support to women, and to influence the wider policy/decision-making community to protect and promote equity.
- Work with the M&E Officer to ensure that the M&E, Logframe and MIS is gender sensitive and reflective of the real-time situation. Integrate relevant empowerment indicators in the information system
- Work on emerging strategies and plan with each specialist, and recommend good-practice methods relevant to the sector/issue under consideration. These should include attention both to direct action on the ground, but also to advocating with decision-makers in each sector for gender/diversity sensitive response, and the rights of marginalised groups.
- Review and advice on the balanced recruitment and deployment of staff and to devise strategies that support women's fullest participation in the work.
- Ensure that there are adequate communication materials on gender issues; ensure that the IEC materials the Programme develops are gender sensitive in their language and image.
- Supervise the Health and Nutrition Officer and the Household Methodology Officer in their day to day activities.

B. At the implementation level:

- Build effective collaboration with partners in order to maximise potential synergies, internalise effectively lessons learnt from past programmes/experiences, and disseminate evidence for influencing policy and practice.
- Participate actively in networks of and for women and marginalised groups, and facilitate linkages among these groups. Network with all gender related organization other ministries related to the Programme.
- Guide and assist service providers and female extension workers in their outreach of rural communities; Interact with women in communities to gain better understanding of

women's' perceptions and guide service providers in approaches to integrating women into programme activities;

- Review participation of women in community development activities and decision making processes and making recommendation to improve processes.
- Ensure adequate representation of women in all programme activities, monitoring impact on status of women, monitoring gender orientation of participating agencies.

Competencies:

- Advance University Degree (Masters Degree or equivalent) in sociology, social work or rural development and other social science with experience in gender and development;
- Sound Understanding and awareness of issues relating to gender and women's issues
- Strong analytical and problem solving skills and is creative, innovative, persistent and resourceful
- Excellent oral and written communication skills
- Ability and sensitivity to work with a wide cross-section of partners, including government, I/NGOs and private sector
- Excellent interpersonal skills, proven networking, team-building, decision making, organisational and communication skills
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability
- Experience in developing strategies for agriculture and community lead economic development programs is highly desirable;

Experience:

- At least 12 years of relevant experience in programming with at least 8 years of relevant experience at national level geared to support large scale multi-sectoral agriculture development and empowerment programs;
- A proven track record in managing and monitoring results-based and rights-based national programming is required, including in-depth knowledge of results-based management approaches;
- Demonstrated knowledge of programming issues within the field of agriculture, and women's economic empowerment;
- Working experience and knowledge of programming and procedures of the government system and/or donor agencies will be an advantage
- Motivated, and capable of working under pressure

Qualified Women and people from disadvantaged and minority groups are especially encouraged to apply.

Nutrition Officer

1. The Nutrition Officer provides professional technical assistance and support for intervention design, planning, implementation, monitoring, evaluation, and administration of programme/programme activities, including data analysis, progress reporting, knowledge networking and capacity building, in support of achievement of planned objectives of the work plan, aligned the health and nutrition programme goals and strategy of the Programme.

Monitoring and Evaluation

- Leads the development of the sectoral work plan and technical decisions as well as for administration, implementation and monitoring of sectoral programme activities. Analyses data and information, and drafts progress reports; drafts changes in programme work plans, as required. Monitors to ensure objectives and targets are timely met and achieved, through effective coordination and collaboration, by participating in a teamwork of professional and support staff. Support maintenance of info system for monitoring gender aggregated data.
- Provides timely implementation follow-up, including monitoring inputs, local conditions and resources and programme status to build on programme efficiency and effectiveness. Participates in the field visits to sites and relevant events for monitoring programme activities and follows up with local government counterparts and other partners on programme implementation.
- In consultation with monitoring and evaluation colleagues, conducts accurate and timely monitoring and data collection, and supports an integrated monitoring system, in consultation with all relevant stakeholders.
- Assists with partners to ensure that monitoring systems are properly designed, and that data collection and analysis from field visits are coordinated and standardised across programmes to feed into to programme performance monitoring.
- Analyses monitoring data, and provides feed-forward or recommends adjustment as appropriate to ensure achievement of programme objectives.
- Leads the timely preparation of annual sector status reports in compliance with the established guidelines and procedures. Assists in the drafting and preparation of programme reports for management, Steering Committee, donors, budget reviews, programme analysis, and annual reports, as required.

Coordination

- Coordinate with the government and other stakeholders in the implementation of the nutrition program and health service promotion activities. Assists government counterparts in the planning and management of Health and Nutrition Programme especially for adolescent girls.
- Ensure proper communication, coordination and harmonization with the different stakeholders involved in nutrition and health service promotion activities.
- To widen partnership with all stakeholder at national, regional, district, community and household levels including the private sector in order to accelerate achievement of Nutrition related programme goals. Shares knowledge, information, experience and lessons learned.

Capacity Building

- Leads in the planning and organizing training/development activities to upgrade the capacity of staff and partners.
- Support delivery of a comprehensive package of nutrition services and health service promotion activities at districts with the Gender, Nutrition and Social Mobilisers.

- Exchanges information and knowledge with other programmes to contribute to achievement of overall country programme objectives.
 - Work closely with district team during planning, implementation, monitoring and reporting of the Nutrition components.
2. Education. University degree in Public Health in Nutrition, Nutrition, nutritionist experienced in multi-sectoral programming, Health Education, Educational Interventions in Health Care, Social Health Sciences.
3. Work Experience. Four years of professional work experience in planning, programming, implementation monitoring and evaluation of health programmes. Professional work experience in a programme management function or a technical expert capacity in adolescents and health and development is desirable. Knowledge of computers is required. Experience with similar internationally funded development programme will be an advantage.
4. Language. Strong written and spoken skills of Nepali and English languages
- Qualified Women and people from disadvantaged and minority groups are especially encouraged to apply*

Household Methodology Officer

1. The Household Methodology (HM) Officer provides professional technical assistance and support for intervention design, planning, implementation, monitoring, evaluation, and administration of programme activities, including data analysis, progress reporting, knowledge networking and capacity building, in support of achievement of planned objectives of the work plan, aligning the programme goals and strategy of the Programme.
2. The HM Officer will report directly to the Gender Equality and Social Inclusion Adviser. Overall tasks are:
 - a) Support in the recruitment of a service provider who will lay out the Household Methodology for the Programme area.
 - b) Facilitate training and other capacity building as needed to staff members to ensure they have gender objectives with assigned budgets in their work plans.
 - c) Prepare specific budgets and monitor its implementation for specific GALS activities.
 - d) Work together with the KM Officer to establish radio talk shows that disseminate the impact of using GALS in people's lives.
 - e) Facilitate the production of case studies and life stories that can be used to bring evidence of change. And facilitate the use of them in trainings as role models
 - f) Facilitate the use of GALS to ensure that women and youth are in all levels of the value chain development.

Main responsibilities:

Monitoring and Evaluation

- Leads the development of the HM work plan and technical decisions as well as for administration, implementation and monitoring of sectoral programme activities.
- Monitors to ensure objectives and targets are timely met and achieved, through effective coordination and collaboration, by participating in a teamwork of professional and support staff.
- Provides timely implementation follow-up, including monitoring inputs, to build on programme efficiency and effectiveness. Participates in the field visits to sites and relevant events for monitoring programme activities and follows up with local government counterparts and other partners on programme implementation.
- Assists with partners to ensure that monitoring systems are properly designed, and that data collection and analysis from field visits are coordinated and standardised across programmes to feed into to programme performance monitoring.
- Analyses monitoring data, and provides feed-forward or recommends adjustment as appropriate to ensure achievement of programme objectives.
- Leads the timely preparation of annual sector status reports in compliance with the established guidelines and procedures. Assists in the drafting and preparation of programme reports for management, Steering Committee, donors, budget reviews, programme analysis, and annual reports, as required.

Knowledge Management

- Work together with the KM Officer to establish radio talk shows that disseminate the impact of using GALS in people's lives.
- Facilitate the production of case studies and life stories that can be used to bring evidence of change. And facilitate the use of them in trainings as role models
- Shares knowledge, information, experience and lessons learned with all stakeholder at national, regional, district, community and household levels.

Capacity Building

- Leads in the planning and organizing training/development activities to upgrade the capacity of staff and partners.
 - Support delivery of a comprehensive package of HM toolkits promotion activities at districts with the Gender, Nutrition and Social Mobilisers and village volunteers.
 - Work closely with district team during planning, implementation, monitoring and reporting of the HM.
3. Education. University degree in Sociology, Development Studies, Gender and Development or any other development field with experience in Gender.
 4. Work Experience. Four years of professional work experience in planning, programming, implementation monitoring and evaluation of gender programmes. Professional work experience in a programme management function or a technical expert capacity in gender and development is desirable. Knowledge of computers is required. Experience with similar internationally funded development programme will be an advantage.
 5. Language. Strong written and spoken skills of Nepali and English languages

Qualified Women and people from disadvantaged and minority groups are especially encouraged to apply

Gender and Nutrition Social Mobiliser

Major responsibilities of the Gender and Nutrition Social Mobilizer will be as follows:

Mobilize communities for the implementation of all the gender and nutrition activities;

1. Facilitate formation of appropriate groups for the implementation of the Household methodology as well as the nutrition farmer's schools;
2. Collect and compile baseline information on social, cultural and economic parameters of the Programme area and come up with profiles;
3. Facilitate the field team in conducting field surveys, resource need assessments and participatory appraisals in the operational areas;
4. Keep close coordination and liaison with district team, communities and partners and assist all in data collection from the field;
5. Help the technical staff in organizing community meetings, workshops and campaigns
6. Take lead in resolution and management of the relevant community conflicts over any issues emerging from the Programme implementation;
7. Help build linkages of the Programme community and local institutions with partner organizations, donor agencies and development players, working both in and outside the Programme area;
8. Organize training and exposure to improve knowledge and skill of the Programme communities and partners;
9. Document and share lessons learnt, achievements and successes from the field.

REQUIREMENT:

- a. Graduate degree in social sciences, preferably in sociology, agricultural economics, rural development, Anthropology;
- b. At least five years relevant working experiences with a government or non-governmental organization of high standard and repute;
- c. Computer literate (capable of using MS Database and MS Office packages);
- d. Strong inter and intra personal communication skills

Qualified Women and people from disadvantaged and minority groups are especially encouraged to apply

Annex 4. Example Service Delivery Sub-project

1. As a general principle, ASDP will use output-based contracts as a basic tool for service delivery. An 'output based' contract is an agreement between the Programme and a service provider which would be managed by the PCO, creating a relationship for the delivery of services or products. The driving force behind the contract is that it focuses deliverables in measurable terms, rather than checking that the activities have been undertaken, or assessing the service delivery methodologies. This signals a move from payments for inputs or activities (e.g. completing a training workshop) to payments for a tangible measurement of the results from such activity. For example, a tangible measure of a training program would be farmers applying some of the knowledge and skills attained on their farms to provide some measurable benefits.
2. The main advantages of output-based contracts are:
 - Simplicity in administration as payment is based on delivery of specific milestones and milestone deliverables based on an agreed price, rather than on acquittal and reconciliation of all expenditure receipts.
 - Risks of non-performance are reduced as if milestones are not delivered, no payment is made.
 - Definition of milestones based on project objectives and outputs makes measurement of impact much easier.
3. The main difficulty of output based contracts is the increased effort required to define and agree the milestones, deliverables and price. Milestones have two parts (i) milestone definition and (ii) milestone deliverables. It is easier to define milestones and deliverables for infrastructure contracts than for service delivery contracts (especially "soft services" such as extension where impacts are dependent on the recipients of the service making a decision to change or adopt).
4. Output-based contracts are lump sum. There is agreement on price for service delivery and the contract specifies that price and payment schedules. For the contract "owner" the key task is to ensure value for money. Once this has been achieved almost all the risks are borne by the service provider. If the service provider can provide specified services at a lower price then there is additional profit to be made. The reverse applies, however, if the service provider costs are higher than the agreed price (budget). An example of an output-based service delivery contract is detailed below.
5. Service Providers will be required to self-monitor the implementation of their contracts. In general, this will require delivery of Milestone Reports by the service provider to trigger milestone payments and CAESCs or MADBs to inspect and provide assurance to the PCO that project milestones and deliverables have been completed to an acceptable level. In doing this the CAESC/MADB will sign a Declaration to the PCO that the CAESC/MADB as project manager is satisfied that the service provider has delivered the milestone deliverables to the standard required. The Declaration, signed by the CAESC/MADB Chairperson and witnessed by 2 CAESC/MADB members (at least one from a poor or disadvantaged household) provides the trigger for milestone payments.
6. Declarations for Milestone payments will be delivered to the PCO within two weeks of Milestone completion. Where delivery dates are delayed the CAESC/MADB will advise the PCO of delays, reasons for delay, possible implications of delays and actions taken to ensure Milestones delivery.
7. Service Providers are responsible for evaluation of the benefits the investment (infrastructure and service delivery). The process is to establish baselines prior to the commencement of each project and at the end of the project the changes in relation to the baselines will be documented. Project Baselines and Project Validation Reports (comparing socio-economic baselines to end of project status) will be payment milestones. Simple formats for baseline surveys of all project beneficiaries will be developed as a template for infrastructure and service provider projects and trained CAESC/MADB staff will assist Service Providers to tailor the standard template to their project. Service Providers may appoint (sub-contract) expertise (e.g. key farmers) to undertake baseline and project completion socio-economic surveys.
8. Trained evaluators will conduct an impact evaluation of at least 15% of all service delivery projects. Methodologies for impact evaluation will be developed by national extension specialists, but must include key evaluation criteria (relevance, effectiveness, efficiency, impact and sustainability). For service delivery contracts where financial information is available from baseline and end of project surveys estimates of benefit – cost ratios should be attempted.

Annex 4 (contd): Example Service Delivery Project

Objective: To successfully implement a variety performance trial in a CAESC area

Project Timeframe: January 2018 – November 2018

Agreed Budget: Total Budget is NPR 150,000

Service Provider: xxxxxxxxxxx (Farmer to Farmer Extension)

Potential Milestones, Deliverables and Payment Schedules:

Milestone	Deliverable	Payment ¹⁵⁸ (NPR)	Expected Delivery
Contract Agreement	Contract between CAESC and Service Provider signed	20,000	15/1/2018
Project Baseline	Participatory description by beneficiaries (village) of: <ul style="list-style-type: none"> Existing crop husbandry practices in the CAESC, including number and poverty levels of households, ethnic status existing land use practices and income generated from targeted crop production. 	25,000	01/3/2018
Crop trial design	Declaration from CAESC Chairperson that: <ul style="list-style-type: none"> Participatory action research guidelines are agreed by all CAESC members CAESC members have allocated land for varietal testing 	20,000	30/04/2018
Varietal trial	<ul style="list-style-type: none"> Varietal trials are established and effectively managed by participating CAESC members and local communities 	25,000	30/05/2018
Varietal trial harvest	Declaration from CAESC Chairperson that: <ul style="list-style-type: none"> Varietal trial plots have been harvested and weighed in the presence of CAESC members 	30,000	30/09/2018
Project Validation	Participatory description of benefits following project completion (compared with baseline)	30,000	30/11/2018
TOTAL Contract Fee Paid to Service Provider		150,000	

Notes:* costs for establishment of varietal trials are from CAESC funds

This contract demonstrates some key points about output based contracts for service delivery projects:

- The Owner is the CAESC
- The above contract includes contributions from project beneficiaries. Farmer groups are not required to contribute to the costs of improving knowledge and skills, but will be required to contribute if production inputs or small-scale infrastructure (processing, value adding etc.) are approved. Where inputs are required the contract will specify the inputs and detail the milestone and deliverables required to ensure that the input costs are used for their intended purpose.
- The contract is between the CAESC and the Service Provider who is undertaking the training and skills attainment and is responsible for the implementation of the varietal trials.
- The implementer is the Service Provider who has responsibilities for self-monitoring the implementation with the CAESC verifying and signing off those services have met expectations.
- Evaluation is through a comparison between the baseline and project validation. In service contracts, the Service Provider is responsible for simple baseline surveys and project validation. Assistance to do this will be provided by evaluators from the CAESC or Programme road corridor teams.

¹⁵⁸ The cost of undertaking each milestone are examples only and the total contract and payment for each milestone should be based on the cost/prices quoted by the preferred service provider

Appendix 6: Planning, M&E and learning and knowledge management

1. The purpose of the Monitoring and Evaluation (M&E) system is to provide reliable information to enable a results-oriented management of the Programme with the aim to increase Programme/Programme effectiveness and efficiency in achieving its objectives and to share information and lessons learned among all stakeholders. In this Programme, data collection and analysis efforts will be geared towards ensuring that programme implementation can track progress towards achievement of expected outputs, outcomes and impacts and take necessary decisions and actions if course correction is required.

2. The M&E system will be reviewed in the light of the expansion of the Programme. It will be upgraded according to the following principles that derive from lessons learnt from previous IFAD funded Programmes/Programmes in Nepal: (i) simple M&E processes and methods; (ii) clear roles and responsibilities for stakeholders; (iii) harmonization of information and reporting requirements of the stakeholders through alignment to the existing planning, monitoring and reporting processes; (iv) sufficient capacity building on gender responsive M&E and KM through targeted trainings; and (v) strong linkages between planning, M&E and knowledge management.

3. **Start up and initial stage of Programme implementation:** At start up, the Programme will build a detailed logical framework through a participatory process to ensure that stakeholders own and agree on the results-chain. The Programme Coordinating Office (PCO) will also develop a specific M&E Plan within two months of programme start up. The M&E plan will help to clarify the different monitoring and evaluation processes and methodologies with the partners and operationalise the indicators. The Programme will assess the gaps in the current management information system (MIS) and modify it accordingly. The Programme will also finalisation of Terms of Reference for key institutions and their staff and the other implementing agencies. The finalization of the Memoranda of Understanding between the key implementing partners will be carried out at this stage. The Programme will conduct, at the end of HVAP, a gender sensitive, livelihoods-oriented completion survey led by the PCO M&E Specialist and GESI Adviser. There will be arrangements for subsequent repeater surveys, Participatory Rapid Rural Appraisals (PRAs) and Participatory Impact Monitoring with attention on targeting, gender and socio-economic improvement issues in the duration of the Programme.

4. **M&E Plan:** To clarify the different monitoring and evaluation processes and methodologies, the Programme will develop an M&E plan at start-up. The M&E plan is essentially a manual that explains the M&E system of the Programme in detail and operationalises the indicators in the logframe for easy reference for anyone involved in Programme implementation. It should clearly spell out the data gathering sources and methods, and roles and responsibilities of different stakeholders. As per the three-tier logic in the logical framework and as presented in the below graph the Programme conducts monitoring activities at output and outcome levels. At the impact level, different type of evaluations are conducted. In addition, the Programme will monitor the physical and financial progress (inputs) and performance at the activity level through the integration of the Programme M&E with the government's monitoring system. The M&E system will initially focus on monitoring the physical and financial progress, but as the Programme matures will move on to monitoring of outputs. At Mid Term, the Programme is expected to start outcome monitoring. The impact created by the Programme is evaluated mainly through the IFAD Results and Impact Management System (RIMS) as well as through specific impact studies to be conducted by the Programme.

5. **M&E at PCO:** The HVAP M&E has three distinct tools: (i) Result and Impact Management System (RIMS), (ii) Programme log frame and (iii) Donor Committee for Enterprise Development Standard (DCEDS) which has been developed for all enterprise related Programmes by donors and looks mainly at the results chain. These tools will continue to exist and will be built upon to address the nuances of the new Programme. The Standard IFAD Monitoring and Evaluation System (SIMES)

will no longer apply. The Programme will be responsible for identifying COSOP related indicators in its logframe. In conjunction with the trimestral reports, the Programme will report against these indicators (in addition to reporting on the RIMS indicators) to the IFAD country office in Nepal. The nutrition and women's empowerment indicators will be developed at the pre-Programme stage with the help of the TA Specialists who will be recruited by the Programme to develop and implement the two indices. The Programme will identify the relevant indicators for the DCEDS that they must monitor and periodically report against. These indicators will be included in the MIS to facilitate collection and analysis.

6. **The M&E System:** The M&E system at PCO level will be designed to collect information from Programme staff, implementing and supporting organisations, groups and cooperatives and farmers, service providers, and community organisations. This information will be coordinated and synthesised to report on the progress on planned activities, targets, expenditures and assess the extent to which the intended results at the output, outcome and impact levels are being achieved. The HVAP MIS will be revised to meet Programme requirements and will be the source of all data for the various formats and reporting that the Programme has to undertake. The M&E system of the Programme will be based on a simple three-level framework through which progress towards the different level results is monitored and evaluated and need for changes in the Programme implementation identified. The Logical framework provides the basis for the M&E system to be developed. The three levels mentioned are as follows:

- the first level refers to the regular and continuous monitoring of Programme activities and their immediate results (output monitoring);
- the second level relates to the monitoring and assessment of Programme performance in achieving expected outcomes (outcome monitoring);
- finally, the third level refers to the assessment of Programme contribution towards the achievement of its overall goal (*impact evaluation*).

7. The annual Programme management cycle will include the following processes: (i) scoping, validation, initial planning and drafting of Results Oriented Annual Workplan and Budget (RO-AWPB), approval of activities; (ii) implementation, monitoring and reporting; (iii) stakeholder review, evaluation and lesson learning; and (iv) communication, knowledge management and feedback to planning future cycles. A template for the RO-AWPB has been created by IFAD to strengthen the results-orientation in Programmes and to promote linkages between the M&E and planning and will be used by the Programme. The starting point for drafting the RO-AWPB is the Logical Framework, to be finalized by Programme management on the basis of the draft logframe. The RIMS and COSOP indicators will also be included in the RO-AWPB.

8. Programme planning and reporting will both follow the GoN budget cycle. Final AWPBs will be prepared according to the IFAD Results-Oriented Annual Workplan and Budget guideline and format to be provided to the Programme by the IFAD country office. As to trimestral-based reporting, separate standardised formats should be developed. Presently there are gaps between the MIS and the logframe, SIMES, RIMS and COSOP. The new Programme will improve the MIS by incorporating all indicators from all required reporting formats (IFAD and government) so that the generation of data and reports is simple and adheres to the requirements of each institution. The Programme will geo tag every household that it monitors. The Programme will continue the use of electronic Tablets for monitoring as this has become an efficient way to track progress under the HVAP.

9. **Annual Work Plan and Budget:** Based on the individual Results-Oriented Annual Work Plan and Budget (RO-AWP&B) prepared by each Service Provider, the PCO will prepare a consolidated plan at the beginning of each fiscal year that will clearly identify expected annual results in relation with clearly defined budget requirements. This RO-AWPB will be sent to IFAD for no-objection and the PSC for approval. At the end of the fiscal year, the RO-AWP&B - duly completed with annual and cumulative achievements will be annexed to the Annual Progress Report. Thus, a link will be created between the annual planning exercise, the M&E activities and the annual reporting exercise. The Programme level RO-AWPB needs to explain key issues, objectives, focus of the annual work plan

and budget, rationale for setting specific targets, and the planning process in a narrative text. The RIMS indicators are required to be included in the RO-AWPB so that this becomes the basis for preparing the annual RIMS report. It may be noted that the RO-AWPB template is a planning tool at the beginning of the year, monitoring tool during implementation and a reporting tool at the end of the year.

10. **RIMS+ impacts surveys:** The RIMS measures and reports on the results and impact of IFAD-supported Programmes and Programmes. The Programme reports annually on the RIMS indicators to IFAD. RIMS+ impact surveys will be conducted at baseline (HVAP Completion), mid-term and Programme completion. The RIMS+ impact surveys will be conducted in line with the IFAD's RIMS Impact Survey Guidelines, which lays out a framework and practical guidance for these surveys under all IFAD-supported Programmes. Adjustments and modification to the standardised RIMS impact survey questionnaires and processes will be made to reflect the characteristics of the Programme area and activities. The RIMS surveys will also be adapted to include data related to extra indicators from the Programme logframe. As the RIMS is integrated into the Programme M&E system, the quality and reliability of the RIMS data depends on the M&E system of the Programme. Thus, the RIMS indicators are to be linked to the Annual Workplans and Budget.

11. **Annual Outcome Surveys:** While IFAD has developed a standard methodology for impact measurement, these impact surveys do not provide the type of results' information that can allow Programme Management Teams to take timely, corrective action during the course of Programme implementation. Such impact surveys are primarily intended to document Programme impact at completion. In an effort to shift the focus toward outcome measurement during Programme implementation, IFAD now encourages all its Programmes to survey annually a small sample of beneficiaries in order to:

- measure more regularly the positive or negative changes/outcomes taking place at the household;
- level provide early evidence of Programme success or failure;
- provide timely performance information so that corrective actions may be taken if required;
- assess targeting efficiency.

12. Outcome monitoring measures the changes occurring as a result of Programme interventions. This will entail annually measuring and assessing whether the Programme is moving towards achieving its objective. The surveys will also collect data for 2nd level RIMS indicators. To allow comparisons to be made, the surveys will gather data from three separate sub-groups and a control group of non-Programme households. Additional outcome indicators may be obtained by updating village profiles. This survey will be outsourced to a service provider that will be contracted by the PCO.

13. **Gender and M&E:** The Programme Logframe asks for gender and ethnicity disaggregated information for each sub-component. As part of the Programme RO-AWP&B monitoring and evaluation process, sex disaggregated formats that capture sex-disaggregated data at all levels and record progress against the baseline data will be used. Programme results and impacts will also be reported in sex disaggregated and ethnicity wise formats, and gender monitoring tools will need to be well integrated into the M&E unit of the Programme, with the inclusion of gender indicators and nutrition indicators. Programme staff responsible for data collection and monitoring should be trained in understanding and applying gender indicators. Detailed gender-sensitive indicators will need to be developed by the Programme's GESI Adviser during the baseline data collection phase. A key role of the GESI Adviser will be to effectively integrate these indicators within the Programme's performance measurement framework and to ensure all personnel with monitoring and evaluation responsibilities have the awareness and skills to measure against the gender-specific indicators. As part of the Programme M&E activities, gender studies will be conducted to assess impact on gender relations and women's empowerment through the Women's Empowerment Index.

14. **Nutrition in M&E:** As this is the first Programme to address nutrition in value chains for IFAD in Nepal, there will be a closely monitored intervention in this field. Through the Women's Minimum Dietary Diversity Index, outcome and output indicators will be identified at the first round that will be included in the logframe and the MIS, to be monitored on a regular basis. The Nutrition Officer will work with the Programme Staff at the field level to closely monitor these indicators to ascertain progress on the RO-AWBP. The Officer will also periodically conduct small studies and research. The Tribhuvan University offers a Masters course in Public Health and Nutrition and the students are required to do research on a related topic. The Nutrition Officer can liaise with the University for some of the students to do their course work in the Programme's operational area looking at the nutrition interventions.

15. **Community participation:** Participatory planning, monitoring and evaluation are of crucial importance for the Programme as it has several levels and types of key stakeholders. The stakeholders will not be considered as mere sources of information, but will have control over the content and the process of the monitoring and evaluation engaging in taking or identifying corrective **actions**. The key stakeholders will actively engage in a process of reflection and analysis to ensure quality, efficiency and sustainability of the Programme. Only through transfer of knowledge and ownership built within the stakeholders this will be reached. The Programme will follow a participatory planning approach in the targeted area to ensure that the Programme captures and identifies communities' needs and responds to the identified and prioritised needs of the target groups and the local context.

16. The planning will be undertaken in a participatory manner, engaging the different level and types of stakeholders from Government, civil society and private sector and, most importantly, the **beneficiaries** at the community level. Through the support provided by Programme staff to the Government during the planning process, representation from, and participation by, all intended beneficiaries will be ensured - including the poorest and traditionally excluded. Ward level Programme staff should have their responsibility to support the planning and participatory monitoring mechanism clearly described in their Terms of References. Through periodic review meetings both at national and district level, as well as through Multi-Stakeholder Platforms for different commodities, the M&E system will feedback information into the planning process described. This participatory planning process is to be conducted at start-up to review the different level results defined at design, and again annually in conjunction with the annual planning process. During the annual planning process, findings and progress should be also presented to the stakeholders for their review.

17. The Programme will also implement a system of **Participatory Monitoring and Evaluation (PME)** to generate **feedback** from Programme participants on a range of topics. Not only does this provide Programme management with valuable feedback on the implementation of activities and delivery of outputs, but also on the initial outcome and impact of these outputs in terms of steps taken by households to improve their livelihoods. One important issue that will need to be monitored is the coverage of the different Programme activities at the household level.

18. A single household may participate in more than one activity (such as different livelihood activities), so monitoring is needed to determine how many households are directly participating in Programme activities. While PME could take the form of regular monthly or quarterly surveys, this may stretch the limited M&E **resources** of the Programme. A more practical solution may be to include some feedback questions in an annual outcome survey and to geo tag the households. The geo tagging will help monitor on a real time, the extent that Programme activities are benefiting the population.

19. **Responsibilities for M&E:** Regular and routine M&E activities will be the primary responsibility of each of the Programme staff and implementing agencies, who shall establish and maintain the relevant systems to collect and analyse data at all the three monitoring levels. In particular, they will ensure that the indicators specified in the programme logframe are included in their respective M&E Plans. Results data will be compiled by each implementing agency and submitted to the PCO. In addition, trimester and Annual Progress Reports on results achieved against planned targets and

reflecting on implementation performance will be prepared by each implementing partner and submitted to the PCO. The PCO will be responsible for organising and facilitating impact surveys and case studies.

20. One of the key lessons learnt from the previous IFAD funded Programmes in Nepal is that there is need to establish M&E systems that are able to respond to information needs at different administrative levels of the programme, GoN, IFAD, participating private sector companies, civil society organisations and beneficiaries. To answer this challenge, the M&E system of the Programme will be aligned, to the extent possible, to existing GoN planning, monitoring and reporting processes, integrating to the M&E system the various requirements from other stakeholders.

21. Clear lines of communication and authority are needed to ensure the functionality of the M&E system, and to avoid problems in relation to data gathering. The M&E and KM staff will also ensure that information and analyses developed by the Programme is fed back to the stakeholders.

22. It has been observed under the HVAP that the Social Mobilisers spend up to 25 per cent of their time in Programme data entry. This significantly reduces their time spent productively in the villages. To aid in the collection and entry of data, the Programme will introduce an internship component, whereby young educated youth who have either passed high school or who are in school can be paid a small stipend to collect Programme data. This could also be done by the LRPs, JTAs, etc. for a fee. Not only will the collection of data be expedited, but the people involved will also become part of the Programme, earning a small income. High school girls will be particularly targeted as their income can contribute to their higher education and other essentials that need financing.

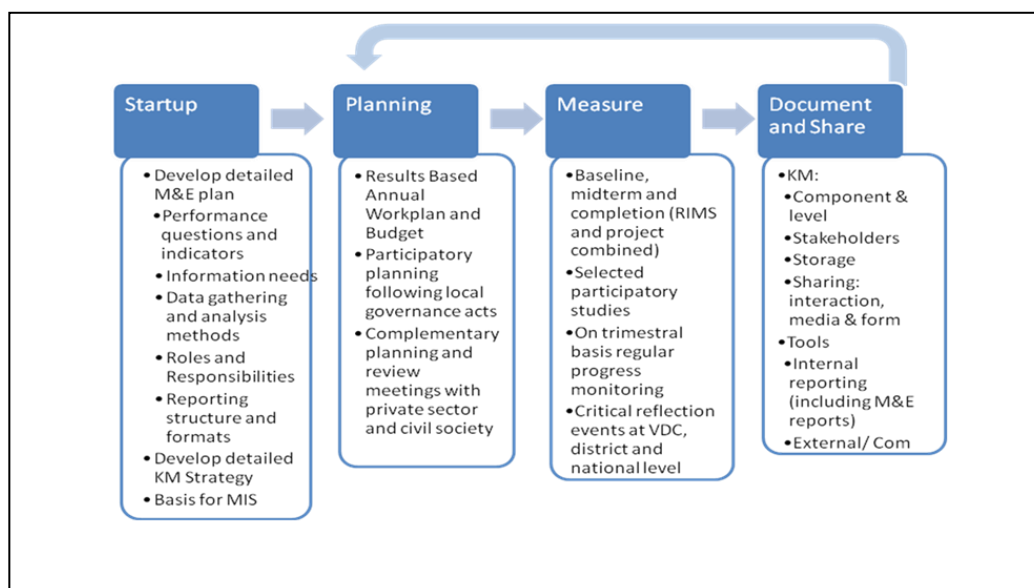
23. Capacity building of Programme staff will be undertaken through a structured orientation training programme, refresher training, and information sharing. Orientation training will be undertaken during induction of new staff, and the refresher training on an annual basis. In addition, the Programme will also facilitate the establishment of partnerships with technical experts (e.g. for KAP survey), and other development Programmes, to enhance exchange of information and mutual learning. Programme M&E staff are recommended to undertake the IFAD online M&E training.

KNOWLEDGE MANAGEMENT

24. An effective knowledge management (KM) strategy should be able to clearly define the contributing factors to the effective communication of knowledge between parties. In order to do so, it will consider the Programme's focal themes and context, so as to address the questions of what the needed information is, and how it may best be communicated. KM will be done systematically across the duration of the Programme. To enable effective knowledge sharing and management, results and lessons from the Programme will be systematically documented as part of Monitoring and Evaluation (M&E) functions.

25. The ASDP will focus on studying and researching the outcomes and impacts of the Programme investments. Knowledge, Attitude and Practice (KAP) studies will form part of the KM strategy to assess all capacity building and knowledge product use. This new strategy considers KM to permeate staff's tasks at every level, constituting a different approach to the tasks to be carried out by all, rather than a specific set of assignments that will be the sole responsibility of a person dedicated to carrying the strategy out. This philosophy implies the need for buy-in from all staff, and requires them all to be provided with the tools and capacity that will enable them to contribute to the strategy's implementation.

26. **M&E and KM:** Through a strong link between planning M&E and KM, the Programme feeds back its achievements to the stakeholders through which the importance of M&E will be felt. This in turn leads to more analysis, information and interest towards the Programme leading to better results. The Programme will update its KM strategy to make it more operational and to reflect knowledge products emanating from the analysis of the data.



27. **Studies and Reports:** In addition to the regular trimestral progress and financial reports, the Programme will conduct at least the studies listed below. It should be noted that the timing and details and methods of data collection in relation to the different reports and studies will be defined by the Programme while developing its M&E plan. The Programme will ensure that all reports produced are disseminated and discussed through different critical reflection events to be organised both at local and national level.

28. In addition to the M&E activities conducted by the Programme, IFAD conducts external evaluations (at mid-term, as well as joint review missions. Joint Review missions are conducted at least annually. During the Joint Review Missions, the overall progress of the Programme is assessed and discussed. The missions also provide opportunities – if required – for agreeing to change in the annual plans of the Programme. The Programme should therefore see the Joint Review Missions as a chance to receive external advisory support and guidance and to discuss any changes that are seen as necessary to improve the performance of the Programme. The external mid-term review is a more rigorous external review that assesses the overall strategy of the Programme and reviews the achievement against the outputs and progress towards the outcomes and overall goal. During the Mid-term review changes to the design can be introduced.

29. The PCO will be responsible for collating, analysing, developing and publishing on a periodic basis informational and promotional material by way of newsletters, pamphlets, brochures, booklets, charts, wall papers, audio-visual products, etc., and their widespread dissemination to the general public, related government agencies, the donor community, UN Agencies, NGOs and Programme communities, as relevant. For this purpose, web and mail postings, print and digital media, periodically organised workshops, conferences and seminars at different levels and public broadcasting may be deployed.

Learning Opportunities:

30. The Programme's learning system will comprise of district level trimester meetings (based on MIS-generated reports) and national annual review meetings, capturing information on progress and lessons learned and finding solutions for implementation constraints.

31. **Bi-annual Review Meetings:** The semi-annual progress report will be discussed during the Bi-annual Review Meetings at the national level to be coordinated by the PCO. Over and above reviewing physical and financial progress for the period against annual targets, the Programme will also review the performance of each province, performance of service providers, implementation constraints, document lessons, and recommend and agree on actions to improve implementation.

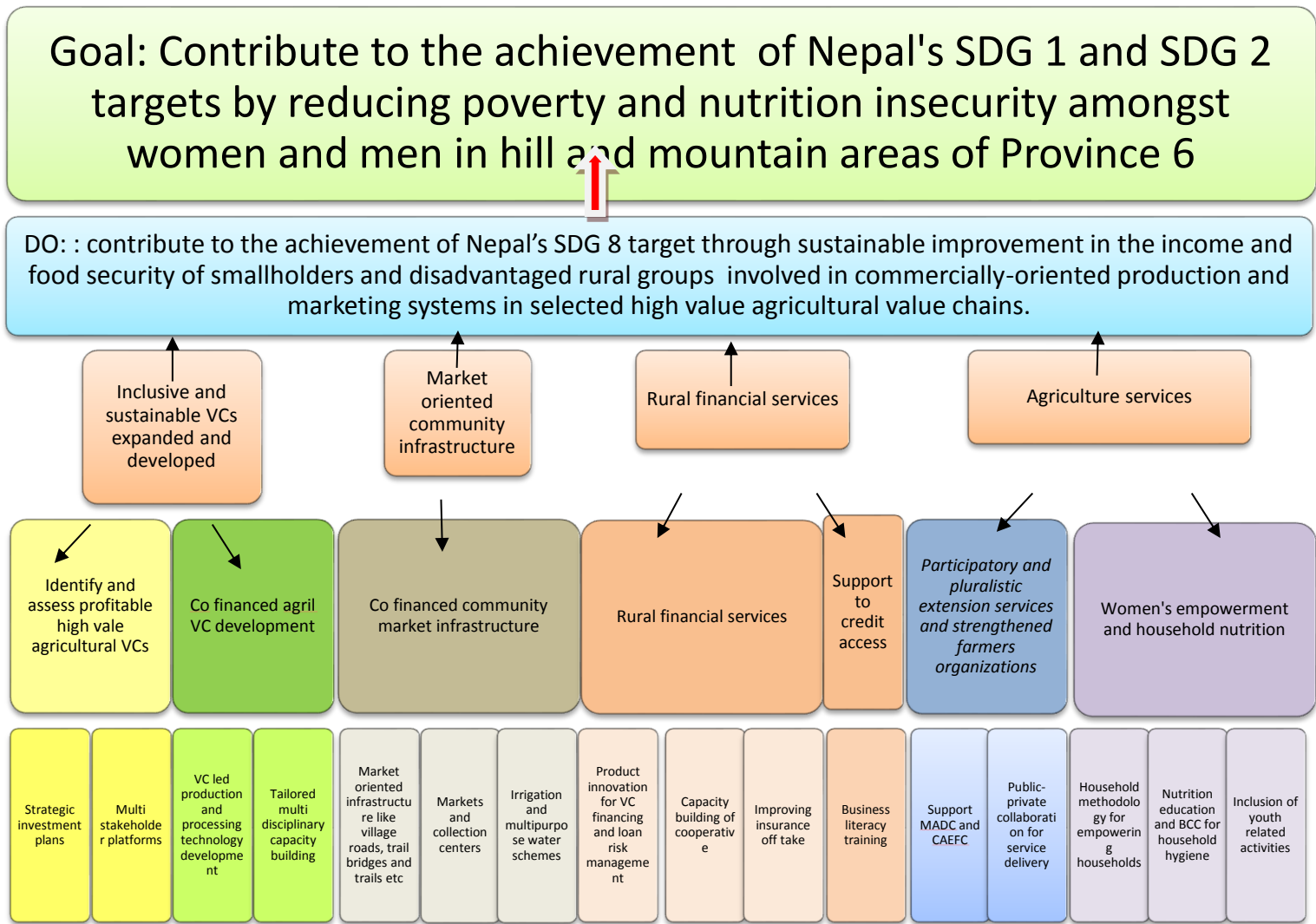
32. A consolidated **Annual Programme Review** will be carried out towards the end of each fiscal year, in addition to the annual reviews. It shall assess performance in the achievement of physical and financial progress against annual targets. A review of progress towards development objectives as reflected in the Outcome Surveys will also be done, assessing success and failures and reasons thereof and lessons learned. In order to get feedback from beneficiaries on the Programmes relevance, effectiveness and quality of interventions and their impact, the Annual Review Workshops could be conducted at the provincial level beginning from the end of the 1st year of Programme implementation. The Annual Review Workshops should also go beyond merely being an assessment of Programme performance and become truly information sharing and learning events. A fair/ exhibition will be organised during these events wherein government schemes, new technologies and products that have relevance to improving the quality of life of the villagers as well as improving efficiency and productivity of livelihoods can be exhibited and demonstrated. Experts can be invited to give presentations and lectures and theme- and issue-based discussions that affect the daily lives of communities organised.

33. **Mid-Term and Completion reviews:** A Mid-term Review will be organised in the beginning of PY3 of the Programme jointly between IFAD and the Government. A Completion Review will be organised towards the end of PY6. The Review will cover, among other things: (i) physical and financial progress as measured against the Programme's AWPBs; (ii) performance and financial management of contracted implementing partners; (iii) an assessment of the efficacy of technical assistance (iv) the relevance of the Programme components to livelihoods in the Programme area and as a means of attaining Programme objectives (v) the efficacy and efficiency of implementing arrangements (vi) expected impact of the Programme on livelihoods, social aspects, gender, nutrition and environment (vi) the sustainability and risks associated with the Programme and (vii) recommendations to improve expected outcomes and impact (viii) propose changes in the components and activities to reflect the findings of the assessment of performance and impact. In addition, it is expected that the Review will look at the experience gained from Programme support on the policies and regulatory frameworks for its implementation. The Programme completion process will include stakeholder workshop(s) to give Programme stakeholders the opportunity to: (i) evaluate the performance of the Programme; (ii) to promote accountability; and (iii) to identify factors and responsibilities to increase the likelihood of sustainability, together with key success factors and shortcomings.

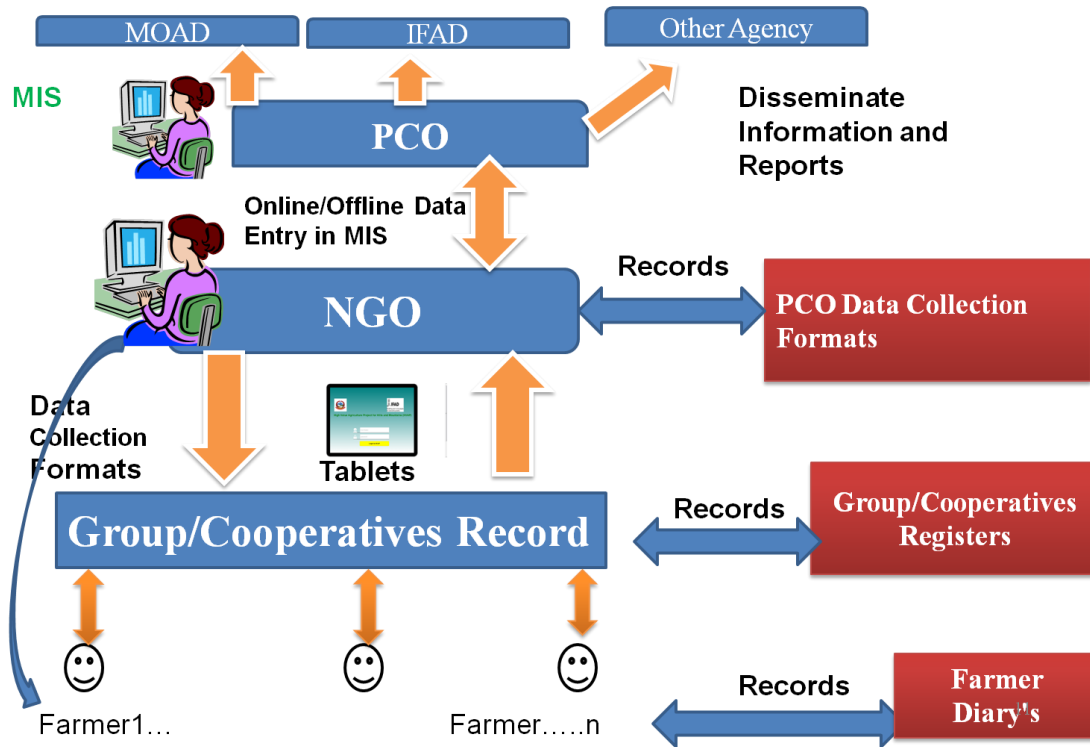
34. **Impact Studies:** Prior to both the Mid-Term and the Completion Reviews, impact assessment studies will be carried out to properly inform the review process. Given the short Programme duration, IFAD will determine at the end of the PY 2 whether sufficient progress has been achieved to justify the undertaking of a RIMS Mid-Term Impact survey, or whether only a RIMS impact survey shall be conducted towards the end of PY 5. The Programme should consider third party monitoring and remote sensing/GPS tracking for monitoring & supervision.

35. **Learning Conferences:** It is recommended that two Conferences/ Seminars/ Workshops at the National Level should be organised at mid-term and end-Programme term respectively during which the learnings, experiences and impacts of the Programme as also of other similar governmental and donor supported Programmes can be shared. This will facilitate acquisition and dissemination of knowledge as well as institutionalisation of participation-promoting processes and procedures.

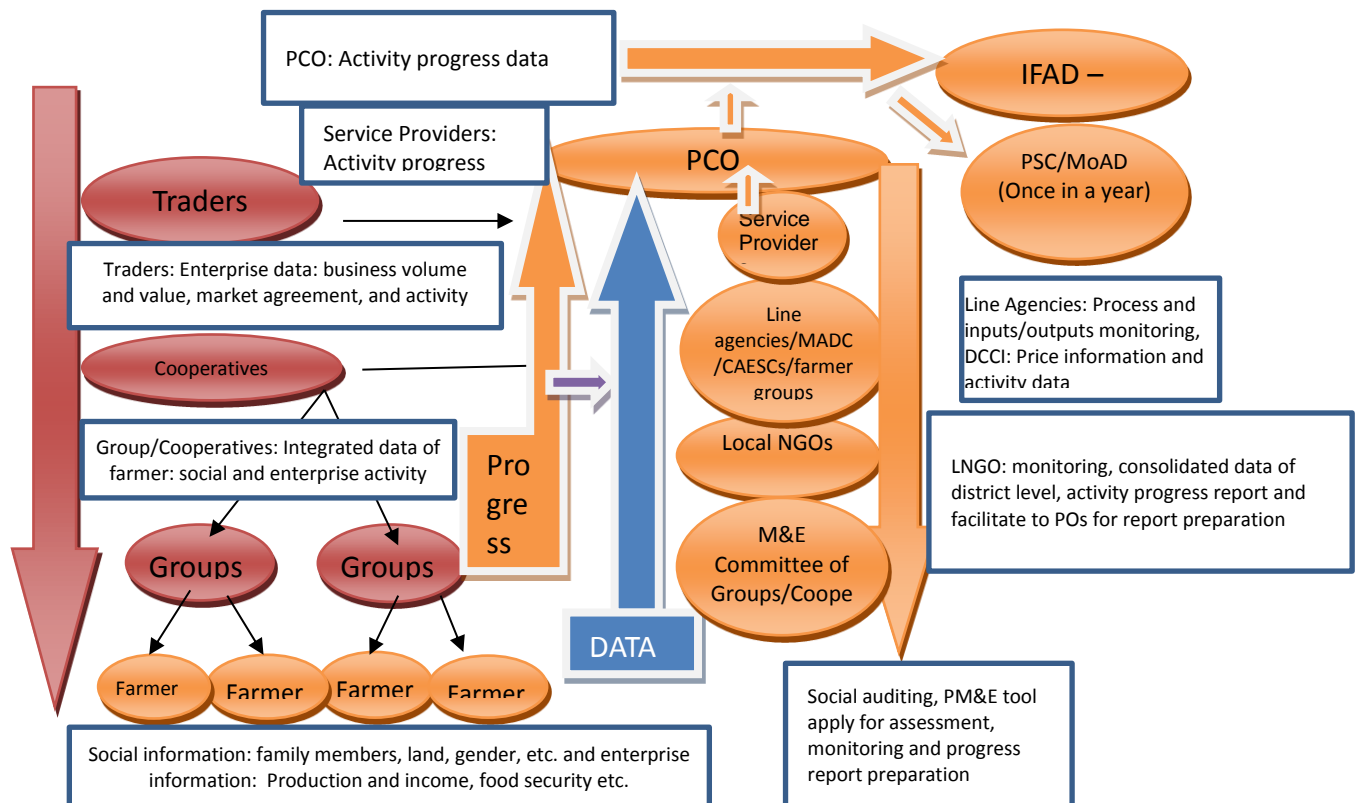
Annex 1: Programme Results Chain



Annex 2: Proposed M&E Organizational Structure



M&E OUTLINE FOR DATA COLLECTION



Annex 3 Principal elements of programme planning, M&E, and learning system

Component/ Subcomponent/ Principal Activities	Planning	M&E	Learning
Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified			
Output 1.1: Strategic investment plan			
<i>Identify and assess profitable high-value agriculture value chains</i>	Comprehensive analysis of both existing and potentially new value chains and associated wholesale markets covering both additional products in the existing HVAP districts and key agricultural products in the new Programme districts. Consultants will assess constraints to private sector investment in the region.	The SIPs will be sex disaggregated with a focus on the role of women and marginalised and drudgery implications.	A strategic investment plan (SIP) will be prepared, including all potential activities within the value chains inherent in that particular commodity segment.
<i>DCC-convened Multi-Stakeholders Consultative Platform (MSP)</i>	Stakeholder support in facilitation of MSPs. The MSPs will inform the SIP process	Minutes of MSP meetings will inform the M&E process	Capacity Building results based plan along with training methodology
Output 1.2: Co-finance agricultural value chain development			
<i>Co-investment both on-farm and at agribusiness level</i>	The priorities for the investment agenda in each value chain will be driven by the private value chain actors, via the ongoing brokerage and facilitation process organized around the MSP for each value chain	The Programme will monitor the level of financial leverage resulting from Programme co-investment	How best to structure competitive co-investment bids to attract major investors, particularly those supplying export markets
<i>Value chain-led participatory and applied technology development</i>	MSPs will identify technology gaps	Programme will monitor applied and participatory research activities	Reporting of applied and participatory research results
<i>Tailored multi-disciplinary capacity building</i>	MSPs will identify capacity needs and delivery mechanisms	Competence-based learning retention and impact measurement	Findings on competency outcomes in relation to learning delivery methods
Sub-component 2: Market-oriented infrastructure functional			
Output 2.1: Co-financed community market infrastructure			
<i>Developing market-linked infrastructure investments for operational Wards</i>	Matching community-based needs assessment and municipality level infrastructure plans	Infrastructure construction, use and maintenance	Organisation of participatory planning methodologies and community-based infrastructure management
Output 2.2: Infrastructure skills development			

Component/ Subcomponent/ Principal Activities	Planning	M&E	Learning
<i>Youth and women-targeted vocational training in skills in community infrastructure</i>	Identification of learning needs and aspirations of targeted groups	Competence-based learning retention and impact measurement	How to create local environments that retain rural youth populations
Sub-component 3: Rural financial services for value chain development strengthened.			
Output 3.1: Rural financial services development			
<i>Loan risk management and product innovation</i>	Identification of financial service and insurance products relevant to Nepalese agriculture and agri-business investors	Measure uptake and performance of financial service products	Effective products for value chain financing
<i>Capacity building for agriculture finance</i>	Identification of groups, cooperatives and MFIs interested in consolidating and expanding their impact	Monitoring of consolidation and capacity building impacts	Development of financially and socially sustainable groups and cooperatives
Output 3.2: Support to credit access			
<i>Expanding financial literacy training programme</i>	Identification of capacity needs amongst lending institutions and borrowers	Competence-based learning retention and impact measurement	Effective mechanisms for building capacity in financial markets
Sub-component 4: Agriculture services sustainably support innovation and value chain development			
Output 4.1 Agriculture Service Centre delivery of extension facilitation			
<i>Support provincial level agriculture, forestry and livestock offices and municipalities to adapt to new operational environment and to provide backstopping services to the CAESCs</i>	Participatory interpretation of the application of the ADS at municipal level Planning the structure of public good agriculture service delivery with emergent municipalities in alignment with the ADS	Monitoring institutional and behavioural change amongst agricultural public service institutions and staff at provincial and municipal level.	Practical mechanisms for the delivery of ADS methodologies and objectives at the local level
Output 4.2 Community agriculture extension services centre (CAESC) development			
<i>Establishment of demand driven pluralistic technical advisory services</i>	Identifying potential private sector agriculture service providers together with their capacity building needs	Monitoring the effectiveness of public and private service providers	Effective development and efficient delivery of pluralistic extension services at municipal level.
Output 4.3 Women's empowerment and household nutrition			
<i>Improved household nutrition programme</i>	Collaboration with the Department of Health to communicate nutrition	Monitoring of the women's nutrition within Programme beneficiary	Cost effective methods for delivering nutrition behavioural change

Component/ Subcomponent/ Principal Activities	Planning	M&E	Learning
	behavioural change in Programme impact areas Development of methodology for measuring women's nutrition impacts	households	communication to communities with increased wealth
<i>Household methodologies to empower women</i>	Adaptation of Household Methodologies approach to Nepal cultural environment Development of methodology for measuring women's empowerment index	Monitoring of women's empowerment within their household and in the wider community	Cost effective and culturally appropriate implementation of the Household Methodologies approach in Nepal

Appendix 7: Financial management and disbursement arrangements

A. Financial Management and disbursement arrangements

1. **Budgeting.** The budget process for ASDP will be conducted in line with national procedures which require consultation of all stakeholders, including beneficiaries. The budget will be consolidated by the Planning Officer or a professional in a similar role in coordination with the Finance Officer. The budget preparation at programme level will need to be completed by the month of March of each year to allow sufficient time for final approval before the beginning of the subsequent financial year (16th of July).
2. Budget approval process will follow national procedures and will be in accordance with the country system. When budget will be ready at ASDP level, this will be transmitted to Ministry of Agriculture Development (MoAD) for review and discussion. After MoAD approval the budget will be transmitted to MoF and the National Planning Commission (NPC); MoF will review and approve the funding on consultation with the MoAD and ASDP, NPC would review and approve the activities. On approval of activities and budget, the ASDP will enter the budget in the Line Ministry Budget Information System (LMBIS).
3. Upon approval, the budget will be published in the Red Book. ASDP would allocate the budget as per Red Book to the various cost centres and intimate to the MoAD, FCGO and respective DTCOs. The Red Book would specify the budget codes and funding source. The ASDP should adhere to the GoN budgeting/accounting rules as well as the percentage of financing of activities from the various financiers.
4. The ASDP approved budget will be inserted into the FMIS by FCGO. Budget allocation will be available real time at the district branch of FCGO, the District Treasury Comptroller Office (DTCO) for ASDP use.
5. **Disbursement arrangements and Flow of Funds.** Disbursement arrangements for ASDP will be set-up using the country system. ASDP will be able to start its activities and spend funds, as soon as the first Annual Work programmed and Budget (AWPB) is approved by IFAD and the GoN and subsequently input in the FMIS.
6. IFAD would make funds available to the GoN under the terms and conditions of the Financing Agreement. Programme funds would flow from IFAD via a single Designated Account (DA) held by the ASDP as authorized by MoF and established in the Nepal Rastra Bank. Government will prefund the project expenditures which would be paid by DTCO through TSA on request of the ASDP.
7. *Designated Account (DA).* In accordance with the Financing Agreement and Section 4.04(d) of the General Conditions, immediately after entry into force of the Financing Agreement, the GoN shall open and thereafter maintain in the Nepal Rastra Bank, an account denominated in US dollars for the purpose of financing the Programme, the "Designated Account". The DA will be held by the ASDP as authorized by the Ministry of Finance (MoF) and will be protected against set-off, seizure or attachment on terms and conditions proposed by the Borrower and accepted by IFAD.
8. *Initial Deposit into the Designated Accounts (Authorized Allocation):* Upon the entry into force of the IFAD loan and the Borrower's request, IFAD will make a withdrawal of USD 2.5 million in the aggregate, from the Loan Account and USD 0.5 million in the aggregate from the grant account on behalf of the Borrower and deposit such amounts into the DA to carry out the Programme.
9. *Counterpart government contributions payments* will be made from the Federal budget by arrangement of the MoF, and be used specifically for the Nepalese contributions to the Programme. These contributions will be received annually/trimester in accordance with normal budget procedures.

10. The Programme will prepare the first Withdrawal Application (WA) to obtain the disbursement of the authorized allocation from IFAD. The initial advance will be transferred by IFAD in the Designated Account (DA), denominated in USD maintained at the central bank (Rasta Bank).
11. When subsequent WAs will be ready for submission, the ASDP Programme Director and the Finance Officer will submit a letter to Rasta Bank to request the transfer of NPR equivalent of the WA from the DA in USD to a GoN account. The bank will use the official buying exchange rate prevailing on that date.
12. After the transfer is executed, Nepal Rasta Bank will transmit a debit advice to ASDP together with proof of the executed transfer; that amount will be the USD counter value of the WA that ASDP will transmit to IFAD. The authorized signatories of ASDP will be the Programme Director and the programme Finance Officer whom will be delegated by MoF.
13. ASDP PCU would submit WAs on a trimester basis requesting the replenishment of the authorized allocation (Imprest Account arrangements). Such withdrawal applications shall be prepared in accordance with IFAD requirements with SOEs thresholds fixed at USD 50 000 for all cost categories. All expenditures above the established thresholds shall be accompanied by related supporting documentation, as well as all expenditures of every amount related to contracts of value exceeding USD 50 000. The PCU shall prepare and submit the withdrawal application to IFAD on a timely basis within 30 days after the end of each trimester starting from the first trimester after the first disbursement is made or anytime when the required amount is minimum USD 1 million.
14. **Internal controls.** At GoN level, the main internal control to ensure use of resources within the approved budget, alignment of expenditures to budget lines and approved annual work programme is represented by the use of the TSA to disburse expenditures incurred for implementation of programme.
15. For ASDP it is not foreseen the opening of any programme accounts or any petty cash as for disbursement purposes the programme will use the TSA hosted by the Surkhet DTCO and other DTCOs if there are cost centers apart from PCU.
16. When a payment voucher will be signed off by the Programme Director, a payment order will be prepared and submitted to DTCO. That office will review alignment to approved budget, budget availabilities, source of funding and issue a check in the name of the supplier/beneficiary. The programme Finance Officer will inform the supplier/beneficiary to come to office to collect the check. In the future, current system may be replaced by bank transfers executed directly by DTCO.
17. Financial management (FM) procedures and record maintenance at all level will be properly documented in the PIM and consistently applied. The PIM shall include specific provisions regulating the setting up of internal controls, effective monitoring and review of transactions, accounting software requirements and include all other FM practices with guidance notes. A system of joint signatory for approving TSA disbursements, WA submissions, DA transactions will have to be introduced. Detailed procedures for adequate recording, management and safeguard of programme fixed assets will be disclosed in the PIM.
18. **Accounting systems, policies, procedures and financial reporting.** Accounting would be done using the national chart of accounts, based on cash basis of accounting, and using the accounting software developed by ASHA for IFAD projects to meet accounting and reporting requirement of GoN and IFAD.P.
19. This software, developed by local software developer and being tested for the ASHA and suitable for other IFAD funded projects, will allow the categorization of expenditures by categories, components, financier and by percentage of financing. In addition, it will automatically prepare WAs, monitor

expenditures against budget and approved annual work programmes, generate trimester financial reports and annual financial statements in a format acceptable to IFAD.

20. In addition to IFAD required reports, the finance unit will produce monthly, trimester and annual reports for reporting to MoAD as per government accounting and reporting requirement and the Surkhet DTCO for reconciliation purposes.

21. **Internal Audit.** It would be performed in accordance with GoN rules and procedures. DTCO would perform internal audit missions to ASDP on a trimester or semi-annual basis. DTCO mandate requires the internal audit team to check the background documentation related to vouchers to ensure compliance with budget allocation, annual work programme and prevailing Laws, effectiveness of internal control system, use of the financial resources in economical, efficient and effective manner, check actions taken to settle the previous internal audit observations and subsequent payment orders presented to DTCO office for issuance of checks. At the end of the mission an internal audit report containing audit observations and relevant recommendations would be issued.

22. In order to have more specific support and approval of MoF, ASDP, on an six-monthly basis, will contract a private internal audit firm to perform internal controls review, propose improvements and issue recommendations. Implementation of such recommendations shall be monitored during the following exercise. Main duties to be stipulated in the TORs will include monitoring and review of the financial systems and procedures, their application and adherence to the PIM, support the introduction of administrative efficiencies. It will be a good practice to brief OAG audit team on the programme components, methods of implementation, monitoring arrangements, etc. so that they could deliver the reports effectively. Reports prepared by the internal audit firm will be submitted to the attention of the Programme Steering Committee and forwarded to IFAD.

23. **External Financial Audit.** It will be performed in accordance with GoN rules and procedures. OAG will perform the external financial audit of ASDP using ISSAI issued by the INTOSAI. Statutory ToRs of OAG may be integrated with specific requests from IFAD.

24. Considering the GoN procedures, annual financial statements in accordance with GoN criteria and format will need to be finalized within 35 days after the closure of the financial year (by August 20th). DTCO will perform its regular internal audit and ensure all observations are duly settled before issuing its report and approve annual financial statements (by the end of September of each year). OAG team will visit ASDP after the completion of DTCO work to perform the external audit and will issue the preliminary audit report by the end of the month of October of each financial year.

25. Between the months of October and November ASDP finance team will complete the annual programme financial statements to be submitted to IFAD and will request OAG to issue its audit opinion by the end of December of each financial year. These arrangements will ensure timely submission of annual financial statements audit reports to IFAD.

26. **Taxes.** The proceeds of the IFAD financing may not be used to pay taxes which will be part of the contribution of GoN to the programme. Considering the current taxation scheme for VAT at 13 per cent, GoN contribution to all categories of expenditures foreseeing the purchase of goods and services will be fixed at least at 15 per cent. Social security benefits (employee's portion) and income tax (employee deductions) are eligible for IFAD financing.

B FINANCIAL MANAGEMENT RISK ASSESSMENT

Inherent risk at country level

27. Nepal became a republic in 2008 and has approved a new constitution in 2015. Despite positive trends of development indicators, Nepal remains in absolute terms one of the poorest countries in the

world, it ranked 145th (out of 188 countries) in the TI Human Development Index 2015, and corruption is perceived to be pervasive.

28. **Public Financial Management (PFM) system.** The Government of Nepal (GoN) has undertaken a PFM reform programme to improve performance, transparency and accountability in the use of public funds. The reform has been supported by donor partners who are playing a key role in the financing of public expenditure by accounting for one quarter of the total National Budget. A Multi Donors Trust Fund (MDTF) has been established under the aegis of WB to support the design of the reform on the basis of the outcome of the first PEFA assessment, which was released in 2008.

29. A second PEFA, published in 2015, recorded substantial improvements. In comparison to the 2008 one, out of 28 performance indicators, 16 improved, and 9 received an “A” score. Improvements were recorded mainly in the areas of *credibility and comprehensiveness of the budget* and in the *budget formulation process*.

30. *Credibility* was strengthened by the roll out, in all the districts, of the Treasury Single Account (TSA) system, which streamlined a multitude of state owned bank accounts into a unified single account structure allowing real time centralized budget execution and providing up-to-date information on cash resources. However, commitment control is still weak and a monitoring system is under development.

31. *Comprehensiveness* has been achieved with the introduction of a budget classification in accordance with the international standards, which maintains a consistent chart of accounts throughout the budget cycle (budgeting, recording, accounting, reporting) and put the foundations for the development of a more integrated management information system.

32. *Budget formulation* is set with a clear process, in terms of timing and responsibilities, led by the Ministry of Finance (MoF) with a bottom up and multi-years planning approach, which consolidates information from Ministries, Departments, Agencies and submits the plan to the Parliament for approval. However, a serious weakness of the system is represented by extra-budgetary expenditures (other than donor-funded Programme), accounting for more than 10 per cent of total expenditure. These expenditures are not captured in the budget cycle, in the annual financial statements, and in the external auditing.

33. The TSA roll out has strengthened cash basis accounting practices. The government is using cash basis accounting for the purposes of preparing annual financial statements and has released, in 2009-10, the Nepal Public Sector Accounting standards (NPSAS), based on IPSAS.

34. OAG conducts financial audits in the public sector (including IFAD funded Programmes) using INTOSAI standards, usually within 8 month after financial year end. Audit reports are submitted to the parliament, through the President's Office, within 9 months after the end of the period covered. Reports are also made available to the public on the OAG website. The implementation of recommendations issued as well as the settlement of irregularities identified are not yet promptly undertaken. The weak enforcement of corrective measures against irregularities contributes in weakening the PFM system.

Features of the public finance management system, PEFA 2014 (trends vs PEFA 2008)

Criteria	Assessment
Credibility of the budget PEFA score: A- ↑	Strength: <ul style="list-style-type: none"> ▪ Budget preparation process strengthened by guidelines, TSA data and mid-year budget review. ▪ Total contingency budget as a share of total budget is low. ▪ Stock of expenditure payment arrears is low.
Comprehensiveness and transparency PEFA score: B- ↑	Strength: <ul style="list-style-type: none"> ▪ Expanded budget classification based on GFS/COSOG standards ▪ Reports on central government made available to public within six months of completed audit Weakness: <ul style="list-style-type: none"> ▪ Estimated unreported expenditure of government operations is more than 10 per cent of total expenditure
Policy-based Budgeting PEFA score: A- ↑	Strength: <ul style="list-style-type: none"> ▪ There is a clear and detailed annual budget preparation calendar ▪ A budget medium term expenditure framework (MTEF) is prepared for a 3 years' period ▪ Debt sustainability analysis for external and domestic debt is undertaken annually
Predictability and control in budget execution PEFA score: C+ ↑	Strength: <ul style="list-style-type: none"> ▪ Legislation and procedures on tax are comprehensive and clear Weakness: <ul style="list-style-type: none"> ▪ Weak tax collection and recording system are impacting the predictability of availability of funds
Accounting, recording and reporting PEFA score: C++ ↑	Strength: <ul style="list-style-type: none"> ▪ Reports are produced every month within 7 days of the close of the month. After TSA rollout, daily reporting system with timely information is available in the FMIS for MoF use. Weakness: <ul style="list-style-type: none"> ▪ The current system is short in coverage of commitment ▪ The use of the GoN FMIS is limited to the MoF, with the rest of administration setting up ad-hoc solutions (manual, local software procured in the market) to maintain accounts. ▪ Financial statements: The Government uses cash basis of accounting for preparing annual financial statements covering expenditure and revenue of the budget under single financial statements; the recording of asset information is not yet mainstreamed; NPSAS were developed in 2009 still under initial implementation. To be assessed in the future.
External Scrutiny and audit PEFA score: D++ ↑	Strength: <ul style="list-style-type: none"> ▪ External audit from OAG covers 95 per cent of total expenditure of the government and 90 per cent of the autonomous bodies and other public organizations ▪ Audit reports are submitted to the parliament Weakness: <ul style="list-style-type: none"> ▪ Evidence of follow-up and implementation of audit recommendations is very weak
Donor Practices PEFA score: C- ↑	Strength: <ul style="list-style-type: none"> ▪ The MoF has put in place an integrated platform to capture information on aid flow Weakness: <ul style="list-style-type: none"> ▪ Poor predictability of inflows of budget support; many donors either do not report or report late ▪ Donors providing aid out of budget do not use national procedures ▪ Direct payment modality is only partially reported.

35. **Use of country systems.** The government Management Information System (MIS) comprises three major sub-systems:

- (i). the Budget Management Information System (BMIS), run by the MoF for consolidating budget requests;
- (ii). the Financial Management Information System (FMIS) which incorporates the TSA system and it is run by the Financial Controller General Office (FCGO), under the MoF, in charge of treasury management, budget execution, financial reporting;
- (iii). the Aid Management Platform (AMP), hosted by the International Economic Cooperation Division of the MoF, an on-line platform that provides public access to information on all donor-funded development Programmes in Nepal.

36. All these systems are used by MoF. At ministerial and Programme level there is extensive use of TSA, while the accounting and reporting functions are run autonomously by all entities using government accounting rules. Stand-alone accounting software must be purchased autonomously in the market. The single workstations are not linked in a net, nor provide real time info to MoF.

37. On AMP, the ministry enters key data for all “on-budget” Programmes, i.e. Programmes for which the donor funding passes through the government. On the other hand, development partners enter data on planned (once a year) and actual (four times a year) disbursements for all Programmes both on-budget and off-budget. This system is used by the Government of Nepal and by development partners to ensure that aid is used for the purposes for which it has been planned.

38. **Use on national procedures.** According to the Development Cooperation Report 2014/15 issued by MoF, 64 per cent of total external financing was "on-budget" (in AMD), but only 29 per cent was "on-treasury" (executed via TSA). The five major donors (WB, ADB, DFID, Japan, Norway) represented approximately 90 per cent of total "on-budget" external financing and overall they reach an average 70 per cent compliancy in the use of country systems (which include use of national procedure and systems for the management of budget, funds flow, accounting, reporting, audit, procurement).

39. **IFAD current portfolio is fully on-budget.** IFAD funded Programmes largely use country systems in the area of budget, accounting, reporting, funds flow, internal audit and external audit. However, extensive use of country systems still exposes IFAD Programmes to fiduciary risks given the relatively weakness of certain PFM features like accounting and reporting. Actual expenditures are reported into AMP system for all Programmes. Designated Accounts are all held at the Central Bank (Rasta Bank). Programme financial statements are prepared following the National Standards of Accounting-cash basis. External Audits are conducted by the OAG according to INTOSAI standards of auditing (ISSAI). Audit reports are not consistently delivered on time/in full and the overall assessment rating was moderately satisfactory in the last few years.

40. Although PFM is based on a robust legislative framework and despite the credible PFM reform on-going, there are still significant gaps in implementation, compliance and enforcement to be filled. The overall country inherent risk is rated **High**.

Risk Control

41. Overall, ASDP will be operating in a rather high inherent risk environment due to the persistence of some weaknesses in the public sector financial management systems as outlined in the PEFA analysis. The proposed financial management arrangements for the programme incorporate a number of measures intended to reduce such risks to acceptable levels and ensure that (i) the programme funds are used for intended purposes in an efficient and effective way, (ii) reliable and timely financial reports are prepared, and (iii) programme assets and resources are safeguarded from unauthorized or wasteful use.

Table 1. Summary of FM risks and mitigating actions

	Initial Risk Assessment	Proposed Mitigation	Final Risk Assessment
Inherent Risk			
1. TI Index	H Index: 29 in 2016 (ranking 131 out of 176 surveyed countries)	-	H
2. RSP Score	H Score: 3.00 (2016) ¹⁵⁹	-	H
Control Risks			
1. Organization and Staffing	M	<ul style="list-style-type: none"> Adequate finance staff of ASDP PCU with clear job description and accountability lines. Specific training Reduce transfer rate through specific dialogue with GoN Comprehensive, user-friendly PIM 	L
2. Budgeting	L	<ul style="list-style-type: none"> The country system for budget is working very well 	L
3. Funds flow and Disbursement Arrangements	L	<ul style="list-style-type: none"> Use of TSA reduces funds flow risks to the minimum. No programme bank accounts 	L
4. Internal Controls	M	<ul style="list-style-type: none"> Segregation of fiduciary -sensitive duties Periodic reconciliation between programme and DTDO files Restricting access to accounting files and documents Periodic count of inventories and fixed assets 	M
5. Accounting Systems, Policies & Procedures	M	<ul style="list-style-type: none"> Finance Officer will need to be proficient in the use of the accounting software Back-up of accounting records Use of registry of fixed assets Training of programme 	M

¹⁵⁹ <http://www.ifad.org/operations/pbas/>

	Initial Risk Assessment	Proposed Mitigation	Final Risk Assessment
		accountants and delivery of back-stopping	
6. Reporting and monitoring	M	<ul style="list-style-type: none"> • PIM to detail reporting and monitoring requirements and rules • Use of financial statements templates consistent with IFAD reporting requirements 	L
7. Internal Audit	M	<ul style="list-style-type: none"> • Support internal audit services provided by DTCO through hiring of an internal audit company for regular review • Programme management to act on internal audit findings and recommendations 	M
8. External Audit	L	<ul style="list-style-type: none"> • The auditor will be OAG as per Constitution of Nepal • Conduct audit within specified period and issue audit opinion within six months • Ensure prompt implementation of auditor's recommendations 	L
Programme Fiduciary Risk @ Design	M		M

42. After mitigation, the overall programme fiduciary risk remains **Medium**.

Financial Management Assessment Questionnaire (FMAQ)¹⁶⁰

Programme: Agriculture Sector Development Programme - ASDP		Date: 07 May 2017	
Implementing Entity: Ministry of Agriculture Development - MoAD			
Assessment completed by: C. Mainella, Finance Officer			
Topic		Response	Remarks
1.	Organization and Staffing		
	Implementing Entity		
1.1	Which entity is the LPA? What is the entity's legal status?	Ministry of Agriculture Development	
1.2	Will financial management of the programme be the responsibility of the LPA or be undertaken within the-PIU?	A specific, stand-alone PCU will be set up in Surkhet to implement ASDP	
1.3	Has the entity implemented a donor financed programme in the past - if so, please provide details?	Yes – 2 active Programmes in country are implemented by MoAD; HVAP and KUBK.	
	Staffing		
1.4	What is the (proposed) organizational structure of the accounting department?	The ASDP finance unit will need to be staffed with 2 positions: a Finance Officer and a Finance Assistant. Additional Finance Assistants will need to be deployed to districts <u>in case it is decided</u> to set-up cost centres in each district.	

¹⁶⁰ This questionnaire should be used as guidance for and in support of the Summary Project Fiduciary Risk Assessment @ Design.

1.5	Identify the (proposed) accounts staff, including job title, responsibilities, educational background and professional experience.	Finance Officer and Finance Assistant. Relevant qualification includes accounting/finance education at least secondary level and at least 2 years of experience in managing development Programmes.	
1.6	Are written position descriptions that clearly define duties, responsibilities, lines of supervision, and limits of authority for all of the officers, managers, and staff?	These details will be included in the PIM, to be developed. It can be built on the current HVAP one for which the financial management section appears to be sufficiently solid.	
1.7	Is the finance and accounts staff adequately qualified and experienced?	To be determined when Gov. will second staff for ASDP. Finance staff is usually not contracted by seconded from Gov.	
1.8	Are the programme accounts and finance staff trained in IFAD procedures?	n/a – too early	
1.9	Are any Finance Staff appointed on contract? What is the duration of the contracts Indicate key positions not contracted yet, and the estimated date of appointment	Finance staff has not yet been appointed. Finance Staff of programmes is usually seconded by Gov. The contracts are indefinite.	

1.10	What is training policy for the finance and accounting staff?	There is policy of providing newly recruited finance staff but no policy afterwards and training is quite rare	
1.11	Is there evidence that finance staff are regularly transferred to other Government departments At what frequency are personnel transferred?	Gov. staff are usually transferred to other offices every 2-3 years.	
2.	Budgeting		
2.1	Who is responsible for preparation and approval of programme budgets?	Programme Planning Officer will coordinate budget preparation, with input from all programme parties and beneficiaries	
2.2	Are programme budgets prepared for all significant programme activities in sufficient detail to provide a meaningful tool with which to monitor subsequent performance?	Yes – based on HVAP experience	
2.3	Are procedures in place to plan programme activities, collect information from the units in charge of the different components, and prepare the budgets?	Yes- based on HVAP experience	
3	Funds Flow/Disbursement Arrangements		
3.1	Does the Implementing Entity have previous experience of using imprest fund and donor funding SOE procedures? Were there any problems or issues encountered by programme staff in the operation of the imprest fund or SoE procedures in the past?	Yes – for HVAP and KUBK Programmes. Funds flow is smooth with full application of Gov. procedures.	

3.2	Does the Implementing Entity have experience in the management of disbursements from IFAD or other donors? Have there been the major problems in the past in receipt of funds by the entity?	Yes No	
3.3	Does the entity have/need to develop capacity to manage foreign exchange risks?	There is no exchange risk of current Programmes as the bank account is maintained in USD and disbursement is accounted only after transfer to government treasury from DA at buying exchange rate on the value date.	
3.4	Are the beneficiaries required to contribute to programme costs? How are payments made for the counterpart funds? If counterpart funds are to be contributed in kind (in the form of labour), are proper guidelines formulated to record and value the labour contribution?	Yes HVAP – accounts for beneficiary contributions both in cash and in kind	
3.5	Is part of the programme implemented by communities or NGOs? Does the PCU have the necessary reporting and monitoring features built into its systems to track the use of programme proceeds by such agencies?	Yes – based on the experience of HVAP	
3.6	Describe (proposed) programme funds flow arrangements; (attach flow chart and explanation of the flow of funds from IFAD, government and other financiers.	The funds flow arrangement will be set-up in accordance with Gov. rules already applied by 4 active IFAD Programmes in the country. No major issues foreseen.	For details please refer to appendix 7
3.7	In which bank will the Imprest Account be opened?	Central bank (Nepal Rasta Bank)	

3.8	Are the (proposed) arrangements to transfer the proceeds of the financing (from the government / Finance Ministry) to the Implementing Entity satisfactory?	There is not transfer of funds as TSA arrangements in place for all Programmes.	TSA – Treasury Single Account.
.	Internal Controls		
4.1	Segregation of duties - are the following functional responsibilities performed by different units or persons: (i) authorization to execute a transaction; (ii) recording of the transaction; and (iii) custody of assets involved in the transaction?	Yes – based on HVAP experience.	
4.2	Are the functions of ordering, receiving, accounting for, and paying for goods and services appropriately segregated?	Yes- based on HVAP experience	
4.3	Are bank reconciliations prepared by someone other than those who make or approve payments?	No bank reconciliations are foreseen due to TSA use. Reconciliation with TSA are foreseen to be monthly, due to programme reporting due to be submitted to DTCO	DTCO – District Controller General Office
5.	Accounting Systems, Policies and Procedures		
5.1	Does the entity have an integrated accounting system that allows for the proper recording of programme financial transactions, including the allocation of expenditures in accordance with the respective components, disbursement categories, and sources of funds? Will the programme use the entity accounting system?	ASDP will use the accounting software developed for ASHA and suitable for IFAD funded projects which will allow accounting of expenditures as per IFAD requirements. HVAP Budget is monitored through excel	To develop accounting software to include budget monitoring functions.

5.2	Are controls in place concerning the preparation and approval of transactions, ensuring that all transactions are correctly made and adequately explained?	Yes – based on HVAP experience.	
5.3	Is the chart of accounts adequate to properly account for and report on programme activities and disbursement categories?	Yes- Programmes in Nepal use the Gov. chart of accounts	
5.4	Can cost allocations to the various funding sources be made accurately?	Yes – based on HVAP experience the software accommodates expenditures by financier. The software being tested will allocate expenditures by financiers.	To request the back up of account data as at the moment all data are in single computer.
5.5	Are the General Ledger and subsidiary ledgers reconciled and in balance?	Yes – based on HVAP experience.	
5.6	Are all accounting and supporting documents retained on a permanent basis in a defined system that allows authorized users easy access?	n/a – to be set-up in the PIM	Required by GCs
5.7	What is the basis of accounting (e.g., cash, accrual)?	The national standard is cash basis	
5.8	What accounting standards are followed?	Cash basis national standards	
5.9	Does the programme have an adequate policies and procedures manual to guide activities and ensure staff accountability?	n/a – to be specified in the forthcoming PIM	
5.10	Do procedures exist to ensure that only authorized persons can alter or establish a new accounting principle, policy or procedure to be used by the entity?	They follow national requirements.	

5.11	Is there a written policies and procedures manual covering all routine programme financial management activities? Are manuals distributed to appropriate personnel?	There will be with the PIM.	
Payments			
5.12	Are all invoices stamped PAID, dated, reviewed and approved, and clearly marked for account code assignment?	Yes – based on HVAP experience	
Cash and Bank			
5.13	Does the organization maintain an adequate, up-to-date cashbook, recording receipts and payments?	It is foreseen no management of cash as TSA in use – check book will need to be properly maintained.	
5.14	Are bank and cash reconciled on a monthly basis?	DCGO and programme will need to perform monthly reconciliations.	In HVAP only DTCO does the monthly reconciliation on files prepared by the Programme. DTCO contacts the Programme in case of irregularities.
5.15	Positions of authorized signatories of programme bank accounts.	In ASDP, as in all other IFAD funded Programmes in Nepal, the authorized signature powers will be delegated to the Programme Manager and the Finance Officer.	
Safeguard over Assets			

5.16	Is there a Fixed Asset accounting system, with a Fixed Asset Register, fully implemented - as part of an integrated accounting system? Is the system maintained up to date?	Yes – based on HVAP experience. However, in ASDP, fixed assets and the related registers will need to be better managed.	
5.17	Are there periodic physical reconciliation of fixed assets and stocks?	HVAP – verification once a year	
	Other		
5.18	Has the programme advised employees, beneficiaries and other recipients to whom to report if they suspect fraud, waste or misuse of programme resources or property?	n/a – too early yes, based on HVAP experience	
5.19	Do policies and procedures clearly define conflict of interest and related party transactions (real and apparent) and provide safeguards to protect the organization from them?	n/a – too early yes, based on HVAP experience	
5.20	Do controls exist for the preparation of the programme payroll and are changes to the payroll properly authorized	HVAP – yes	
6.	Reporting and Monitoring		
6.1	Does the reporting system need to be adapted to report on the programme components?	No – based on HVAP experience	
6.2	Does the programme have established financial management reporting responsibilities that specify what reports are to be prepared, what they are to contain, and the frequency of production.?	These will be specified in the PIM	
6.3	What is the frequency of preparation of financial statements? Are the reports prepared in a timely fashion so as to useful to management for decision making?	It will be requested to prepare trimester un-audited financial statements	
6.4	Do the financial reports compare actual expenditures with budgeted and programmed allocations?	They will Yes – based on HVAP experience	

6.5	Are financial reports prepared directly by the automated accounting system or are they prepared by spreadsheets or some other means?	For ASDP it will be requested to use software developed for IFAD funded projects. For HVAP reports are prepared in excel based on software data.	
6.6	(In case of need of consolidated financial statements) Is the accounting system sufficiently equipped to ensure proper consolidation of entities' financial data?	n/a	
	Information Systems		
6.7	Is the financial management system computerized?	Yes	Parallel manual accounts for HVAP
6.8	Can the system produce the necessary programme financial reports?	For HVAP - WAs only The new software can generate required financial reports for GoN and IFAD	
6.9	Is the staff adequately trained to maintain the system?	Yes	To be trained for use of new software
6.10	Are adequate systems in place to "back up" financial records	No	Need to back-up data
7.	Internal Audit		
7.1	Is there an internal audit department in the LPA?	Not in the LPA	Internal audit is performed biannually by DTCO for all Programmes.
7.2	What are the qualifications and experience of internal audit department staff?	n/a	

7.3	To whom does the internal auditor report?	DTCO internal auditors report to their office and issue internal audit reports	The internal audit function needs to be strengthened
7.4	Will the internal audit department include the programme in its work programme?	Yes	
7.5	Are actions taken on the internal audit findings?	Yes – for HVAP	
8.	External Audit		
8.1	Who is the external auditor of the entity?	OAG	OAG –Office of the Auditor General
8.2	Are there any delays in audit of the entity? When are the audit reports issued?	Often yes	Partially due to Programmes and partially due to OAG.
8.3	Is the audit of the entity conducted according to the International Standards on Auditing?	Yes	
8.4	Were there any major accountability issues brought out in the audit report of the past three years? Were there any issues noted in prior audit reports related to the operation of Programme imprest accounts or use of SOE procedures?	HVAP reports were rated medium risk in the last 3 years.	
8.5	Will the entity auditor audit the programme accounts or will another auditor be appointed to audit the programme financial statements?	OAG directly	
8.6	Has the programme prepared acceptable terms of reference for an annual programme audit?	Yes – based on HVAP experience	

1. **Comment.** The programme will build on the capacity of the current HVAP one. HVAP depends on MoAD central office in Kathmandu but has a separate office in the city of Surkhet; from an FM perspective, interaction with MoAD is limited to the budget preparation and approval. Programme Director has full delegation of authority to operate the DA. The financial architecture for DA management is very strong with the possibility of moving out funds from the DA only to transfer these to government treasury accounts. Accounting and reporting of HVAP appears to be sufficiently solid even if in need of some further improvements. The internal control environment is adequate considering the number and amount of transactions of the programme. The DTCO should increase the scope of internal audit as per Financial Procedure Act and regulation to cover all financial management and compliance with the prevailing Law

and Financing Agreement. The programme should request to the Office of the Auditor General to conduct audit on time and issue audit report for submission to the IFAD within due date of six months from the end of the fiscal year.

2. All the above assessment referred to HVAP constitutes a good foundation for the new ASDP. Risk factors to be considered include possible staff turnover, possible decentralization of activities. Considering the High country inherent risk, the fact that the PCU of ASDP still needs to be established, and the HVAP FM shortfall identified during the design, the overall FM risk rating is assessed as Medium.

Appendix 8: Procurement

Procurement and contracting of goods, civil work and services

1. The government reformed the legal and institutional setup of public procurement processes in 2007. These reforms included the adoption of a new Public Procurement Act (PPA) and associated regulations, the decentralization of procurement, and the creation of the Public Procurement Management Office (PPMO) under the Prime Minister's Office. The PPA follows the UNCITRAL model. Prior to this, procurement was regulated under the Financial Administration Act and Regulations, with no designated central oversight apart from the general control role played by the Financial Comptroller General's Office (FCGO). Recently the PPA and associated regulations have been amended.
2. The introduction of electronic bid submissions for government contracts has started to improve the integrity and value for money of public procurement. Since the PPA was passed in 2007, there have been improvements in the openness and fairness of the competitive bidding process, most notably through the introduction of e-bidding and a concomitant reduction in intimidation and violence. Prior to the introduction of e-bidding, reports were common of rival contractors and political parties hiring people to prevent bidders from entering government buildings to submit their bids.
3. A centralized e-GP portal for e-submission was launched by the PPMO on a pilot basis in April 2016 in five major departments and rolled out to other departments from 1 January 2017. The current e-GP system requires the bidder to enter the unit rates online as opposed to the uploading of the filled-in Bill of Quantities. The use of the e-GP system for procurement has been made mandatory from the beginning of next fiscal year (mid-July 2017). It is understood that around 2,500 personnel have been trained (government and bidder) on the use of this system. According to the PPMO, registration now covers 201 public entities and 375 firms and the numbers are rapidly increasing. There have been more than 300 procurements after the launch of e-GP system. The e-GP system has a banking interface for verification of securities.
4. In spite of progress with bidding procedures, challenges remain in public procurement integrity. First, procurement at local levels has been subject to political "capture" within the more general distortions of public sector governance. Local procurement is used to fund contractors connected to the dominant political parties in a particular locality, with the strong perception that financial rents flow back to provide funding for party machines. Second, collusion and intimidation in the procurement process are still seen as significant problems, even if the exact scale and prevalence are difficult to estimate.
5. Technical procurement challenges also hamper efforts to improve value for money. First, procurement planning and bidding processes are often delayed, exacerbating the bunching of expenditures towards the end of the fiscal year. Second, local private sector firms complain that the provisions of the 2007 PPA are too onerous. Third, there is reported to be insufficient capacity for the estimation of program (e.g. consulting costs).
6. Related to these technical factors, the law and regulations intentionally favour domestic companies. The Public Procurement Regulations (PPR) state, "In procuring goods by selecting any method as referred to in these Regulations, a Public Entity shall have to procure Nepali goods even if the price of the goods produced in Nepal is higher by up to fifteen per cent than the foreign goods." Similarly, the PPR requires that any civil works contract between NPR 20 million and NPR 1 billion be only procured from domestic bidders. In an international bid for a civil works, between NPR 1 billion to NPR 5 billion, a foreign bidder can only bid as a joint venture with a domestic bidder, unless the agreement with the development partner indicates otherwise.
7. The recent PPA and associated regulations amendment, inter alia, requires the use of two envelop procedures for civil works for estimates over NPR 20 million. It also removed the requirement of qualification criteria such as experience, turnover and cash flows for a contract up to NPR 20 million. Previously the amount was NPR 6 million. The change in the provision means that any registered bidder will be eligible to get a contract, mainly based on the price it has offered, although it may not have the capacity to do the work.
8. User committees are utilized for the implementation of small capital Programmes at the district level, but weak controls and political influences have resulted in fund leakages and compromised Programme quality. To promote local resources, the PPR gave construction authority to user committees (UCs) for up to NPR 6 million which in March 2017 has been increased to NPR 10 million. The increased figure is reportedly a high threshold. Many local officials

reported that UCs were awarded a contract for the maximum threshold before subcontracting the Programme for a lower amount, receiving a “kick-back” in exchange. Furthermore, several UCs can be involved in the construction of one road, with each managing the construction of the section of road that falls within its community.

9. Previously the regulation barred UC to use heavy machineries such as a loader, excavator, roller, dozer, grader, bitumen distributor and bitumen boiler in the construction work. The recent amendment allows the use of heavy machineries if its use was considered at the time of estimation. The UC are not allowed to subcontract the works and are to construct the work themselves, however, it has been found that these provisions have been violated. The recent increase in the UC threshold and allowing the use of machineries is being opposed by the Federation of Contractor’s Association Nepal (FCAN).

10. The PPMO was established in 2007 in accordance with the adoption of a new procurement act and regulations. Its central oversight role is primarily facilitative. It is obliged to suggest further reforms in procurement policy and laws, issue technical guidelines and manuals and models for standard bidding documents, roll out training for officials at public entities involved in procurement and collect statistics on procurement. Recent amendment in the procurement act has entrusted the PPMO to prepare database qualification and experience of bidders and consultants, accreditation of procurement specialists, recommend the public entity to rectify the defects in the procurement and initiate action against officials involved in the procurement process, if the rules and regulation or the directives were not adhered to during procurement.

11. Recent amendment to the procurement rules has added the responsibility of establishing, operating and managing an electronic procurement through a single portal on PPMO. The amendment has also provided for two envelop bidding procedures. Although the PPMO has a central procurement portal, it has not been able to build capacity of the vast number of staff involved in the procurement unit and the bidder community on the use of the electronic (e-GP) system.

12. There are numerous challenges facing public procurement in Nepal, including low capacity of the PPMO and most procuring entities, and a weak private sector, aggravated by law enforcement issues. The function of public procurement at the local levels (e.g., the municipalities under the Federal system), where capacity to implement procurement is almost non-existent, needs more attention.

13. The Government of Nepal, supported by different development partners active in the country, is implementing several initiatives to strengthen the capacity of the PPMO, procuring entities, and oversight bodies, and to modernize the system through the introduction of e-GP. It appears however, that the resources needed to successfully complete the ongoing and additional initiatives for improving different aspects of public procurement are limited. The Nepal Public Procurement Strategic Framework (NPPSF II) 2013-2016, prepared through wider consultation, has listed three key areas of intervention/actions to improve the performance of public procurement. They are: (i) Standardization of Public Procurement Process and Dissemination; (ii) Capacity Enhancement of Public Procurement System; and (iii) Operationalization and Mainstreaming of e-GP. The capacity constraints of procurement entities have been largely responsible for executing timely procurement and timely award of contract. The transition of traditional procurement to e-GP represents an important phase in the procurement reform process in Nepal. A review of the implementation progress reveals that the success of e-GP will greatly depend on: (i) the readiness and acceptability of the bidding communities, Procuring Entities (PEs) and oversight agencies; (ii) availability of support including logistics to switch over; and (iii) uninterrupted IT services including round the clock access to the central server of e-GP. These are the areas where the PPMO, in collaboration with the key sector agencies, has to invest major efforts in terms of training, technical backstopping and infrastructure support. With these initiatives, it is imperative that the performance of the public procurement is measured and disseminated to the stakeholders with a set of key measurable performance indicators and increasing accessibility to the data on public procurement through e-GP.

14. The role of the PPMO is limited in two ways that serve to reduce its effectiveness. First, as noted above, it does not have a legal mandate to ensure information related to bidding processes is made public. Second, it does not have a role in handling procurement complaints. Under a two-stage review process, complaints are submitted first to the chief of the concerned public entity and then, if necessary, to a review committee formed by the government. The committee comprises a judge/ex-judge/ex-Secretary, an engineer, and a procurement specialist not currently employed by a public entity. One power assigned to the PPMO is blacklisting of contractors for a period of one to three years, based on misconduct in the bidding process or in Programme execution.

Key lessons on procurement in IFAD Country Portfolio

15. Performance reviews of IFAD Programmes in Nepal identify weaknesses in Programme procurement performance, primarily associated with non-compliances and weaknesses in the preparation of bid documentation, technical specifications, evaluation of bids, contract management and performance assessments. These weaknesses are further aggravated due to the lack of adequately qualified and trained procurement staff in the programme coordination units and weakness in procurement record keeping. As the Programmes/programmes are mainly rural development in nature, being implemented in remote and inaccessible areas, the size of the procurement is generally small/medium except for the engagement of NGOs or service providers.

16. It has been found that turnover of experts proposed by the NGOs recruited, based on the Least Cost Based Selection as provided by the PPA/PPR, to be extensive in the HVAP. The main reason seems to be because of the low remuneration proposed by the NGO. To mitigate this risk, the method of selection needs to be changed or the TOR/contract needs to fix salaries of the expert and request for competitive prices on other items.

17. Generally, design and supervision aspects in the Programmes have been found to be lacking due to insufficient personnel being deployed. Provision should therefore be made for enough personnel, if these activities are to be handled directly by the Programme.

Procurement arrangements for ASDP

18. Procurement. Procurement of goods, works and services under ASDP financed from resources provided or administered by IFAD will be undertaken in accordance with the provision of the PPA 2007 and associated regulations, the PPR 2007 as amended from time to time to the extent they are consistent with the provisions of IFAD's Procurement Guidelines and Handbook (dated September 2010) and as amended from time to time.

19. To assist in mitigating the lack of capacity of the newly formed institutions/municipalities, the PCO will have dedicated specialist staff focused on financial, contracts and procurement management. During the program start up, a financial management and procurement expert will be provisioned to provide on the job training for the staff involved in financial and procurement management, as well as to assist in finalizing the procurement plan.

20. There is inadequate technical expertise for infrastructure, for the design and supervision of infrastructure works such as roads, small scale irrigation, multipurpose water supply, etc. Additional technical staff are required to design and supervise these works. This may be carried out by adding in-house staff in the PCO or outsourcing the work to consulting firms.

21. National Competitive Bidding, National Shopping and Direct Contracting: Goods, Services (non-consulting) and civil works to be procured using NCB, Shopping and Direct Contracting will follow the procedures and processes defined in the PIM approved by PSC and IFAD. The PIM shall also include details of selection methods to be applied in case of consultancy services such as Quality and Cost Based Selection (QCBS), Fixed Budget Selection (FBS), Least Cost Selection (LCS), Consultants Qualification Selection (CQS) and Single Source Selection (SSS). The PIM will also outline the procedures for the selection of individual consultants and individual service providers.

22. **National Competitive Bidding:** The procedures to be followed for national competitive bidding shall include the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the IFAD Procurement Guidelines.

- *Anti-Corruption.* Definitions of corrupt, fraudulent, collusive and coercive practices shall reflect the latest IFAD Board-approved Anti-Corruption Policy definitions of these terms and related additional provisions (such as conflict of interest, etc.); and IFAD's right to audit the contract and the accounts of the contracted parties;
- *Rejection of All Bids and Rebidding.* Bids shall not be rejected and new bids solicited without IFAD's prior concurrence;
- *Member Country Restrictions.* No restriction applicable to IFAD resources unless National Policies apply such restriction;
- *Qualification Requirements.* A successful bidder must be determined by an assessment process that shall include the application of qualification requirements to all bids;
- *Contract awards works, goods and services (non-consulting)* shall be based on the lowest evaluated price of compliant bids from eligible and qualified bidders; and

- *A single-stage two-envelope procurement system shall not be allowed for goods and services (non-consulting).*

23. The detailed procedures for procurement will be adapted and adopted in accordance with the provisions PPA 2007 and associated regulations, consistent with IFAD Procurement Guidelines and the Procurement Handbook with the following emphasis to mitigate risk ensuring compliance to the provisions of the Procurement Guidelines:

- I. **Registration of Bidders:** Registration previous to bidding as a due diligence process for screening bidders legal and fiscal capacity. It is also usual to use registration as a means for prequalification, especially for civil works and in some cases service providers;
- II. **Open Bid National Competitive Bidding:** The Programme will impose through the PIM the use of well-formulated bidding documents which will result in bid submissions that are free from qualifications. The PIM will expand and articulate the following rules and procedures for the implementation of the ASDP:
 - a. **Effective Advertisement.** Advertisement should be broad enough (using the appropriate media) and give enough time to bidders for preparing their bid. To the extent possible, bidding opportunities should also be advertised electronically. The minimum requirement should be: (i) mandatory publication in one local newspaper in addition to the official gazette (if existent); (ii) web-page: if the borrower (or the Country) has a web-page, all bidding opportunities should be advertised; (iii) advertisement in United Nations Development Business or other electronic means such as the e-Government Procurement portal (www.bolpatra.gov.np);
 - b. **Eligibility.** Eligibility criteria and procedures should not deny bidders access to a bidding process or an award for reasons which are not related to their qualification to carry out the contract. Consequently, the procedures should: (i) be based on the ability of bidders to carry out the contract and should not include additional restrictions (not related to such ability); (ii) no restrictions to foreign bidders; (iii) local blacklisting for fraud and corruption carried out with due process and with rights for accused firms to defend themselves;
 - c. **Qualification of Bidders.** The procedures should define post qualification as the preferred rule. Prequalification should be restricted to civil works, especially for large or complex contracts or for special cases with due justification. The review of bidders' qualification should be conducted by examining whether the bidder does or does not meet qualification criteria and not by using a point system reflecting the bidders' qualification. Conducting a pre-selection instead of a pre-qualification should not be accepted, i.e., pre-qualification means that all candidates who have been determined to be qualified should be invited to bid whereas pre-selection means that the government agency is free to invite any of those candidates but does not have to invite all of them. No bidder should be disqualified due to bureaucratic or non-substantial reasons;
 - d. **Standard Bidding Documents & Standard Contract:** Standard Bidding Documents are of paramount importance for transparency, speed of the process, increase competition and creation of capacity (standardization of procedures). The SBD to be used in all local open bidding processes will be described in the PIM and it should include: (i) time to submit bid: minimum 30 days; (ii) bids may be submitted by post or by hand or electronically; (iii) budget: could be disclosed (if local legislation so requires); (iv) clear instructions on how to buy bidding documents indicating address and price to buy the bidding documents, however, bidders who decide to submit a bid without having bought the bidding documents should not be disqualified, submitting their bids under their own risk; (v) clarifications to bidding documents should be in writing only; (vi) amendments to bidding documents should be advertised with the same procedure used for advertisement of bidding documents; (vii) number of Envelopes: Single stage one envelope will be the preferred option. Single stage two envelope method may be used with no objection from IFAD; (viii) evaluation Criteria: the bid evaluation criteria should be non-discriminatory. It should be disclosed and rigorously quantified in monetary terms to define the "lowest evaluated bidder". This allows to indisputably identify the lowest evaluated responsive bid. Quantifying bid evaluation criteria in monetary terms is the only method that leads to transparent evaluation and that allows bidders to submit an effective protest to the awarding authority;
 - e. **Language (bidding documents and contract).** The language of commercial use in the country;

- f. **Bid Prices (and Payments):** The PIM should define in the bidding documents, the price (and payments) conditions: (i) the local (or any internationally used) currency could be used; (ii) for countries with high inflation all contracts should have price adjustment; (iii) for countries with stable currency, price adjustment should be included for contracts longer than 12 months; (iv) the method of payment should be defined in the bidding document; (v) the currency of payment should be the same of the bid prices; (vi) the employer should automatically pay interest for late payments; and (vii) price adjustment formulas should not be used in bid evaluation;
- g. **Bid & Performance security:** The PIM will prescribe the generally accepted practice used in the local market (securities issued by banks or by sureties). Alternative methods (like automatic penalty to bidders failing to honour a bid) in lieu of bid securities could be accepted. Retention of payment could also be used instead of performance security;
- h. **Liquidated damages.** Should be similar to the internationally accepted norms.
- i. **Complaints & Settlement of Disputes.** Losing bidders should be allowed, through an effective mechanism, to submit protests pertaining to contract award. More generally, the private partner in a government contract must be proactive in implementing competitive mechanisms and, in fact, should be a guardian of those mechanisms exactly in the same manner as government agencies. The goal in the protest handling system should be:
 - 1) complaints should be accepted at any time. Those received before bids are submitted should be addressed before bid opening. All others should be taken into account, but the response should be announced only after award is recommended;
 - 2) the PIM will outline an administrative process for dealing with complaints including an independent reviewer for the answers provided by the procuring entity;
 - 3) the protests should be submitted to an independent entity and not simply to the supervisor of the contracting agency. Specifically, bid evaluation committees, which are the arm of the government, can only carry administrative reviews. Their membership does not allow for arbitration or quasi-arbitration of the dispute and therefore an independent protest mechanism should be provided to review award disputes before the contract award is final;
 - 4) when protests are submitted before award they may lead to revisit the award of the contract; when protests are submitted after the award, their only consequence should be the bidder's entitlement to compensatory damages for the cost of bid preparation;
 - 5) contracts should include a system for settlement of disputes. The use of a Dispute Resolution Board should be encouraged before disputes be submitted to arbitration or to courts.
- j. **Bid Opening.** Public bid opening of all bids, and recording of the opening in minutes signed by all bidders in attendance is required. In addition:
 - 1) late Bids should be rejected;
 - 2) procedures for bid opening should be the same as those used for ICB;
 - 3) minutes should follow the same procedure as for ICB;
 - 4) safeguard of price envelope (when two envelopes is used).
- k. **Confidentiality.** After bid opening and until contract award, all information about bids and their evaluation should be confidential. For transparency reasons, the evaluation report and all non-proprietary information could be made available to the public after an award recommendation has been published.
- l. **Evaluation of Bids.** Bids should be evaluated by an independent evaluation committee to the defined in the PIM at the level of the PCO with special consideration for:
 - 1) clarification of bids: To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids;

- 2) responsiveness: The evaluation committee's determination of a bid's responsiveness shall be based on the contents of the bid itself subject to any clarifications received;
- 3) qualification of the bidder should be conducted separately from the evaluation of its bid;
- 4) lowest evaluated cost criteria: The award should be made to the bidder having submitted the lowest evaluated responsive bid;
- 5) use of a point system to evaluate bids: scoring is an indirect way to express the outcome of post-qualification or of the technical analysis of the bid a point system should not be accepted;
- 6) rejection of all bids: borrower may reject all bids if: (i) all bids are not responsive; (ii) the price offered by the lowest bidder is substantially higher than the confirmed good estimate for the contract; (iii) the process was not competitive, i.e., only few bids (less than 3) were offered although several bidders could be interested in bidding.

m. **Award Criteria.** The award should be made to the bidder having submitted the lowest evaluated responsive bid. Award of contract should be without negotiations, since negotiations will lead bidders not to submit their best bid at the time of bid submission and will affect the perception of transparency, one of the main benefits deriving from public bidding.

24. **National or Local Shopping.** Procurement procedures other than open competitive bidding must be restricted and contained within appropriate limits. Restricted bidding is appropriate for small value contracts, and situations in which there is only a very small number of potential candidates. Consequently, very specific thresholds should be defined below which this method of procurement could be applied. In addition, the following minimum requirements should apply:

- a. Number of invitees & criteria for choosing:
 - 1) Minimum of 3 proposals received. However, the process should be open to whoever wants to bid, even if not invited;
 - 2) Invited firms should not be repeated, if possible. Except if other firms do not exist.
- b. Standard request for bids. Simplified document asking proposals by letter, by fax or using electronic means;
 - 1) Evaluation:
 - Minimum price; or
 - Combination of price and delivery time, in which case delivery time will be evaluated in monetary terms added to price. Minimum overall evaluated price will result in award.

25. **Consultants and Service Provider Selection Process:** The PIM shall elaborate the provision as prescribed in the Procurement Handbook in term of selection of consultants in line with the Provisions of IFAD Procurement Guidelines. In this case the minimum requirements should prevail:

- a) **Registration:** The same conditions described for bidder for goods and works above should be complied with;
- b) **Advertising:** Borrowers should advertise the assignment for expression of interest by firms. The advertisement should include:
 - 1) mandatory publication in one local newspaper, in addition to the official gazette (if existent);
 - 2) web-page: if the borrower (or the Country) has a web-page the bidding opportunities should be advertised including UN Development Business or other electronic means as the e-Government Procurement portal (www.bolpatra.gov.np).
- c) **Short-List:** Borrowers should use a short-list of 3 to 6 firms to request proposals. This short-list may result from comparing qualifications and experience among firms that have expressed interest;
- d) **Standard RFP & Standard Contract:** The standard RFP will be described and included in the PIM similar to that used for Selection of consultants;
- e) **Selection Process:** Short-list; QCBS (other methods when justified) to be elaborated in the PIM;
- f) **Award criteria:** highest combined score (preferably using the following range between 70 per cent to 90 per cent for the technical score and 30 per cent to 10 per cent for the price);

26. All procurement for goods, works and services financed from resources funded or administered by IFAD require bidding documents and the contracts to include a provision requiring suppliers, contractors and consultants ensure compliance with IFAD zero tolerance to anticorruption policy and to permit IFAD to inspect their accounts, records and other documents relating to the bid submission and contract performance, and to have them audited by IFAD-appointed auditors.

Procurement, Procurement Plan and Applicability

27. Procurement will be as per the Consolidated Procurement Plan submitted by the PCO, ASDP and approved by the PSC and IFAD. The PCO will submit an 18 month Procurement Plan immediately after the Programme enters into force and in the subsequent programme years submit an annual Procurement Plan.

28. As provided in appendix I, paragraph 1 of IFAD's Procurement Guidelines, IFAD review of and no objection to the consolidated procurement plan is compulsory and the 18 month procurement plans submitted by the Recipient must include as a minimum:

- a brief description of each procurement activity to be undertaken during the period and name of the implementing agency responsible for the procurement;
- the estimate value of each procurement activity;
- the method of procurement to be adopted for each procurement activity; and
- the method of review IFAD will undertake for each procurement activity indicating either post review or prior review.

29. Any changes and amendments to the procurement plan shall be subject to IFAD's No Objection

Procurement Methods Thresholds for PCO/Municipalities

30. Procurement of Goods, Works and Services (non-Consulting). Methods for procurement of goods/works as per thresholds is established as follows:

Works, Goods and Services (non-consulting)

- (i) National Competitive Bidding (NCB), for contract values greater than NPR 2,000,000
- (ii) National shopping (including Sealed Quotation as per PPR) for contracts equal to NPR 500,000 up to NPR 2,000,000
- (iii) Direct contracting for contracts below NPR 500,000

31. Consultancy and Services. Consulting service will include Programme management technical assistance, implementation support technical assistance for different components, conducting studies, mobilisation/establishment of community groups, technical training and strengthening of community groups, and monitoring and evaluation.

Each contract for the selection of consultancy services, shall be selected in accordance with any one of the selection methods listed below:

- (i) Quality and Cost Based Selection;
- (ii) Fixed Budget Selection;
- (iii) Least Cost Selection;
- (iv) Selection Based on Consultants Qualification.

32. **Selection of individual consultants.** Individual consultants are selected on the basis of their qualifications for the assignment of at least three candidates among those who have expressed interest in the assignment or have been approached directly by the PCO or Implementing Agencies. Individuals employed by the PCO, and the Implementing Agencies/Partners shall meet all relevant qualifications and shall be fully capable of carrying out the assignment. Capability is judged on the basis of academic background, experience and, as appropriate, knowledge of the local conditions, such as local language, culture, administrative system, and government organization.

33. Individuals consultants or consultancy firm may be selected on a sole-source basis with due justification in exceptional cases such as: (i) tasks that are a continuation of previous work that the consultant has carried out and for which the consultant was selected competitively; (ii) assignments lasting less than six months; (iii) emergency

situations resulting from natural disasters; and (iv) when the individual consultant is the only consultant qualified for the assignment.

Review of Procurement Decisions by IFAD

34. IFAD will undertake to review the provisions for the procurement of good, works and services to ensure that the procurement process is carried out in conformity with its Procurement Guidelines. For the purposes of IFAD's Procurement Guidelines, the following procurement decisions shall be subject to prior review by the Fund for the award of any contract for goods, equipment, materials, works, consultancy and services under ASDP.

- a. Procurement of goods, materials and works:
 - i. Prequalification documents and shortlist when prequalification is undertaken;
 - ii. Bid Documents for goods, materials and works;
 - iii. Evaluation Report and Recommendation for Award; and
 - iv. Contract and amendments.
- b. Procurement of consultancy services and services:
 - i. Prequalification documents and shortlist when prequalification is undertaken;
 - ii. Request for Proposal;
 - iii. Technical evaluation report;
 - iv. Combined (technical and financial) evaluation report and the recommendation for award; and
 - v. Contract and amendments.

35. Before agreeing to any material modification or waiver of the terms and conditions of any contract, or granting an extension of the stipulated time for performance of such contract, or issuing any change order (except in cases of extreme urgency) that will increase the cost of the contract by more than 10 per cent of the original price, the Borrower shall inform IFAD on the proposed modification.

36. Prior or Post Review. Except as IFAD may otherwise agree, the prior or post which applies to various procurement of good, works and consultant recruitments shall be defined as detailed in Table 1.

Table 1. ASDP Procurement review requirements

Procurement Method	Prior or Post	Comments
Procurement of Goods and Services (non-consulting)		
ICB	Prior	All Contracts
NCB	Prior	Except procurement valued below NPR 2,000,000
National Shopping (including Sealed Quotation as per PPR)	Post	All Contracts
Direct Works, Goods and Non-consulting	Post	All contract valued below NPR 500,000
Recruitment of Consulting Firms		
Quality and Cost-Based Selection (QCBS)	Prior	Except procurement valued below NPR 500,000
Fixed Budgeted Selection (FBS)	Prior	Except procurement valued below NPR 500,000
Least Cost Selection (LCS)	Prior	Except procurement valued below NPR 500,000
Selection Based of Consultants Qualification	Prior	Except procurement valued below NPR 500,000
Sole Source Selection (SSS)	Prior	All contract except as per provisions of the LTB
Recruitment of Individual Consultants		
Individual Consultants	Prior	Except as per provisions of the LTB

37. Co-financing proposals exceeding USD 50,000 (equivalent in co-financing award from the program) should be referred to IFAD for prior review.

38. Any entrepreneur or User's Group requesting for co-financing from ASDP shall agree to: (i) constitute a procurement committee for procuring materials, labours etc. as provided by the procurement rules and regulations; (ii) make public the information on expenses periodically; (iii) operate and maintain the facility completed under

community participation; and (iv) allow to inspect their accounts and records and to have them audited by technical/financial auditors appointed by ASDP.

Works, Goods and Services to be procured

39. The IFAD highly concessional loan will fund most goods, works and services under the ASDP. Table 1 below breaks down procurement under the Programme by type of expenditure (procurement account) and procurement method.

Annex 1. ASDP 18-month procurement plan Consultant services

S. No	Description	Selection Method	Lum Sum or Time Based	Estimate amount in NPR (hundreds)	Pre/ Post Review	Plan vs Actual	Request for Expression of Interest		Terms of Reference		Short List		Plan vs Actual	Request for Proposal		Bid Proposed		Bid Evaluations Technical (T) and Financial (F)							Contract Finalization			Procurement Agency	Ref. to AWPB	Name of Consultants
							Date Published	Closing Date	Date Proposed	Date No-Object	Date Proposed	Date No-Object		Date Proposed	Date No-Object	Date Proposed	Date No-Object	Invitation Date	Submission/Closing Date	Submission Evaluation Report (T)	No-objection Evaluation Report (T)	Opening Financial (F) Proposal	Submission Evaluation Report Technical (T) and Financial (F)	No-objection Evaluation Report Technical (T) and Financial (F)	Plan vs Actual	Contract Amount in NPR thousand	Contract Award			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27				
5.A5	International Technical Assistance (Individual Consultant) to be elaborated further	SIC		47,571.00		P																								
5.A5	National Technical Assistance (individual) to be elaborated further	SIC		6,710.00		P																								
5.B1	Review and upgrading of HV/AP M&E system and upgrading MS and tablet monitoring	QCBS		53,676.00		P																								
5.B1	Annual outcome survey (outsourced to external consultancy firm for 3 years)	QCBS		52,277.00		P																								
5.B1	Programme Website (Individual Consultant) for first 3 years	SIC		2,717.00		P																								
4.A1	Establishment of MADC and capacity building (outsourced to a firm)	QCBS		1,361,488.00		P																								
4.A2	Establishment of CAESC (outsourced to a firm)	QCBS		530,877.00		P																								
4.A3	Support for LRP's and training	QCBS		220,152.00		P																								
4.B2	Farmer Institution TA for developing strategy and materials (individual consultant international)	SIC		20,320.00		P																								
4.C	Women empowerment and household nutrition (outsourced)	FBS		1,111,026.00		P																								
4.1B	Civil works design and supervision			885,700.00																										

Civil Works

Sno	Description	Lot number	Basic Data							Plan vs. Actual	Bis Documents		Bidding Period		Bid Evaluation		Contract Finanlizatio			Procurement Agency	Ref. to AWPB
			Issue # of invitation for bids	Lumsum or bill of quantities	Procurement Method	Estimated Amount in USD million	Pre or post qualification	Prior or Post Review	Date Proposed		Date No-objection	Bid Invitation date	Bid closing-opening	Bid Evaluation Report	No-objection	Contract amount in USD million	Date Contract Award	Date Contract Signature			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
1	Office rehabilitation				NCB	24258			P												
									R												
									A												
Total Cost						24258															

Goods

Sno	Description	Lot Number	Basic Data				Plan vs. Actual	Bid Documents		Bidding Period		Bid Evaluation report		Contract Finalization			Procurement Agency	Ref. to AWPB	Name of Supplier
			Issue # of Invitation for bid	Estimate amount in USD thousand	Procurement Method	Pre or Post review		Date Proposed	Date No-objection	Bid invitation date	Bid closing-opening	Bid Evaluation report	No-objection	Contract amount in NPR thousand	Date contract award	Date contract signature			
1	4x4 double cabin pick-up with canopy 5 units			623,628.00	NCB		P												
2	Motorcycles 30 units			149,671.00	NCB		P												
3	Office equipment (to be defined) and 66 tablets - include equipment under infra com			210,583.00	NCB		P												
Total Cost				983,882.00															

Annex 2. Procurement methods

I. Procurement of Goods and Works

Method	Description	Applicability/Characteristics	Advertising	Remarks
International Competitive Bidding (ICB)	Procedure for procurement of goods and works on the international market with open competition	<ul style="list-style-type: none"> High value procurement Interest for international business community Equal opportunity to bid 	<ul style="list-style-type: none"> General Procurement Notices (GPN) Open ITB or invitation to prequalify UNDB/dgMarket International press 	<ul style="list-style-type: none"> Margin of preference for domestic goods and works may be applied
Limited International Bidding (LIB)	ICB by direct invitation (no open advertisement)	<ul style="list-style-type: none"> Smaller value Limited number of suppliers 	<ul style="list-style-type: none"> Restricted ITB 	<ul style="list-style-type: none"> Domestic preference not applicable
National Competitive Bidding (NCB)	Procedure for public procurement in Borrower Country	<ul style="list-style-type: none"> Small value contracts Geographically scattered, labour-intensive or time spread works Local prices below international market No or limited interest from international business community ICB advantages outweighed by financial and administrative costs 	<ul style="list-style-type: none"> Local press Internet, GEPSON 	<ul style="list-style-type: none"> IFAD to establish acceptability of national procedures Foreign suppliers allowed to bid Application of qualification requirement
International Shopping	Comparison of price quotations	<ul style="list-style-type: none"> Small value procurement 	<ul style="list-style-type: none"> Request for quotation 	<ul style="list-style-type: none"> Purchase order or brief contract

Method	Description	Applicability/Characteristics	Advertising	Remarks
	from at least 3 suppliers in 2 different countries	<ul style="list-style-type: none"> Off-the-shelf goods, standard specification commodities, simple civil works 	(restricted)	
National Shopping	Comparison of price quotations from at least 3 suppliers	<ul style="list-style-type: none"> Same as International Shopping Goods available locally from several sources at competitive prices 	<ul style="list-style-type: none"> Request for quotation (restricted) 	<ul style="list-style-type: none"> Purchase order or brief contract
Direct Contracting	No competition Single or sole-source selection	<ul style="list-style-type: none"> Extension of existing contract Standardization for vehicles, equipment Proprietary equipment obtainable from one source only Condition of performance guarantee Emergency procurement 	<ul style="list-style-type: none"> No advertising 	
Procurement from Commodity Markets	Procurement of goods from commodity markets	<ul style="list-style-type: none"> Grains, animal feed, cooking oil, fuel, fertilizers, pesticides, metals Multiple award for partial quantities to secure supply and prices 	<ul style="list-style-type: none"> Pre-qualified bidders Issuance of periodic invitations 	<ul style="list-style-type: none"> Short bid validity Single (market) currency for bid and payment
Work by Force Account	Use of the Borrower's own personnel and equipment to perform construction work	<ul style="list-style-type: none"> Difficulty in defining work quantities Small, scattered works in remote locations Risk of unavoidable work interruptions No disruption of on-going operations Emergency situations 	<ul style="list-style-type: none"> No advertising No competition 	<p>IFAD ensure that:</p> <ul style="list-style-type: none"> force account units are properly staffed, equipped and organized costs are reasonable
Procurement from UN Agencies	Procurement of specific goods from specialized UN agencies	Small quantities of off-the-shelf products	<ul style="list-style-type: none"> No advertising No competition 	<ul style="list-style-type: none"> Use of UN agency rules and procedures Indication in loan agreement

Refer to the IFAD Procurement Guidelines for the following procurement methods:

- Procurement by agents and use of inspection agents
- Procurement by financial intermediaries or sub-loan beneficiaries
- Procurement with community participation

II. Procurement of Consulting Services

Method	Description	Applicability/Characteristics	Advertising	Remarks
Quality and Cost Based Selection	Competitive selection from short-listed firms based on quality and cost of proposal	<ul style="list-style-type: none"> Two-step evaluation: quality (technical proposal) and cost (financial proposal) 	<ul style="list-style-type: none"> GPN (large contracts) Request for Proposal (RFP) 	<ul style="list-style-type: none"> Preferred selection method for most consulting services
Selection Under a Fixed Budget	Competitive selection from short-listed firms based on best technical proposal within budget	<ul style="list-style-type: none"> Simple and precisely defined assignment Consulting firms requested to bid within a fixed budget 	<ul style="list-style-type: none"> Request for proposal 	<ul style="list-style-type: none"> Rejection of proposals above fixed budget
Least-Cost Selection	Competitive selection from short-listed firms based on lowest cost provided minimum quality score is achieved	<ul style="list-style-type: none"> Standard, routine assignments (e.g. audits or design of simple works) Well-established standards and practices 	<ul style="list-style-type: none"> Request for proposal 	<ul style="list-style-type: none"> Establishment of a minimum score for quality Rejection of proposals under

Method	Description	Applicability/Characteristics	Advertising	Remarks
		<ul style="list-style-type: none"> • Small contract value 		minimum score
Quality Based Selection	Competitive selection from short-listed firms based on quality only	<ul style="list-style-type: none"> • Complex/highly specialized assignments • High downstream impact • No comparability of proposals 	<ul style="list-style-type: none"> • GPN (large contracts) • Request for Proposal 	<ul style="list-style-type: none"> • Only technical proposals may be invited
Selection Based on Consultants' Qualifications	Selection from short-listed firms based on consultant's experience and competence	<ul style="list-style-type: none"> • Very small assignments • Cost of RFP preparation and evaluation not justified 	<ul style="list-style-type: none"> • Request for expression of interest 	<ul style="list-style-type: none"> • Submission of combined technical-financial proposals
Single Source Selection	Selection of a firm without any competition	<p>Must be exceptional:</p> <ul style="list-style-type: none"> • Continuation of previous work • Emergency situation • Very small assignments • Only one firm is qualified/experienced 	<ul style="list-style-type: none"> • No competition 	<ul style="list-style-type: none"> • Clear advantage over competition or impossibility to compete must be demonstrated
Selection of Individual Consultants	Individuals selected based on qualifications, references and other relevant criteria, with limited or no competition	<ul style="list-style-type: none"> • Teams of personnel not required • No additional professional support required • Main requirement is experience and qualification of individual consultant 	<p>Request for expression of interest or Direct contact</p>	<ul style="list-style-type: none"> • Individuals may be selected on a single source basis

Refer to the IFAD Procurement Guidelines for the following procurement methods: Procurement agents and inspection agents, UN agencies, Civil Society Organizations, Auditors and Service Delivery Contractors

Appendix 9: Programme cost and financing

Programme costs

- 1 The main assumptions underlying the derivation of Programme costs, estimated Programme costs and the financing plan are:
 - a. The Programme costs are based on August 2017 prices.
 - b. The proposed Programme will be financed over a six-year period (2018-2023).
 - c. Inflation. Domestic inflation will be about 8.5 per cent in 2016, around which it is expected to hover in the medium-term future. A domestic inflation rate of 8 per cent has been applied across the Programme life. Foreign inflation was set at 2 per cent p.a. over the Programme period, based on the MUV (15) Index.
 - d. Exchange Rate. The Base Exchange rate for this analysis has been set at NPR 102 to USD 1 as an official exchange rate prevailing in August 2017 (rounded).
 - e. The Programme costs are presented in both NPR and USD. Conversions from current USD values into Nepal Rupees use constant purchasing power exchange rates:
 - f. Taxes and Duties. There is value added tax (VAT) of 13 per cent levied on all imported and locally procured goods and services. Vehicles have a tax of up to 230 per cent depending on an engine power. International technical assistance does not carry any taxes. Social security benefits (employee's portion) and income tax (employee deductions) are eligible for IFAD financing.
 - g. The Government will finance the cost of all taxes on goods and services procured under the Programme.

- 2 The total investment and incremental recurrent Programme costs, including physical and price contingencies, as detailed in Table 1, are estimated at about USD 68.1 million (NPR 7.0 billion). Physical and price contingencies make up 21 per cent of the total Programme costs. The foreign exchange component is estimated at USD 5.7 million or about 8 per cent of the total Programme costs. Taxes and duties make up approximately USD 8.3 million (12.1 per cent). Programme management costs amount to USD 7.6 million (about 11.2 per cent of the total Programme costs). Hard investments in equipment, co-financing value chain development and public and community infrastructure, constitute 60 per cent of total Programme costs and 58 per cent of the IFAD loan amount. International TA for support forms 0.7 per cent of total Programme costs and 1.1 per cent of the IFAD loan and grant financing and is fully covered by grant finance.

Table 1. Programme Costs by Component and Output

	(NPR Hundreds)			(US\$)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange	Base Costs
A. Value chain development /a								
Inclusive and sustainable agriculture value chains expanded and diversified /b	18,132,160	153,100	18,285,260	17,776,627	150,098	17,926,725	1	32
Market-oriented infrastructure functional /c	13,064,493	2,623,188	15,687,681	12,808,326	2,571,753	15,380,079	17	27
Rural financial services funding value chain development /d	3,161,694	492,201	3,653,895	3,099,700	482,550	3,582,250	13	6
Agriculture services sustainably support innovation and value chain development /e	12,409,820	1,086,017	13,495,837	12,166,490	1,064,723	13,231,213	8	24
Subtotal	46,768,167	4,354,506	51,122,673	45,851,144	4,269,124	50,120,267	9	89
B. Programme management	5,115,275	1,051,278	6,166,553	5,014,975	1,030,665	6,045,640	17	11
Total BASELINE COSTS	51,883,441	5,405,784	57,289,225	50,866,119	5,299,789	56,165,907	9	100
Physical Contingencies	1,476,287	130,185	1,606,472	1,447,340	127,633	1,574,973	8	3
Price Contingencies	10,291,337	265,060	10,556,397	10,089,547	259,863	10,349,409	3	18
Total PROJECT COSTS	63,651,065	5,801,030	69,452,095	62,403,005	5,687,284	68,090,289	8	121

Programme financing

3 An IFAD Loan of USD 38.2 million will finance 56.1 per cent of total Programme cost, including: 48.1 per cent of Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified, for which the total cost is USD 21.7 million; 67.8 per cent of Sub-component 2: Market-oriented infrastructure functional, for which the total cost is USD 18.6 million; 75 per cent of Sub-component 3: Rural financial services for value chain development strengthened, for which the total cost is USD 4.6 million; 51 per cent of Sub-component 4: Agriculture services sustainably support innovation and value chain development, for which the total cost is USD 16.1 million and 49.2 per cent of the Programme Coordination Component, which has a total cost of USD 7.6 million. An IFAD grant of USD 1.8 million (2.6 per cent of total cost) will support Programme specialised TA, training and studies. SDC will provide a grant of USD 3.0 million

4 Technical Assistance. In alignment with IFAD Grant Policy and the Government of Nepal's Development Cooperation Policy (2014), given Nepal's current status as a highly concessional borrower, the Grant funds, of USD 1.8 million, have been specifically sought to finance international and national technical assistance in the areas where it could would provide for the capacity development of the newly decentralized offices in municipalities and wards, and build the sustainability of this programme. The major activities envisioned under Grant financing include (i) development of the Strategic Investment Plans for up to 10 products to ensure their viability for value chain development; (ii) Technical Assistance to build the business development services that will be offered by ASDP; (iii) Technical assistance to capacitate the devolved DCCs in convening the multi stakeholder platforms; (iv) Technical assistance to ensure that the financial service providers have sufficient risk appetite and products to promote the move to rural areas and to lending to small holder farmers within a value chain; (v) Technical assistance for the implementation of household methodologies towards the empowerment of women; and (vi) Technical assistance towards linking in with on-going nutritional interventions and building the BCC in the devolved GoN structure.

5 Smallholder beneficiaries will contribute approximately USD 6.7 million (10 per cent of total cost) as co-financing of the community infrastructure (at least 15 per cent) and value chain group co-financing (at least 50 per cent). Private entrepreneurs will contribute USD 3.5 million (5.1 per cent of total cost) to finance at least 70 per cent of the value chain processing investments (including not less than 35 per cent in cash or credit) to be contributed by the benefitting businesses.

6 The Government contribution of USD 11.5 million (16.9 per cent of total costs) will cover all taxes and duties on all Programme inputs that involve funding from the IFAD Loan/Grant (USD 8.3 million), and the GoN contribution to municipal public good and public-private infrastructure development and some PCO staffing (USD 6.6 million). Table 5 provides a summary by the programme financing plan by outcomes

Table 2. Financing Plan by Component and Outcomes (USD)

	Municipality		IFAD Loan		IFAD Grant		IFAD Other		Swiss Agency for Development Cooperation		Beneficiaries		Private Sector		The Government		Total		
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	
A. Value chain development /a																			
Inclusive and sustainable agriculture value chains expanded and diversified /b	-	-	10 179 502	48.1	488 025	2.3	-	-	-	-	4 230 925	20.0	3 273 045	15.5	2 998 228	14.2	21 169 724	31.1	
Market-oriented infrastructure functional /c	2 243 849	12.1	2 621 631	14.1	-	-	10 000 000	53.7	-	-	1 325 658	7.1	-	-	2 428 671	13.0	18 619 810	27.3	
Rural financial services funding value chain development /d	-	-	3 463 962	75.1	332 396	7.2	-	-	-	-	-	-	214 864	4.7	601 683	13.0	4 612 905	6.8	
Agriculture services sustainably support innovation and value chain development /e	1 196 246	7.4	8 182 994	51.0	851 182	5.3	-	-	3 000 000	18.7	1 124 864	7.0	-	-	1 703 293	10.6	16 058 579	23.6	
Subtotal	3 440 096	5.7	24 448 090	40.4	1 671 602	2.8	10 000 000	16.5	3 000 000	5.0	6 681 448	11.1	3 487 908	5.8	7 731 875	12.8	60 461 019	88.8	
B. Programme management	-	-	3 751 911	49.2	128 398	1.7	-	-	-	-	-	-	-	-	3 748 962	49.1	7 629 270	11.2	
Total PROJECT COSTS	3 440 096	5.1	28 200 000	41.4	1 800 000	2.6	10 000 000	14.7	3 000 000	4.4	6 681 448	9.8	3 487 908	5.1	11 480 836	16.9	68 090 289	100.0	

Annex 1: Summary Cost and Financing Tables

1. Components Programme Cost Summary
2. Expenditure Accounts Programme Cost Summary
3. Expenditure Accounts by Components – Totals including Contingencies (USD)
4. Expenditure Accounts by Components – Totals including Contingencies (NPR Million)
5. Programme Components by Year -- Totals Including Contingencies
6. Programme Components by Year -- Investment/Recurrent Costs (USD)
7. Expenditure Accounts by Year -- Totals Including Contingencies
8. Expenditure Accounts Breakdown (USD)
9. Components by Financiers (USD)
10. Disbursement Accounts by Financiers (USD)
11. Expenditure Accounts by Financiers (USD)
12. Local/Foreign/Taxes by Financiers (USD)
13. Inflation and Exchange Rates

Annex 2: Detailed Cost Tables

1. Sub-component 1: Inclusive and sustainable agriculture value chains expanded and diversified
2. Sub-component 2: Market-oriented infrastructure functional
3. Sub-component 3: Rural financial services funding value chain development strengthened
4. Sub-component 4: Agriculture services sustainably support innovation and value chain development
5. Programme Coordination Component

Annex 1: Summary Cost and Financing Tables

Table 1: Components Programme Cost Summary

	(NPR Hundreds)			(US\$)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
A. Value chain development /a								
Inclusive and sustainable agriculture value chains expanded and diversified /b	18,132,160	153,100	18,285,260	17,776,627	150,098	17,926,725	1	32
Market-oriented infrastructure functional /c	13,064,493	2,623,188	15,687,681	12,808,326	2,571,753	15,380,079	17	27
Rural financial services funding value chain development /d	3,161,694	492,201	3,653,895	3,099,700	482,550	3,582,250	13	6
Agriculture services sustainably support innovation and value chain development /e	12,409,820	1,086,017	13,495,837	12,166,490	1,064,723	13,231,213	8	24
Subtotal	46,768,167	4,354,506	51,122,673	45,851,144	4,269,124	50,120,267	9	89
B. Programme management	5,115,275	1,051,278	6,166,553	5,014,975	1,030,665	6,045,640	17	11
Total BASELINE COSTS	51,883,441	5,405,784	57,289,225	50,866,119	5,299,789	56,165,907	9	100
Physical Contingencies	1,476,287	130,185	1,606,472	1,447,340	127,633	1,574,973	8	3
Price Contingencies	10,291,337	265,060	10,556,397	10,089,547	259,863	10,349,409	3	18
Total PROJECT COSTS	63,651,065	5,801,030	69,452,095	62,403,005	5,687,284	68,090,289	8	121

\a ASDP Logical Framework: Component 1

\b Component 1 - Sub-component/Outcome 1

\c Component 1 - Sub-component/Outcome 2

\d Component 1 - Sub-component/Outcome 3

\e Component 1 - Sub-component/Outcome 4

Table 2: Expenditure Accounts Programme Cost Summary

	(NPR Hundreds)			(US\$)			% Foreign Exchange	% Total Base Costs
	Foreign	Local	Total	Foreign	Local	Total		
A. Investment Costs								
1. Consultancies								
a. International consultancies	415,360	103,840	519,200	407,216	101,804	509,020	80	1
b. National consultancies	-	7,594,111	7,594,111	-	7,445,207	7,445,207	-	13
Subtotal	415,360	7,697,951	8,113,311	407,216	7,547,011	7,954,227	5	14
2. Equipment & materials	679,847	366,072	1,045,919	666,517	358,894	1,025,411	65	2
3. Goods, services & inputs	406,817	219,055	625,872	398,840	214,760	613,600	65	1
4. Grants & subsidies	-	16,452,129	16,452,129	-	16,129,539	16,129,539	-	29
5. Workshops	662,721	356,850	1,019,571	649,727	349,853	999,580	65	2
6. Training	-	6,027,633	6,027,633	-	5,909,444	5,909,444	-	11
7. Vehicles	332,010	142,290	474,300	325,500	139,500	465,000	70	1
8. Works	2,616,085	10,464,339	13,080,424	2,564,789	10,259,156	12,823,945	20	23
9. Duties & Taxes	-	6,780,309	6,780,309	-	6,647,362	6,647,362	-	12
Total Investment Costs	5,112,840	48,506,629	53,619,469	5,012,589	47,555,519	52,568,107	10	94
B. Recurrent Costs								
1. Salaries & allowance	-	1,985,328	1,985,328	-	1,946,400	1,946,400	-	3
2. Operation costs	292,944	1,171,776	1,464,720	287,200	1,148,800	1,436,000	20	3
3. Duties & Taxes	-	219,708	219,708	-	215,400	215,400	-	-
Total Recurrent Costs	292,944	3,376,812	3,669,756	287,200	3,310,600	3,597,800	8	6
Total BASELINE COSTS	5,405,784	51,883,441	57,289,225	5,299,789	50,866,119	56,165,907	9	100
Physical Contingencies	130,185	1,476,287	1,606,472	127,633	1,447,340	1,574,973	8	3
Price Contingencies	265,060	10,291,337	10,556,397	259,863	10,089,547	10,349,409	3	18
Total PROJECT COSTS	5,801,030	63,651,065	69,452,095	5,687,284	62,403,005	68,090,289	8	121

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 9: Programme cost and financing

Table 3: Expenditure Accounts by Components – Totals including Contingencies (USD)

	Value chain development			Agriculture services sustainably support innovation and value chain development	Programme management	Total	Physical Contingencies	
	Inclusive and sustainable agriculture value chains expanded and diversified	Market-oriented infrastructure functional	Rural financial services funding value chain development				%	Amount
I. Investment Costs								
A. Consultancies								
1. International consultancies	56,373	-	276,000	138,000	115,000	585,373	-	-
2. National consultancies	1,887,127	645,698	103,500	5,200,238	275,425	8,111,988	6.3	510,049
Subtotal	1,943,500	645,698	379,500	5,338,238	390,425	8,697,361	5.9	510,049
B. Equipment & materials	-	23,644	86,250	899,704	169,625	1,179,223	7.0	82,272
C. Goods, services & inputs	-	-	414,000	182,850	108,790	705,640	10.0	70,564
D. Grants & subsidies	15,593,469	-	-	2,955,500	-	18,548,969	0.1	20,700
E. Workshops	196,176	-	13,800	631,340	308,200	1,149,517	2.1	23,862
F. Training	193,580	-	2,688,700	3,223,581	690,000	6,795,861	9.0	610,586
G. Vehicles	-	-	-	-	744,000	744,000	-	-
H. Works	-	14,710,737	-	-	36,800	14,747,537	-	-
Total Investment Costs	17,926,725	15,380,079	3,582,250	13,231,213	2,447,840	52,568,107	2.5	1,318,033
II. Recurrent Costs								
A. Salaries & allowance	-	-	-	-	1,946,400	1,946,400	5.0	97,320
B. Operation costs	-	-	-	-	1,651,400	1,651,400	9.7	159,620
Total Recurrent Costs	-	-	-	-	3,597,800	3,597,800	7.1	256,940
Total BASELINE COSTS	17,926,725	15,380,079	3,582,250	13,231,213	6,045,640	56,165,907	2.8	1,574,973
Physical Contingencies	208,071	66,934	330,625	657,019	312,324	1,574,973	-	-
Price Contingencies								
Inflation								
Local	3,026,841	3,028,061	681,111	2,124,048	1,229,486	10,089,547	-	-
Foreign	8,087	144,736	18,919	46,300	41,820	259,863	-	-
Subtotal Inflation	3,034,928	3,172,797	700,030	2,170,348	1,271,306	10,349,409	-	-
Devaluation	-	-	-	-	-	-	-	-
Subtotal Price Contingencies	3,034,928	3,172,797	700,030	2,170,348	1,271,306	10,349,409	3.4	353,940
Total PROJECT COSTS	21,169,724	18,619,810	4,612,905	16,058,579	7,629,270	68,090,289	2.8	1,928,913
Taxes	2,761,268	2,428,671	601,683	1,703,293	842,715	8,337,631	2.8	235,511
Foreign Exchange	158,185	2,717,825	530,524	1,164,768	1,115,982	5,687,284	2.4	133,747

Table 4: Expenditure Accounts by Components – Totals including Contingencies (USD)

	Value chain development			Agriculture services sustainably support innovation and value chain development	Programme management	Total
	Inclusive and sustainable agriculture value chains expanded and diversified	Market-oriented infrastructure functional	Rural financial services funding value chain development			
I. Investment Costs						
A. Consultancies						
1. International consultancies	58,772	-	288,423	143,660	121,521	612,376
2. National consultancies	2,595,244	868,333	134,765	6,084,563	376,927	10,059,832
Subtotal	2,654,017	868,333	423,187	6,228,223	498,448	10,672,208
B. Equipment & materials	-	26,542	105,136	1,024,263	201,992	1,357,932
C. Goods, services & inputs	-	-	494,187	222,804	130,832	847,823
D. Grants & subsidies	18,037,633	-	-	3,456,196	-	21,493,829
E. Workshops	223,488	-	16,824	728,656	344,244	1,313,212
F. Training	254,587	-	3,573,571	4,398,438	841,975	9,068,571
G. Vehicles	-	-	-	-	758,136	758,136
H. Works	-	17,724,936	-	-	38,051	17,762,987
Total Investment Costs	21,169,724	18,619,810	4,612,905	16,058,579	2,813,679	63,274,698
II. Recurrent Costs						
A. Salaries & allowance	-	-	-	-	2,589,958	2,589,958
B. Operation costs	-	-	-	-	2,225,633	2,225,633
Total Recurrent Costs	-	-	-	-	4,815,591	4,815,591
Total PROJECT COSTS	21,169,724	18,619,810	4,612,905	16,058,579	7,629,270	68,090,289
Taxes	2,761,268	2,428,671	601,683	1,703,293	842,715	8,337,631
Foreign Exchange	158,185	2,717,825	530,524	1,164,768	1,115,982	5,687,284

Table 5: Programme Components by Year -- Totals Including Contingencies

	Base Cost						Total
	2018	2019	2020	2021	2022	2023	
A. Value chain development /a							
Inclusive and sustainable agriculture value chains expanded and diversified /b	3,917,046	6,589,255	4,326,461	1,872,000	891,847	330,118	17,926,725
Market-oriented infrastructure functional /c	23,644	4,592,461	4,840,976	3,349,886	2,573,113	-	15,380,079
Rural financial services funding value chain development /d	332,350	994,175	1,437,500	763,025	55,200	-	3,582,250
Agriculture services sustainably support innovation and value chain development /e	2,571,789	3,434,787	3,219,140	2,064,881	1,186,216	754,400	13,231,213
Subtotal	6,844,829	15,610,678	13,824,076	8,049,792	4,706,375	1,084,518	50,120,267
B. Programme management	1,879,215	856,800	941,325	844,225	821,225	702,850	6,045,640
Total BASELINE COSTS	8,724,044	16,467,478	14,765,401	8,894,017	5,527,600	1,787,368	56,165,907
Physical Contingencies	232,604	315,952	405,949	300,174	175,729	144,565	1,574,973
Price Contingencies							
Inflation							
Local	284,095	1,783,509	2,725,367	2,374,273	1,981,032	941,272	10,089,547
Foreign	10,287	40,879	72,021	60,388	60,877	15,410	259,863
Subtotal Inflation	294,382	1,824,388	2,797,388	2,434,660	2,041,909	956,682	10,349,409
Devaluation	-	-	-	-	-	-	-
Subtotal Price Contingencies	294,382	1,824,388	2,797,388	2,434,660	2,041,909	956,682	10,349,409
Total PROJECT COSTS	9,251,029	18,607,818	17,968,738	11,628,851	7,745,238	2,888,615	68,090,289
Taxes	1,266,464	2,271,626	2,184,177	1,381,057	922,074	312,233	8,337,631
Foreign Exchange	1,038,985	1,394,504	1,489,647	901,204	713,673	149,270	5,687,284

Table 6: Programme Components by Year -- Investment/Recurrent Costs (USD)

	Totals Including Contingencies						Total
	2018	2019	2020	2021	2022	2023	
A. Value chain development /a							
Inclusive and sustainable agriculture value chains expanded and diversified /b							
Investment Costs	4,119,825	7,437,964	5,287,094	2,492,155	1,295,138	537,549	21,169,724
Recurrent Costs	-	-	-	-	-	-	-
Subtotal	4,119,825	7,437,964	5,287,094	2,492,155	1,295,138	537,549	21,169,724
Market-oriented infrastructure functional /c							
Investment Costs	26,542	5,101,314	5,751,580	4,251,374	3,489,001	-	18,619,810
Recurrent Costs	-	-	-	-	-	-	-
Subtotal	26,542	5,101,314	5,751,580	4,251,374	3,489,001	-	18,619,810
Rural financial services funding value chain development /d							
Investment Costs	369,168	1,187,415	1,874,332	1,096,077	85,913	-	4,612,905
Recurrent Costs	-	-	-	-	-	-	-
Subtotal	369,168	1,187,415	1,874,332	1,096,077	85,913	-	4,612,905
Agriculture services sustainably support innovation and value chain development /e							
Investment Costs	2,735,956	3,877,259	3,870,774	2,652,586	1,682,369	1,239,635	16,058,579
Recurrent Costs	-	-	-	-	-	-	-
Subtotal	2,735,956	3,877,259	3,870,774	2,652,586	1,682,369	1,239,635	16,058,579
Subtotal	7,251,490	17,603,952	16,783,780	10,492,192	6,552,421	1,777,185	60,461,019
B. Programme management							
Investment Costs	1,319,009	279,602	406,472	316,194	310,584	181,818	2,813,679
Recurrent Costs	680,530	724,264	778,486	820,465	882,234	929,612	4,815,591
Subtotal	1,999,539	1,003,866	1,184,958	1,136,659	1,192,818	1,111,430	7,629,270
Total PROJECT COSTS	9,251,029	18,607,818	17,968,738	11,628,851	7,745,238	2,888,615	68,090,289
Total Investment Costs	8,570,499	17,883,554	17,190,251	10,808,386	6,863,004	1,959,002	63,274,698
Total Recurrent Costs	680,530	724,264	778,486	820,465	882,234	929,612	4,815,591

\a ASDP Logical Framework: Component 1
\b Component 1 - Sub-component/Outcome 1
\c Component 1 - Sub-component/Outcome 2
\d Component 1 - Sub-component/Outcome 3
\e Component 1 - Sub-component/Outcome 4

Table 7: Expenditure Accounts by Year -- Totals Including Contingencies

	Base Cost						Foreign Exchange		
	2018	2019	2020	2021	2022	2023	Total	%	Amount
I. Investment Costs									
A. Consultancies									
1. International consultancies	223,799	218,049	120,525	23,000	-	-	585,373	69.6	407,216
2. National consultancies	1,434,556	1,721,825	1,884,090	1,465,813	919,155	686,550	8,111,988	-	-
Subtotal	1,658,355	1,939,874	2,004,614	1,488,813	919,155	686,550	8,697,361	4.7	407,216
B. Equipment & materials	524,205	158,746	308,246	93,725	76,475	17,825	1,179,223	56.5	666,517
C. Goods, services & inputs	89,240	256,450	256,450	46,000	46,000	11,500	705,640	56.5	398,840
D. Grants & subsidies	4,006,172	7,453,353	4,684,333	1,622,064	670,754	112,294	18,548,969	-	-
E. Workshops	214,047	225,412	228,862	215,062	154,112	112,024	1,149,517	56.5	649,727
F. Training	838,801	1,452,058	2,071,311	1,608,769	560,422	264,500	6,795,861	-	-
G. Vehicles	744,000	-	-	-	-	-	744,000	43.8	325,500
H. Works	36,800	4,374,910	4,604,910	3,224,910	2,506,008	-	14,747,537	17.4	2,564,789
Total Investment Costs	8,111,619	15,860,803	14,158,726	8,299,342	4,932,925	1,204,693	52,568,107	9.5	5,012,589
II. Recurrent Costs									
A. Salaries & allowance	332,400	332,400	332,400	320,400	320,400	308,400	1,946,400	-	-
B. Operation costs	280,025	274,275	274,275	274,275	274,275	274,275	1,651,400	17.4	287,200
Total Recurrent Costs	612,425	606,675	606,675	594,675	594,675	582,675	3,597,800	8.0	287,200
Total BASELINE COSTS	8,724,044	16,467,478	14,765,401	8,894,017	5,527,600	1,787,368	56,165,907	9.4	5,299,789
Physical Contingencies	232,604	315,952	405,949	300,174	175,729	144,565	1,574,973	8.1	127,633
Price Contingencies									
Inflation									
Local	284,095	1,783,509	2,725,367	2,374,273	1,981,032	941,272	10,089,547	-	-
Foreign	10,287	40,879	72,021	60,388	60,877	15,410	259,863	100.0	259,863
Subtotal Inflation	294,382	1,824,388	2,797,388	2,434,660	2,041,909	956,682	10,349,409	2.5	259,863
Devaluation	-	-	-	-	-	-	-	-	-
Subtotal Price Contingencies	294,382	1,824,388	2,797,388	2,434,660	2,041,909	956,682	10,349,409	2.5	259,863
Total PROJECT COSTS	9,251,029	18,607,818	17,968,738	11,628,851	7,745,238	2,888,615	68,090,289	8.4	5,687,284
Taxes	1,266,464	2,271,626	2,184,177	1,381,057	922,074	312,233	8,337,631	-	-
Foreign Exchange	1,038,985	1,394,504	1,489,647	901,204	713,673	149,270	5,687,284	-	-

Table 8: Expenditure Accounts Breakdown (USD)

	Base Cost		Physical Contingencies				Price Contingencies				Total Incl. Cont.			Base Costs + Price Cont. on Base Costs	Physical Cont. Plus on Physical Cont.				
	Local (Excl. For. Exch.	Duties & Taxes)	Total	Local (Excl. For. Exch.	Duties & Taxes)	Total	Local (Excl. For. Exch.	Duties & Taxes)	Total	Local (Excl. For. Exch.	Duties & Taxes)	Total							
I. Investment Costs																			
A. Consultancies																			
1. International consultancies	407,216	101,804	76,353	585,373	-	-	-	-	11,546	11,935	3,522	27,004	418,762	113,739	79,875	612,376	612,376	-	
2. National consultancies	-	7,445,207	666,781	8,111,988	-	443,521	66,528	510,049	-	1,250,256	187,538	1,437,794	-	9,138,984	920,848	10,059,832	9,419,352	640,480	
Subtotal	407,216	7,547,011	743,134	8,697,361	-	443,521	66,528	510,049	11,546	1,262,191	191,061	1,464,798	418,762	9,252,723	1,000,723	10,672,208	10,031,728	640,480	
B. Equipment & materials	666,517	358,894	153,812	1,179,223	46,502	25,039	10,731	82,272	25,537	58,321	12,579	96,437	738,556	442,254	177,122	1,357,932	1,268,013	89,920	
C. Goods, services & inputs	398,840	214,760	92,040	705,640	39,884	21,476	9,204	70,564	19,015	43,263	9,342	71,619	457,739	279,499	110,586	847,823	770,748	77,075	
D. Grants & subsidies	-	16,129,539	2,419,431	18,548,969	-	18,000	2,700	20,700	-	2,542,748	381,412	2,924,160	-	18,690,286	2,803,543	21,493,829	21,466,101	27,728	
E. Workshops	649,727	349,853	149,937	1,149,517	13,487	7,262	3,112	23,862	36,428	85,167	18,239	139,833	699,641	442,282	171,288	1,313,212	1,286,864	26,347	
F. Training	-	5,909,444	886,417	6,795,861	-	530,944	79,642	610,586	-	1,445,325	216,799	1,662,124	-	7,885,714	1,182,857	9,068,571	8,320,698	747,872	
G. Vehicles	325,500	139,500	279,000	744,000	-	-	-	-	3,255	5,580	5,301	14,136	328,755	145,080	284,301	758,136	758,136	-	
H. Works	2,564,789	10,259,156	1,923,592	14,747,537	-	-	-	-	144,653	2,477,478	393,320	3,015,450	2,709,442	12,736,634	2,316,911	17,762,987	17,762,987	-	
Total Investment Costs	5,012,589	40,908,157	6,647,362	52,568,107	99,873	1,046,243	171,917	1,318,033	240,434	7,920,072	1,228,052	9,388,558	5,352,895	49,874,472	8,047,331	63,274,698	61,665,276	1,609,422	
II. Recurrent Costs																			
A. Salaries & allowance	-	1,946,400	-	1,946,400	-	97,320	-	97,320	-	546,238	-	546,238	-	2,589,958	-	2,589,958	2,466,627	123,331	
B. Operation costs	287,200	1,148,800	215,400	1,651,400	27,760	111,040	20,820	159,620	19,429	341,105	54,080	414,613	334,389	1,600,945	290,300	2,225,633	2,029,473	196,160	
Total Recurrent Costs	287,200	3,095,200	215,400	3,597,800	27,760	208,360	20,820	256,940	19,429	887,343	54,080	960,851	334,389	4,190,903	290,300	4,815,591	4,496,100	319,491	
Total	5,299,789	44,003,357	6,862,762	56,165,907	127,633	1,254,603	192,737	1,574,973	259,863	8,807,415	1,282,132	10,349,409	5,687,284	54,065,374	8,337,631	68,090,289	66,161,376	1,928,913	

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 9: Programme cost and financing
Table 9: Components by Financiers (USD)

Municipality	IFAD Loan		IFAD Grant		IFAD Other		Swiss Agency for Development Cooperation		Beneficiaries		Private Sector		The Government		Total			
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%		
A. Value chain development /a																		
Inclusive and sustainable agriculture value chains expanded and diversified /b	-	-	10 179 502	48.1	488 025	2.3	-	-	-	-	4 230 925	20.0	3 273 045	15.5	2 998 228	14.2	21 169 724	31.1
Market-oriented infrastructure functional /c	2 243 849	12.1	2 621 631	14.1	-	-	10 000 000	53.7	-	-	1 325 658	7.1	-	-	2 428 671	13.0	18 619 810	27.3
Rural financial services funding value chain development /d	-	-	3 463 962	75.1	332 396	7.2	-	-	-	-	-	-	214 864	4.7	601 683	13.0	4 612 905	6.8
Agriculture services sustainably support innovation and value chain development /e	1 196 246	7.4	8 182 934	51.0	851 182	5.3	-	-	3 000 000	18.7	1 124 864	7.0	-	-	1 703 293	10.6	16 058 579	23.6
Subtotal	3 440 096	5.7	24 448 090	40.4	1 671 602	2.8	10 000 000	16.5	3 000 000	5.0	6 681 448	11.1	3 487 908	5.8	7 731 875	12.8	60 461 019	88.8
B. Programme management	-	-	3 751 911	49.2	128 398	1.7	-	-	-	-	-	-	-	-	3 748 962	49.1	7 629 270	11.2
Total PROJECT COSTS	3 440 096	5.1	28 200 000	41.4	1 800 000	2.6	10 000 000	14.7	3 000 000	4.4	6 681 448	9.8	3 487 908	5.1	11 480 836	16.9	68 090 289	100.0

- \a ASDP Logical Framework: Component 1
- \b Component 1 - Sub-component/Outcome 1
- \c Component 1 - Sub-component/Outcome 2
- \d Component 1 - Sub-component/Outcome 3
- \e Component 1 - Sub-component/Outcome 4

Table 10: Disbursement Accounts by Financiers (USD)

	Municipality		IFAD Loan		IFAD Grant		IFAD Other		Swiss Agency for Development Cooperation		Beneficiaries		Private Sector		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Consultancies	-	-	5 659 493	53.0	775 032	7.3	-	-	3 000 000	28.1	-	-	-	-	1 237 682	11.6	10 672 208	15.7
2. Equipment & materials	-	-	899 958	66.3	280 852	20.7	-	-	-	-	-	-	-	-	177 122	13.0	1 357 932	2.0
3. Goods, services & inputs	-	-	511 844	60.4	10 530	1.2	-	-	-	-	-	-	214 864	25.3	110 586	13.0	847 823	1.2
4. Grants & subsidies	562 432	2.6	9 499 020	44.2	-	-	-	-	-	-	5 355 789	24.9	3 273 045	15.2	2 803 543	13.0	21 493 829	31.6
5. Workshops	-	-	815 684	62.1	326 240	24.8	-	-	-	-	-	-	-	-	171 288	13.0	1 313 212	1.9
6. Operating costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 225 633	100.0	2 225 633	3.3
7. Salaries & allowances	-	-	1 619 045	62.5	-	-	-	-	-	-	-	-	-	-	970 913	37.5	2 589 958	3.8
8. Training	633 814	7.0	6 844 553	75.5	407 346	4.5	-	-	-	-	-	-	-	-	1 182 857	13.0	9 068 571	13.3
9. Vehicles	-	-	473 835	62.5	-	-	-	-	-	-	-	-	-	-	284 301	37.5	758 136	1.1
10. Works	2 243 849	12.6	1 876 568	10.6	-	-	10 000 000	56.3	-	-	1 325 658	7.5	-	-	2 316 911	13.0	17 762 987	26.1
Total PROJECT COSTS	3 440 096	5.1	28 200 000	41.4	1 800 000	2.6	10 000 000	14.7	3 000 000	4.4	6 681 448	9.8	3 487 908	5.1	11 480 836	16.9	68 090 289	100.0

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 9: Programme cost and financing
Table 11: Expenditure Accounts by Financiers (USD)

	Municipality		IFAD Loan		IFAD Grant		IFAD Other		Swiss Agency for Development Cooperation		Beneficiaries		Private Sector		The Government		Total		
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	
I. Investment Costs																			
A. Consultancies																			
1. International consultancies	-	-	73 113	11.9	459 388	75.0	-	-	-	-	-	-	-	-	79 875	13.0	612 376	0.9	
2. National consultancies	-	-	5 586 381	55.5	315 644	3.1	-	-	3 000 000	29.8	-	-	-	-	1 157 807	11.5	10 059 832	14.8	
Subtotal	-	-	5 659 493	53.0	775 032	7.3	-	-	3 000 000	28.1	-	-	-	-	1 237 682	11.6	10 672 208	15.7	
B. Equipment & materials	-	-	899 958	66.3	280 852	20.7	-	-	-	-	-	-	-	-	177 122	13.0	1 357 932	2.0	
C. Goods, services & inputs	-	-	511 844	60.4	10 530	1.2	-	-	-	-	-	-	214 864	25.3	110 586	13.0	847 823	1.2	
D. Grants & subsidies	562 432	2.6	9 499 020	44.2	-	-	-	-	-	-	5 355 789	24.9	3 273 045	15.2	2 803 543	13.0	21 493 829	31.6	
E. Workshops	-	-	815 684	62.1	326 240	24.8	-	-	-	-	-	-	-	-	171 288	13.0	1 313 212	1.9	
F. Training	633 814	7.0	6 844 553	75.5	407 346	4.5	-	-	-	-	-	-	-	-	1 182 857	13.0	9 068 571	13.3	
G. Vehicles	-	-	473 835	62.5	-	-	-	-	-	-	-	-	-	-	284 301	37.5	758 136	1.1	
H. Works	2 243 849	12.6	1 876 568	10.6	-	-	10 000 000	56.3	-	-	1 325 658	7.5	-	-	2 316 911	13.0	17 762 987	26.1	
Total Investment Costs	3 440 096	5.4	26 580 955	42.0	1 800 000	2.8	10 000 000	15.8	3 000 000	4.7	6 681 448	10.6	3 487 908	5.5	8 284 290	13.1	63 274 698	92.9	
II. Recurrent Costs																			
A. Salaries & allowance	-	-	1 619 045	62.5	-	-	-	-	-	-	-	-	-	-	970 913	37.5	2 589 958	3.8	
B. Operation costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 225 633	100.0	2 225 633	3.3	
Total Recurrent Costs	-	-	1 619 045	33.6	-	-	-	-	-	-	-	-	-	-	3 196 546	66.4	4 815 591	7.1	
Total PROJECT COSTS	3 440 096	5.1	28 200 000	41.4	1 800 000	2.6	10 000 000	14.7	3 000 000	4.4	6 681 448	9.8	3 487 908	5.1	11 480 836	16.9	68 090 289	100.0	

Table 12: Local/Foreign/Taxes by Financiers (USD)

	Municipality		IFAD Loan		IFAD Grant		IFAD Other		Swiss Agency for Development Cooperation		Beneficiaries		Private Sector		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Foreign	396 720	7.0	2 097 845	36.9	742 387	13.1	1 752 198	30.8	-	-	229 832	4.0	133 913	2.4	334 389	5.9	5 687 284	8.4
II. Local (Excl. Taxes)	3 043 376	5.6	26 102 155	48.3	1 057 613	2.0	8 247 802	15.3	3 000 000	5.5	6 451 616	11.9	3 353 996	6.2	2 808 817	5.2	54 065 374	79.4
III. Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8 337 631	100.0	8 337 631	12.2
Total Project	3 440 096	5.1	28 200 000	41.4	1 800 000	2.6	10 000 000	14.7	3 000 000	4.4	6 681 448	9.8	3 487 908	5.1	11 480 836	16.9	68 090 289	100.0

		Nepal Agriculture Sector Development Programme Inflation and Exchange Rates							
		Up to Negotiation	Up to Project Start	2018	2019	2020	2021	2022	2023
Inflation (in %'s) /a									
None									
Annual rates									
Local		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Compounded rates									
Local		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Most									
Annual rates									
Local		0.0	0.0	8.0	8.0	8.0	8.0	8.0	8.0
Foreign		0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0
Compounded rates									
Local		0.0	0.0	4.0	12.3	21.3	31.0	41.5	52.8
Foreign		0.0	0.0	1.0	3.0	5.1	7.2	9.3	11.5
Exchange rates (Local/Foreign) /b									
None									
Rates actually used		102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0
Constant purchasing parity rates		102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0
% deviation		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Most									
Rates actually used		102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0
Constant purchasing parity rates		102.0	102.0	105.0	111.2	117.7	124.7	132.0	139.8
% deviation		0.0	0.0	-2.9	-8.3	-13.4	-18.2	-22.7	-27.0

^a Yearly values are within Each Project Year

^b Yearly values are at Project Year Midpoints

Annex 2: Detailed Cost Tables

Table 1. Outcome 1: Inclusive and sustainable agriculture value chains expanded and diversified

Unit	Quantities						Unit Cost (US\$)	Totals Including Contingencies (US\$)							
	2018	2019	2020	2021	2022	2023		Total	2018	2019	2020	2021	2022	2023	Total
I. Investment Costs															
A. Strategic Investment Plan (SIP) /a															
Strategic Investment Plan	Lump sum								128,980	-	-	-	-	-	128,980
Training in use of SIP analysis /b	Lump sum								6,449	-	-	-	-	-	6,449
Subtotal									135,429	-	-	-	-	-	135,429
B. Value chain development															
1. Value chain business development															
International business development adviser /c	person month	1	1	0.5	-	-	-	2.5	19,607.843	22,910	23,649	12,213	-	-	58,772
National business management advisers /d	person month	6	6	6	-	-	-	18	2,450.98	19,347	20,895	22,566	-	-	62,808
National technical assistance /e	person month	6	6	6	6	-	-	24	2,450.98	19,347	20,895	22,566	24,372	-	87,180
Business management and marketing training /f	Lump sum								-	11,144	12,035	12,998	14,038	-	50,216
Subtotal									61,604	76,583	69,381	37,370	14,038	-	258,976
2. Multi-Stakeholder Platform programme /g															
MSP coordinated participatory action research /h	Lump sum								-	50,654	54,706	59,083	63,810	-	228,253
MSP Workshops	Each	24	30	30	30	30	30	174	980.392	27,614	35,946	37,463	39,074	40,786	42,606
MSP participation in VC bid field verification	Each	46	47	53	53	53	16	268	490.196	26,969	29,759	36,243	39,142	42,274	13,783
MSP engagement in contract negotiation	Each	20	40	40	40	40	40	220	245.098	5,863	12,664	13,677	14,771	15,952	17,229
Subtotal									60,445	129,023	142,089	152,070	162,821	73,618	720,065
3. Co-financing value chain investment															
Entrepreneur briefings on co-financed value chain investment	workshop	1	2	2	1	-	-	6	1,960.784	2,580	5,572	6,018	3,250	-	17,419
Competitive value chain co-financing /i	Lump sum								1,172,549	1,772,894	1,914,726	516,976	-	-	5,377,145
Subtotal									1,175,129	1,778,466	1,920,743	520,225	-	-	5,394,564
4. Value chain-linked farmer group grants /j															
Farmer group briefings on co-financed value chain investment	workshop	6	10	10	10	-	-	36	3,341.412	26,376	47,476	51,274	55,376	-	180,503
Farmer group value chain co-financing	Lump sum								2,345,098	5,065,412	2,735,322	1,329,367	688,712	-	12,163,911
Subtotal									2,371,474	5,112,888	2,786,597	1,384,743	688,712	-	12,344,414
5. Value chain development mobile support teams															
Value chain field business managers /k	person month	36	36	36	36	36	36	216	980.392	46,433	50,148	54,159	58,492	63,172	68,225
Assistant civil engineers (road corridors)	person month	36	36	36	36	36	36	216	980.392	46,433	50,148	54,159	58,492	63,172	68,225
Assistant rural finance officers (road corridors) /l	person month	36	36	36	36	36	36	216	980.392	46,433	50,148	54,159	58,492	63,172	68,225
Assistant institutional development officers (road corridors) /m	person month	36	36	36	36	36	36	216	980.392	46,433	50,148	54,159	58,492	63,172	68,225
Gender and nutrition development officer /n	person month	36	36	36	36	36	36	216	980.392	46,433	50,148	54,159	58,492	63,172	68,225
Field M&E and KM officers /o	person month	36	36	36	36	36	36	216	980.392	46,433	50,148	54,159	58,492	63,172	68,225
Office assistant	person month	36	36	36	36	36	36	216	392.157	18,573	20,059	21,664	23,397	25,269	27,290
Drivers	person month	36	36	36	36	36	36	216	392.157	18,573	20,059	21,664	23,397	25,269	27,290
Subtotal									315,744	341,004	368,284	397,747	429,566	463,932	2,316,276
Subtotal									3,984,395	7,437,964	5,287,094	2,492,155	1,295,138	537,549	21,034,295
Total									4,119,825	7,437,964	5,287,094	2,492,155	1,295,138	537,549	21,169,724

^a The SIP will thoroughly evaluate the value chains of commodities identified during project design to evaluate their financial and economic viability and structure and recommend to the PCO/PSC which commodity value chains should proceed for project implementation

^b For PCO and Provincial and Municipal technical staff

^c To mentor the SIP process and the development of value chain support packages

^d To assist businesses with the development of their value chain investment plans. MSPs would request the pCO for the support of these advisers

^e To provide technical support to Multi-Stakeholder Platforms

^f High level training for value chain "gatekeepers".

^g To be convened by the District Coordination Committee

^h MSP allocated fund for contracted participatory action research on VC farmer group fields, linked to value chain development

ⁱ Completely allocated investment co-financing grants up to USD100,000. Larger grants may be exceptionally approved subject to IFAD and PSC no objection. Project and private entrepreneur contribution ratios will be 30%:70%. The 70% beneficiary contribution

^j Up to USD10,000 to groups of 30 farmers or more (USD12,000 in mountain areas) with 50% beneficiary contribution in cash or kind

^k One per road corridor

^l One assistant rural finance manager per road corridor

^m One assistant institutional development officer per road corridor

ⁿ One assistant gender/nutrition development officer per road corridor

^o One monitoring and evaluation and knowledge management officer per road corridor

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 9: Programme cost and financing

Table 2. Outcome 2: Market-oriented infrastructure functional

	Unit	Quantities						Unit Cost (US\$)	Totals Including Contingencies (US\$)						
		2018	2019	2020	2021	2022	2023		Total	2018	2019	2020	2021	2022	2023
I. Investment Costs															
A. Market-oriented infrastructure development															
1. Public good infrastructure fund /a															
Public good infrastructure /b	Lump sum								-	2,540,580	2,986,932	1,451,811	582,232	-	7,561,555
Public-private partnership infrastructure /c	Lump sum								-	444,602	475,194	508,134	543,608	-	1,971,537
Subtotal									-	2,985,182	3,462,126	1,959,945	1,125,839	-	9,533,092
2. Collective good infrastructure fund															
Community-based infrastructure	Lump sum								-	1,847,344	1,974,456	2,111,324	2,258,720	-	8,191,844
Subtotal									-	4,832,525	5,436,582	4,071,269	3,384,559	-	17,724,936
B. Infrastructure design and construction supervision															
Study and design	Lump sum								-	115,195	134,999	77,188	44,761	-	372,143
Construction supervision	Lump sum								-	153,594	179,999	102,917	59,681	-	496,190
Subtotal									-	268,789	314,998	180,105	104,442	-	868,333
C. Equipment															
Survey equipment /d	Each	4	-	-	-	-	-	4	40	207	-	-	-	-	207
Laptop computers /e	Each	5	-	-	-	-	-	5	2,000	12,909	-	-	-	-	12,909
Printers	Each	4	-	-	-	-	-	4	600	3,098	-	-	-	-	3,098
Plan printer /f	Each	1	-	-	-	-	-	1	4,000	5,164	-	-	-	-	5,164
Digital camera	Each	4	-	-	-	-	-	4	800	4,131	-	-	-	-	4,131
Drawing boards	Each	4	-	-	-	-	-	4	200	1,033	-	-	-	-	1,033
Subtotal									26,542	-	-	-	-	-	26,542
Total									26,542	5,101,314	5,751,580	4,251,374	3,489,001	-	18,619,810

/a Including village link roads, trails and trail bridges, collection centres, markets, etc.

/b Village link roads, trails and trail bridges, multi-purpose water supply, etc

/c Including markets, collection centres, etc

/d One set held at the PCO and one with each field engineer attached to the road corridor teams.

/e Robust laptops for field use

/f Most printing will be done through the commercial printing press in Birendranagar

Table 3. Outcome 3: Rural financial services fund value chain development

	Unit	Quantities						Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)						Total
		2018	2019	2020	2021	2022	2023			2018	2019	2020	2021	2022	2023	
I. Investment Costs																
A. Rural financial service provider support																
1. Support to commercial banks																
International TA for value chain financial product development /a	person month	6	9	3	-	-	-	18	10,000	70,104	108,551	37,372	-	-	-	216,027
National TA for value chain financial product development	person month	6	12	6	-	-	-	24	2,500	17,526	36,184	18,686	-	-	-	72,396
Private banker VC financing training /b	Course	-	1	2	1	-	-	4	3,000	-	4,033	8,407	4,384	-	-	16,824
Value chain financing study tour to Asia region /c	Study_tour	-	1	1	-	-	-	2	25,000	-	35,521	38,363	-	-	-	73,884
Subtotal										87,630	184,289	102,828	4,384	-	-	379,131
B. MFI/provincial cooperative MFI development																
National TA for loan product development /d	person month	-	12	12	-	-	-	24	2,500	-	42,625	46,035	-	-	-	88,661
IT based cooperative MIS installation /e	Each	-	6	6	-	-	-	12	30,000	-	241,988	252,199	-	-	-	494,187
Staff training on new loan products /f	Each	-	3	6	3	-	-	12	3,000	-	12,788	27,621	14,915	-	-	55,324
Subtotal										-	297,401	325,856	14,915	-	-	638,172
C. Capacity building for municipality cooperatives /g																
Training on business management /h	Course	-	5	7	3	-	-	15	3,000	-	21,313	32,225	14,915	-	-	68,453
Training on internal and external fund raising /i	Course	-	5	7	3	-	-	15	3,000	-	21,313	32,225	14,915	-	-	68,453
Training on agriloan product development /j	Course	-	5	7	3	-	-	15	3,000	-	21,313	32,225	14,915	-	-	68,453
Training on cooperative standards, internal audit and governance /k	Course	-	50	150	-	-	-	200	300	-	21,313	69,053	-	-	-	90,366
Mentoring support to cooperatives /l	person month	-	20	40	40	20	-	120	1,750	-	49,730	107,416	116,009	62,645	-	335,800
Management fees for cooperative training and mentoring institution /m	Lump sum	-	-	-	-	-	-	-	-	-	14,208	27,621	16,573	8,949	-	67,352
Equipment and accounting and MIS software /n	Each	-	10	30	10	-	-	50	1,500	-	20,166	63,050	21,920	-	-	105,136
Subtotal										-	169,355	363,815	199,249	71,594	-	804,013
D. Insurance product development																
National TA: insurance product development/modification	person month	-	3	6	3	-	-	12	2,500	-	10,656	23,018	12,430	-	-	46,104
Asia region weather insurance study tour /o	Study_tour	-	1	-	1	-	-	2	30,000	-	42,625	-	49,718	-	-	92,344
Subtotal										-	53,282	23,018	62,148	-	-	138,447
E. Business and financial literacy training																
ToT for social mobilisers on rural financial services /p	Course	1	-	1	-	-	-	2	2,000	2,631	-	3,069	-	-	-	5,700
ToT for project Rural finance staff and social mobilisers on BLC /q	Course	1	-	1	-	-	-	2	8,000	10,525	-	12,276	-	-	-	22,801
ToT for farmer business and financial literacy training /r	Course	3	5	10	9	1	-	28	8,000	31,574	56,834	122,761	119,324	14,319	-	344,812
Training of women farmers in BLC /s	Course	120	200	400	280	-	-	1,000	1,500	236,808	426,254	920,710	696,056	-	-	2,279,828
Subtotal										281,538	483,088	1,058,816	815,380	14,319	-	2,653,142
Total										369,168	1,187,415	1,874,332	1,096,077	85,913	-	4,612,905

la The consultant would cover VC financing and cooperative and insurance product development

lb Thirty bank staff per training course

lc Two study tours with up to thirty participants

ld Twelve cooperatives, two person months per cooperative

le Fifty percent cooperative funded

lf Covering 12 MFIs/cooperatives and 20 persons per cooperative

lg 200 cooperatives

lh 30 participants per 3-day course. Two persons from each cooperative

li Three day courses for 30 participants. Two persons from each cooperative

lj Three day course for 30 participants. Two persons per cooperative

lk Three days on location

lm Four times per year. One mentor per district

ln Estimated at 10% of the delivery cost

lo Twenty persons per study tour

lp Fifty social mobilisers for 3 day course

lq 11 rural finance personnel and 50 social mobilisers

lr One BFF per group. 1000 facilitators in groups of 30

ls One thousand women's farmer groups

Nepal

Agriculture Sector Development Programme

Final programme design report

Appendix 9: Programme cost and financing

Table 4. Outcome 4: Agriculture services sustainably support innovation and value chain development

Unit	Quantities							Unit Cost (US\$)	Totals Including Contingencies (US\$)							Breakdown of Totals Incl. Cont. (US\$)				
	2018	2019	2020	2021	2022	2023	Total		2018	2019	2020	2021	2022	2023	Total	For. Exch.	Local (Excl. Taxes)	Duties & Taxes	Total	
I. Investment Costs																				
A. Participatory and pluralistic extension service development																				
1. Establish MADCs at Municipal level /a																				
Capacity assessment of Municipality technical capacity	Each	50	-	10	-	-	-	60	400	26,312	-	6,138	-	-	-	32,450	-	28,217	4,233	32,450
Orient stakeholders on MADC roles and responsibilities /b	workshop	13	-	2	-	-	-	15	2,000	30,513	-	5,095	-	-	-	35,608	19,801	11,162	4,645	35,608
Resource Municipal technical staff	Each	50	-	10	-	-	-	60	5,000	293,394	-	63,687	-	-	-	357,080	198,276	112,228	46,576	357,080
Capacity building for Municipal technical staff	Lump sum	-	-	-	-	-	-	-	-	197,340	213,127	230,177	82,864	89,493	96,652	909,654	-	791,003	118,650	909,654
MADC-CAESC support fund /c	Lump sum	-	50	60	60	60	60	290	3,000	-	213,127	276,213	298,310	322,175	347,949	1,457,773	-	1,267,629	190,144	1,457,773
Subtotal										547,559	426,254	581,310	381,174	411,668	444,601	2,792,565	218,077	2,210,240	364,248	2,792,565
2. Establish CAESCs at Ward level /d																				
CAESC establishment fund /e	Each	100	200	100	-	-	-	400	5,000	598,000	1,291,680	697,507	-	-	-	2,587,187	-	2,249,728	337,459	2,587,187
Orient stakeholders on CAESC roles and responsibilities /f	Each	30	70	20	-	-	-	120	300	10,562	25,665	7,642	-	-	-	43,870	24,069	14,079	5,722	43,870
Local adaptation plan of action (LAPA) /g	Each	50	50	50	50	50	-	250	600	38,728	40,331	42,033	43,841	45,761	-	210,694	112,743	70,470	27,482	210,694
Annual CAESC participatory planning	Each	100	300	400	400	400	400	2,000	100	11,736	36,665	50,949	53,140	55,468	57,945	265,903	139,260	91,960	34,683	265,903
Subtotal										659,026	1,394,342	798,132	96,981	101,230	57,945	3,107,654	276,072	2,426,236	405,346	3,107,654
3. Private sector engagement in agriculture extension services																				
Investment support to agro-vets /h	Each	-	5	15	5	-	-	25	3,000	-	19,375	62,776	22,599	-	-	104,750	-	91,087	13,663	104,750
Support for LRP's engaged by agro-vets /i	Lump sum	-	-	-	-	-	-	-	-	17,940	77,501	55,801	22,599	8,136	-	181,976	-	158,240	23,736	181,976
Training in enterprise plan preparation /j	Course	-	1	-	1	-	-	2	5,000	-	7,104	-	8,286	-	-	15,391	-	13,383	2,007	15,391
Training of agro-vets and up to 3 LRP's per agro-vet /k	Course	-	2	-	2	-	-	4	3,000	-	8,525	-	9,944	-	-	18,469	-	16,060	2,409	18,469
Subtotal										17,940	112,505	118,576	63,429	8,136	-	320,586	-	278,770	41,816	320,586
Helvetas support to extension development /l	Lump sum	-	-	-	-	-	-	-	-	600,000	800,000	800,000	600,000	200,000	-	3,000,000	-	3,000,000	-	3,000,000
Subtotal										1,824,525	2,733,101	2,298,018	1,141,583	721,033	502,546	9,220,806	494,149	7,915,247	811,409	9,220,806
B. Farmer engagement in value chain development																				
1. Government organisations																				
Programme orientation at provincial level	Course	1	-	-	-	-	-	1	5,000	6,578	-	-	-	-	-	6,578	-	5,720	858	6,578
Programme orientation at Municipality level /m	Course	8	-	2	-	-	-	10	3,000	31,574	-	9,207	-	-	-	40,781	-	35,462	5,319	40,781
Subtotal										38,152	-	9,207	-	-	-	47,359	-	41,182	6,177	47,359
2. Develop Farmer Institutions																				
International TA Support /n	person month	1	-	-	-	-	-	1	20,000	23,368	-	-	-	-	-	23,368	16,160	4,160	3,048	23,368
exposure study tour to region /o	Study_tour	1	2	-	-	-	-	3	20,000	26,312	56,834	-	-	-	-	83,146	-	72,301	10,845	83,146
Subtotal										49,680	56,834	-	-	-	-	106,514	16,160	76,461	13,893	106,514
3. NGO Orientation to market-led development																				
NGO coordinator orientation /p	workshop	1	-	-	-	-	-	1	5,000	6,578	-	-	-	-	-	6,578	-	5,720	858	6,578
Orientation of SMs on Assessment of groups and cooperatives /q	workshop	2	-	-	2	-	-	4	2,000	5,262	-	6,629	-	-	-	11,892	-	10,340	1,551	11,892
Orientation of SMs on social mobilisation /r	workshop	2	-	-	2	-	-	4	2,000	5,262	-	6,629	-	-	-	11,892	-	10,340	1,551	11,892
Orientation of SMs on value chain development /s	workshop	2	-	-	2	-	-	4	2,000	5,262	-	6,629	-	-	-	11,892	-	10,340	1,551	11,892
Orientation of SMs on business development /t	workshop	2	-	-	2	-	-	4	2,000	5,262	-	6,629	-	-	-	11,892	-	10,340	1,551	11,892
Subtotal										27,628	-	26,516	-	-	-	54,144	-	47,082	7,062	54,144
4. NGO Support to CAESCs and farmer associations /u																				
NGO Support Contracts	Contract	8	8	10	10	10	10	56	30,000	315,744	341,004	460,355	497,183	536,958	579,914	2,731,158	-	2,374,920	356,238	2,731,158
5. Strengthening Farmer organizations																				
Group leader training /v	Course	32	32	40	40	28	-	172	1,000	42,099	45,467	61,381	66,291	50,116	-	265,354	-	230,743	34,611	265,354
Group member training /w	Course	332	668	1,136	1,063	132	-	3,331	250	109,195	237,282	435,802	440,421	59,065	-	1,281,766	-	1,114,579	167,187	1,281,766
TA for the consolidation of groups into commodity cooperatives /x	Lump sum	-	36	47	55	-	-	138	1,000	-	51,151	72,122	91,150	-	-	214,423	-	186,455	27,968	214,423
Subtotal										151,294	333,899	569,305	597,863	109,181	-	1,761,543	-	1,531,776	229,766	1,761,543
6. Commodity cluster group/cooperative consolidation /y																				
Community discussions on group/cooperative consolidation /z	Each	5	10	10	10	-	-	35	5,000	30,806	64,164	66,871	69,746	-	-	231,587	124,823	76,557	30,207	231,587
Group/cooperative consolidation planning /aa	Lump sum	-	-	-	-	-	-	-	-	-	6,781	7,324	7,910	8,543	-	30,557	-	26,572	3,986	30,557
Consolidated group/cooperative support /bb	Each	-	5	10	10	10	10	45	8,000	-	54,251	117,181	126,556	136,680	147,615	582,282	-	506,332	75,950	582,282
Subtotal										30,806	125,195	191,376	204,212	145,223	147,615	844,427	124,823	609,461	110,143	844,427
Subtotal										613,304	856,932	1,230,243	1,325,774	791,362	727,529	5,545,144	140,983	4,680,882	723,280	5,545,144

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 9: Programme cost and financing

Table 4. Outcome 4: Agriculture services sustainably support innovation and value chain development (continued)

C. Women's empowerment and household nutrition																
1. Technical assistance																
International TA for Household Methodology	person month	3	3	3	-	-	-	9	10,000	35,052	36,184	37,372	-	-	-	108,608
national TA for Household methodology approach	person month	3	3	3	3	3	-	15	2,500	9,867	10,656	11,509	12,430	13,424	-	57,886
Subtotal										44,919	46,840	48,881	12,430	13,424	-	166,494
2. Gender equality																
Training/refresher courses for Programme staff /cc	Course	2	2	2	2	2	-	10	3,000	7,894	8,525	9,207	9,944	10,739	-	46,309
Drudger reduction technology assessment /dd	person month	2.5	-	-	-	-	-	2.5	2,500	8,223	-	-	-	-	-	8,223
Drudger reduction technology procurement	Lump sum									51,637	-	-	-	-	-	51,637
Drudger reduction toolkits for farmer groups	Each	40	60	100	100	100	-	400	500	25,819	40,331	70,055	73,068	76,269	-	285,542
GESI strategy revision and launch	person month	3	-	-	-	-	-	3	2,500	9,867	-	-	-	-	-	9,867
International TA support to GESI strategy revision	person month	1	-	-	-	-	-	1	10,000	11,684	-	-	-	-	-	11,684
Gender analysis toolkit	Each	1	1	1	1	1	-	5	1,000	1,291	1,344	1,401	1,461	1,525	-	7,023
Subtotal										116,414	50,201	80,663	84,473	88,534	-	420,284
3. Household methodology approach																
Training of village volunteers at two per Ward	Each	80	80	80	-	-	-	240	100	10,525	11,367	12,276	-	-	-	34,168
Field implementation: logistics, materials, etc /ee	No.	1,000	2,000	2,000	-	-	-	5,000	38.27	49,404	102,899	107,241	-	-	-	259,545
monitoring and supervision including documentation costs	Each	1	1	1	-	-	-	3	3,000	3,873	4,033	4,203	-	-	-	12,109
Subtotal										63,802	118,299	123,721	-	-	-	305,822
4. Nutrition																
No junk food campaign /ff	Ward	50	100	100	100	-	-	350	100	6,578	14,208	15,345	16,573	-	-	52,704
Nutrition training for project staff at all levels	Each	2	2	2	-	2	-	8	2,000	5,262	5,683	6,138	-	7,159	-	24,243
training/refresher course for social mobilisers	Each	2	2	2	2	2	-	10	1,000	2,631	2,842	3,069	3,315	3,580	-	15,436
Nutrition education and communication materials /gg	Lump sum									11,736	-	-	-	-	-	11,736
Support to government departments /hh	Lump sum									7,746	8,066	8,407	8,768	9,152	9,561	51,700
operation costs for farmer nutrition schools	Each	40	40	80	80	40	-	280	212,015	11,157	12,050	26,027	28,109	15,179	-	92,522
Field visits for Municipal health and sewerage and water supply departments	Each	4	4	4	4	4	-	20	5,399.57	27,882	29,036	30,261	31,563	32,946	-	151,688
Subtotal										72,992	71,886	89,248	88,328	68,016	9,561	400,300
Subtotal										298,127	287,226	342,513	185,230	169,974	9,561	1,290,629
Total										2,735,956	3,877,259	3,870,774	2,652,586	1,682,369	1,239,635	16,058,579

- la Sixty MADCs.
lb One per small district and, possibly two per large district.
lc For allocation by MADCs to support ward level CAESCs linkages and demand-driven processes.
ld It is provisionally estimated that the project would support on average 8 CAESCs in each of 50 Municipalities
le Based on a viable work plan. For minor equipment and supplies and provision of pluralistic extension services
lf One workshop per three adjoining wards
lg LAPAs, where they have not yet already been prepared, will form a part of the CAESC participatory planning process
lh Thirty percent business support grant based on business plan and tripartite (agro-vet/LRP/farmer) contract
li Declining performance based programme at 50%, 30%, 10%, 0% based on business plan and tripartite contract.
lj 50 VAWs/VAHWs/JTAs in entrepreneurship motivation as potential agro-vets: 25 person per 7 day course
lk 100 participants in batches of 25: Five day training in specific value chain technologies
ll Funded by the Swiss development Corporation
lm Chairperson, Vice-chairperson, Administration officer and Agriculture Officer: groups of 25-30 participants per course
ln To support the development of strategy and materials
lo Three tours, each for 20 persons
lp Six day event for training on programme components and modalities
lq Two day course for 25 staff every 2 years
lr Two day course for 25 staff every 2 years
ls Two day course for 25 staff every 2 years
lt Two day course for 25 staff every 2 years
lu One NGO per district with one coordinator, 5 social mobilisers and 20% overheads
lv Group leaders at each commodity cluster: 4 events x 2 days
lw Group members at each farmer group: 2 courses x 2 days
lx NPR100,000 per cooperative of 150 to 200 members
ly The project would support the consolidation of farmer groups and cooperatives across one or more cluster areas to build farmer bargaining power and support services
lz Facilitated by PCO staff and NGO social mobilisers
laa National cooperative specialists would facilitate group/cooperative consolidation
lbb Small grants to facilitate the establishment, training and equipping of the new, consolidated groups/cooperatives
lcc For PCO staff including PCO service providers and for social mobilisers separately. refresher course will start from PY4
ldd National consultant
lee Households
lff 3 training events per year
lfg Procured from various ongoing nutrition projects in Nepal
lgh To assist relevant government departments to support ASDP nutrition activities

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 9: Programme cost and financing
Table 5. Programme Coordination Component

Unit	Quantities						Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)						Total
	2018	2019	2020	2021	2022	2023			2018	2019	2020	2021	2022	2023	
I. Investment Costs															
A. Programme management															
1. Office															
Office rehabilitation	Lump sum									23,782	-	-	-	-	23,782
2. Vehicles															
4x4 double cabin pick-up with canopy /a	Each	5	-	-	-	-	5	75,000	611,400	-	-	-	-	-	611,400
Motorcycles /b	Each	30	-	-	-	-	30	3,000	146,736	-	-	-	-	-	146,736
Subtotal									758,136	-	-	-	-	-	758,136
3. Office Equipment /c															
Office equipment /d	Lump sum								77,456	-	42,033	-	-	-	119,489
4. Planning and orientation															
Planning meetings /e	Lump sum								23,472	24,443	25,475	26,570	27,734	28,972	156,666
Start-up Workshops	Each	1	-	-	-	-	1	12,000	14,269	-	-	-	-	-	14,269
District DCC and Municipality orientation /f	Each	10	-	-	-	-	10	3,000	35,207	-	-	-	-	-	35,207
Other workshops	Lump sum								5,868	6,111	6,369	6,643	6,934	7,243	39,166
Joint review logistics	Lump sum								3,521	3,666	3,821	3,986	4,160	4,346	23,500
Subtotal									82,337	34,221	35,664	37,198	38,828	40,561	268,809
5. Technical Assistance /g															
International technical assistance	Lump sum	2	1	1	1	-	5	20,000	46,736	24,122	24,915	25,748	-	-	121,521
National technical assistance	Lump sum	2	2	1	1	1	7	2,500	6,578	7,104	3,836	4,143	4,475	-	26,136
Subtotal									53,314	31,227	28,751	29,891	4,475	-	147,658
6. Studies and training															
Short-term national training of MoAD/PCO staff	Lump sum								47,840	51,667	55,801	60,265	65,086	-	280,658
Short-term international training of MoAD/PCO staff	Lump sum								95,680	103,334	111,601	120,529	130,172	-	561,316
Subtotal									143,520	155,002	167,402	180,794	195,257	-	841,975
Subtotal									1,138,545	220,449	273,850	247,883	238,560	40,561	2,159,848
B. Monitoring and evaluation and knowledge management															
1. Monitoring and evaluation															
Review and upgrading of HVAP M&E system	person month	4	-	-	-	-	4	2,500	13,156	-	-	-	-	-	13,156
Upgrading MIS and tablet monitoring	Lump sum								39,468	-	-	-	-	-	39,468
Tablets for M&E field programme	Each	66	-	-	-	-	66	600	51,121	-	-	-	-	-	51,121
Communication strategy revision	Lump sum								13,156	-	-	-	-	-	13,156
Mid term and completion impact surveys /h	Lump sum								-	-	69,053	-	-	86,987	156,040
Communication materials and dissemination	Each	3	3	3	3	3	18	3,000	11,618	12,099	12,610	13,152	13,728	14,341	77,550
Annual outcome surveys /i	Lump sum								15,787	17,050	18,414	19,887	21,478	23,197	115,814
National stakeholder workshop on M&E and KM	Each	1	1	1	1	1	5	5,000	5,868	6,111	6,369	6,643	6,934	-	31,923
Municipal level workshop on M&E and KM /j	Each	8	8	9	10	10	45	1,000	9,389	9,777	11,464	13,285	13,867	-	57,782
Programme website	Lump sum								1,291	672	701	731	763	797	4,954
Subtotal									160,854	45,710	118,610	53,698	56,770	125,322	560,963
2. Knowledge management															
Preparation and publication of knowledge products	Lump sum								-	6,722	7,006	7,307	7,627	7,967	36,628
Subtotal									160,854	52,432	125,616	61,004	64,397	133,289	597,592
C. Governance															
Anti-corruption action plan	Each	1	-	-	-	-	1	10,000	13,156	-	-	-	-	-	13,156
Support for Government anti-corruption agenda	Lump sum								6,455	6,722	7,006	7,307	7,627	7,967	43,083
Subtotal									19,611	6,722	7,006	7,307	7,627	7,967	56,239
Total Investment Costs									1,319,009	279,602	406,472	316,194	310,584	181,818	2,813,679

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 9: Programme cost and financing

Table 5. Programme Coordination Component (continued)

II. Recurrent Costs																
A. Programme Coordination Office (PCO)																
Programme coordinator	person month	12	12	12	12	12	12	72	2,000	26,208	28,305	30,569	33,015	35,656	38,508	192,260
Senior agriculture officer	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Funds and contracts manager	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Account officer	person month	12	12	12	12	12	12	72	500	6,552	7,076	7,642	8,254	8,914	9,627	48,065
Assistant accountant	person month	12	12	12	12	12	12	72	500	6,552	7,076	7,642	8,254	8,914	9,627	48,065
PCO administrator	person month	12	12	12	12	12	12	72	500	6,552	7,076	7,642	8,254	8,914	9,627	48,065
PCO clerk	person month	12	12	12	12	12	12	72	400	5,242	5,661	6,114	6,603	7,131	7,702	38,452
Office assistant	person month	24	24	24	24	24	24	144	400	10,483	11,322	12,228	13,206	14,262	15,403	76,904
M&E and KM expert	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Planning officer (Govt.)	person month	12	12	12	12	12	12	72	800	10,483	11,322	12,228	13,206	14,262	15,403	76,904
Information technology and MIS expert	person month	12	12	12	12	12	12	72	1,000	13,104	14,152	15,285	16,507	17,828	19,254	96,130
Data management assistant	person month	24	24	24	24	24	24	144	400	10,483	11,322	12,228	13,206	14,262	15,403	76,904
Value chain coordinator (Technical services) /k	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Value chain coordinator (Business development) /l	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Climate change adaptation officer	person month	12	12	12	12	12	12	72	800	10,483	11,322	12,228	13,206	14,262	15,403	76,904
Civil engineer	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Rural finance programme manager	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Institutional development expert /m	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Gender and social inclusion expert	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Nutrition officer	person month	12	12	12	12	12	-	60	1,000	13,104	14,152	15,285	16,507	17,828	-	76,876
Household Methodology officer	person month	12	12	12	-	-	-	36	1,000	13,104	14,152	15,285	-	-	-	42,541
Drivers	person month	48	48	48	48	48	48	288	400	20,966	22,644	24,455	26,412	28,525	30,807	153,808
Programme liaison officer (Kathmandu)	person month	12	12	12	12	12	12	72	1,500	19,656	21,228	22,927	24,761	26,742	28,881	144,195
Programme liaison office assistant (Kathmandu) /n	person month	12	12	12	12	12	12	72	500	6,552	7,076	7,642	8,254	8,914	9,627	48,065
Office assistant	person month	12	12	12	12	12	12	72	250	3,276	3,538	3,821	4,127	4,457	4,814	24,033
Driver	person month	12	12	12	12	12	12	72	250	3,276	3,538	3,821	4,127	4,457	4,814	24,033
Subtotal										362,981	392,019	423,381	440,744	476,004	494,830	2,589,958
B. Project Coordination																
PSC meetings /o	Lump sum									5,946	6,351	6,788	7,259	7,766	8,312	42,422
Programme technical advisory committee /p	Lump sum									3,567	3,811	4,073	4,355	4,659	4,987	25,453
Subtotal										9,513	10,162	10,862	11,614	12,425	13,299	67,875
C. Travel and per diem /q																
Travel and per diem expenses	Lump sum									156,961	167,678	179,216	191,639	205,018	219,428	1,119,940
D. Operation and Maintenance																
Office rental	Lump sum									3,270	3,493	3,734	3,992	4,271	4,571	23,332
Office operating costs	Lump sum									26,160	20,960	22,402	23,955	25,627	27,428	146,533
Vehicle operation and maintenance	Each	6	6	6	6	6	6	36	15,000	117,721	125,759	134,412	143,729	153,763	164,571	839,955
PSC meetings in Programme area	Lump sum									3,924	4,192	4,480	4,791	5,125	5,486	27,998
Subtotal										151,075	154,404	165,028	176,468	188,787	202,056	1,037,818
Total Recurrent Costs										680,530	724,264	778,486	820,465	882,234	929,612	4,815,591
Total										1,999,539	1,003,866	1,184,958	1,136,659	1,192,818	1,111,430	7,629,270

^{la} To be fitted with off-road tyres and air snorkel

^{lb} For mobile based team, PCO and supporting NGOs

^{lc} Includes computers, laptops, servers, printers, photocopiers etc. as required

^{ld} For replacement of outdated and damaged HVAP equipment

^{le} Programme Steering Committee semester meetings

^{lf} Participants will include District DCC members and Municipality mayors and vice mayors

^{lg} Unspecified technical assistance to meet emerging Programme technical requirements

^{lh} Baseline will be established through the HVAP completion survey

^{li} Surveys will target outcome areas identified for evaluation by the PSC

^{lj} 3-5 municipalities per workshop

^{lk} To coordinate the development and delivery of technical services to value chain actors.

^{lv} To coordinate business relationships along project bvalue chains

^{lm} to work with Helvetas on Municipal institutional reform

^{ln} Computer operator

^{lo} PSC to meet each semester, alternatively in Kathmandu and in Province 6.

^{lp} TAG, led by Province 6, will meet annually and include federal and provincial technical expertise

^{lq} NPR 1,200,000 per year for Programme administration and technical staff

Appendix 10: Financial and Economic Analysis

EFA Summary Page

Table A – Household Incremental Income for Selected Value Chain Commodities

Project Year	Household Incremental Income Selected Commodities (NPR '000)					
	OSV Low Hills	Apple High Hills	Goats High Hills	Turmeric	Walnuts	Potato Mid Hills
PY1	-3	-20	22	-1	-6	3
PY2	-58	-11	-117	-32	-21	-48
PY3	38	29	25	10	-9	-33
PY4	60	65	32	23	-5	-20
PY5	91	58	57	36	-3	14
PY6	116	43	59	36	-3	51
PY7	181	86	95	36	-3	57
PY8	180	79	154	36	-3	63
PY9	173	63	176	36	42	69
PY10 +	256	107	181	2	47	76
NPV @ 10%^{\1}	100	81	61	65	28	36

^{\1} 10% discount rate equivalent to a one year retail bank deposit rate, e.g. www.nibl.com.np 26 April 2017.

Table B - Project Cost and Indicators for Log Frame

Total Project Total Costs (USD m): 68.23		Base costs: (USD m): 56.33	PCO 1
Beneficiaries^{\1}	People 131,250	Households 26,250	Groups: ~ 1,050
Cost per targeted beneficiary	390 USD x person	1,949 USD x HH	Participation rate: 75%
Components and Cost (USD M)		Selected Outcomes and Indicators	
Inclusive and sustainable agriculture value chains	18.11	Inclusive and sustainable agriculture value chains expanded and diversified	26,250 value chain-linked farm households double their household income
Market-oriented community infrastructure	15.43	Market-oriented community infrastructure established	60% of households in Programme area reporting improved physical access to markets, processing and storage facilities
Rural financial services	3.58	Rural financial services fund value chain development	150% Increase in number of households reporting using rural financial services (savings, credit, insurance, etc.)
Agricultural services	13.05	Agriculture services sustainably support innovation and value chain development	70% of households in Programme area reporting adoption of new / improved inputs, technologies or practices

^{\1} Direct beneficiaries - assumes 5 persons per household and 75% participation rate.

Table C – Financial Analysis Assumptions

Parameters				
Selected Outputs	Av. Yield ^{\1}	Price (NPR)	Selected Inputs	Price (NPR)
Apples – Grade A	10.8 t/ha	55 / kg	DAP	50 / kg
Ginger	16.0 t/ha	25 / kg	Urea	40 / kg
Turmeric - dried	2.6 t/ha	130 / kg	Potash	30 / kg
Walnut	4.0 t/ha	400 / kg	Lime	60 / kg
Milk	10 l/day	85 / kg	Hired Labour	1,000 / per-day

\1 Full development

Table D – Household, Beneficiaries and Phasing

	PY 1	PY 2	PY 3	PY 4	PY 5	PY 6
Total Households						
Incremental	3,500	7,000	11,900	11,200	1,400	-
Cumulative	3,500	10,500	22,400	33,600	35,000	35,000
Households participating ^{\1}						
Incremental	2,625	5,250	8,925	8,400	1,050	-
Cumulative	2,625	7,875	16,800	25,200	26,250	26,250
Beneficiaries participating ^{\2}						
Incremental	13,125	26,250	44,625	42,000	5,250	-
Cumulative	13,125	39,375	84,000	126,000	131,250	131,250

\1 Assuming 5 persons per household

\2 70% adoption rate

Table E – Economic Analysis Main Assumptions

Parameter	Value	Remarks
Official exch. rate	102	USD 1 = NRS (August 2017)
Standard conversion factor	0.91	As commonly applied in recent projects designs in Nepal. As appropriate all financial costs are converted into economic costs through the elimination of subsidies, duties and taxes.
Value added tax	13%	Included in project costs and eliminated as appropriate for conversion to economic costs.
Foreign exchange	Various	Varies across expenditure account, accounted for in the conversion to economic costs
Shadow wage rate factor (SWRF)	0.85	Applied to unskilled wage rates to reflect the relative abundance of unskilled labor, though in some locations at some periods of year this may undervalue unskilled labor due to the temporary migration of labor to other parts of Nepal or abroad.

Table F - Project Economic Cash Flow (NPR million)

Project Years (Selected)	Total incremental benefits	Total incremental econ costs	Net Benefits
PY 1	38	598	(560)
PY 2	155	1,435	(1,280)
PY 3	402	2,141	(1,739)
PY 4	838	2,505	(1,667)
PY 5	1,372	1,498	(126)
PY 6	2,047	1,468	579
PY 7	2,762	1,606	1,156
PY 8	3,529	1,700	1,829
PY 9	4,155	1,836	2,319
PY 10	4,698	2,002	2,697
PY 15	5,950	2,423	3,527
PY 20	5,946	2,406	3,540
PY 25	5,951	2,380	3,571

ENPV @ 10%	NPR million	9,752
ENPV @ 10%	USD million	95.610
EIRR	%	24.1%
BCR	ratio	1.57

Graph G –Incremental Benefit Cash Flow

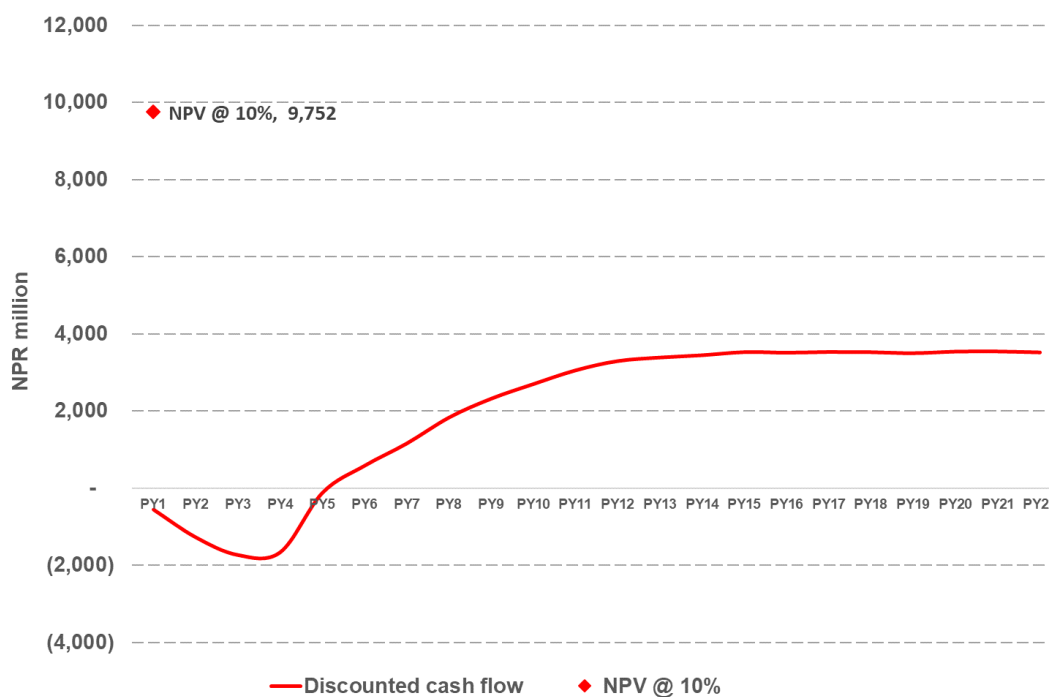
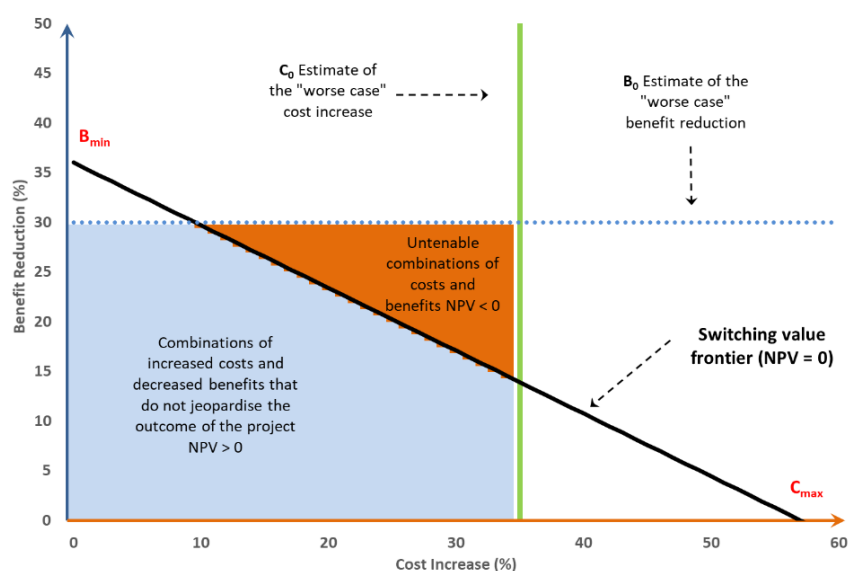


Table H - Sensitivity Analysis

Scenario			Link to Risk Matrix Issues	ENPV (NRP million)
Base Case				9,752
<i>Δ% to Base Case</i>				
Project Costs	Incr'l Benefits	Benefits delayed by		
+ 10%			Increase in the cost of inputs.	8,049
+ 20%				6,346
	- 20%		Reduced producer prices / demand. Infrastructure investments are not directed to areas of highest production potential. Technical coordination is not responsive to the grassroots level needs.	4,396
	- 40%			(960)
+ 10%	- 10%		Combinations of the above	5,371
+ 20%	- 20%			990
Base Case	Base Case	1 year	Ineffective inter-institutional cooperation & dialogue on development issues means financing is not disbursed in a timely manner to support field implementation.	7,318
		2 years		5,104
		3 years		3,092
Base case	- 20%	1 year	Insufficient cohesion within farmer groups affect their success potential Ineffective coordination between provinces, municipalities and agribusiness undermining implementation progress Financial service providers not interested to invest in Programme-targeted value chains Borrowers divert loans for other purpose	745
		2 years		(1,025)
		3 years		(2,635)
+ 20%	- 20%	2 years	Climate-change and disaster impacts. External shocks to macro economy.	(2,728)
Switching Values ¹¹				
Costs	57 % C max in Graph H			
Benefits	-36 % B min in Graph H			

¹¹ Percent change in cost and/or benefit streams to obtain an ENPV of USD 0, i.e., economic viability threshold.

Graph I –Switching Value Frontier¹⁶¹



¹⁶¹ As per IFAD (2015) Economic and Financial Analysis of Rural Investment Projects – Internal Guide

FINANCIAL ANALYSIS

A. Objective and methodology.

6. The objective of the financial analysis is to demonstrate viability of the project's proposed inventions at the enterprise and farming household levels. The methodology employed is to establish individual gross margin enterprise budgets for cropping and livestock activities to demonstrate the efficiency of investment through positive changes in net income following project implementation. These budgets provide the basic building blocks of the household farming business as expressed in farm budgets. Farm budgets are developed for each of the value chain commodities identified for the ASDP as well as for other farmed crops so as to develop a household perspective. A farm budget is therefore a function of the farm's cropping (and in some cases) livestock production pattern and the representative budgets for that household type. The farm budget also reflects the investments, the debt service, the on-farm use, household consumption and the labour availability. The financial and economic analysis is formulated on an incremental basis and as such compares the with project (WP) situation to the without project (WoP). In this way, the incremental net benefit is the basis of the appraisal.

7. This section presents the assumptions and the results of the individual enterprise budgets and farm budgets¹⁶². It is worthy to note that the farm budget analysis examines whole farm not just the value chain commodity in question¹⁶³. Conclusions can therefore be drawn at a household level as opposed to an enterprise level.

8. **Enterprise and activity production models.** A listing of the models developed for the analysis is shown in Table 10.1 below. Variants of some models are developed to account for altitude. Note the non-value chain "other models" required to develop an overall farm household perspective. The prices of the inputs to, and outputs from these models are provided the Annex 1 Table 1.

Table 10.1 - Production Models

Category	Enterprise / Activity	
Value chain cropping models	Apples	Ginger
	Oranges	Walnuts
	Turmeric	Timur
	Cole vegetables	Tomato
	Cucumber	Potato
Value chain livestock models	Goat meat	Milk
Other models ^{\1}	Wheat	Paddy
	Maize	
	Leguminous fodder (irrigated)	Nutritious grass (irrigated)
	Forest fodder	Collected fodder

These models are defined in the Farmod division Production Models

\1 These models combine with the VC commodity models to derive overall farm budgets.

9. The yield and input assumptions for the production models indicated above are provided in Annex 1 Tables 2 to 39.

¹⁶² This modelling is undertaken using the World Bank/FAO/IFAD's FARMOD software Version 4.02, running in Oracle VirtualBox Version 5.1.20.

¹⁶³ The subsequent economic analysis aggregates the farm budgets according to the adoption phasing, converts the values into economic terms and presents net incremental benefits from a project perspective.

B. Value Chain Production Models – Field and Orchard Commodities

10. **Apples.** Three apple models have been developed for this analysis each describing different components of apple production. The models are: current production orchards, current orchards in pre-production and new orchards that would be developed under ASDP. The model shown below (Table 10.2) is the current production scenario (others are included in the Annex 1 Tables 4 to 7). The current orchards are assumed to be producing A and B grade apples at yields of 3.8 and 11.2 tonnes per ha respectively. With the ASDP these yields are expected to increase to 10.8 tonnes per ha for the Grade A product and decline to 7.2 tonnes per hectare for the B Grade product. Net income before and after labour costs is projected to increase by 70 and 58 per cent respectively.

Table 10.2 - Apple production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹	% change
Yield – Apples A and B grade	kg	3,800	10,800	184%
Yield – Apples C and D grade	kg	11,200	7,200	-36%
Net income – before labour	NPR '000	423	717	70%
Net income – after labour	NPR '000	378	597	58%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Tables 2 to 7.

11. **Ginger.** The assumed yield and expected income are shown in Table 10.3 It is projected that the WP yield will increase by 100 per cent to 16 tonnes per hectare. Net income after labour costs is projected to increase from NPR 100,000 to NPR 290,000, an increase of 190 per cent. Production inputs and financial details are provided in Annex 1 Tables 8 and 9.

Table 10.3 - Ginger production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹	% change
Yield	kg	8,000	16,000	100%
Net income – before labour	NPR '000	180	430	139%
Net income – after labour	NPR '000	100	290	190%

¹ At full development – Without = Without project, With = With project
Further details in Annex 1 Table 9.

12. **Off-Season Vegetables – Cole crops.** The assumed yield and expected income of the cabbage / cauliflower modelling are shown in Table 10.4. It is projected that the WP yield will increase by 76 per cent to 30 tonnes per ha. Net income after labour costs are projected to increase from NPR 88,000 to NPR 393,000 an increase of 352 per cent. Production inputs and financial details are provided in Annex 1 Tables 14 and 15.

Table 10.4 - Off-season cole vegetable production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹	% change
Yield	Kg	17,000	30,000	76%
Net income – before labour	NPR '000	213	593	178%
Net income – after labour	NPR '000	88	398	353%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Table 14 and 15

13. **Off-Season Vegetables – Cucumber.** The assumed yield and expected income of the cucumber modelling are shown in Table 10.5. It is projected that the WP yield will increase by 76 per cent to 30 tonnes per ha. Net income after labour costs are projected to increase from NPR 59,000 to NPR 297,000.

Table 10.5 - Off-season cucumber production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹	% change
Yield	kg	17,000	30,000	76%
Net income – before labour	NPR '000	199	527	166%
Net income – after labour	NPR '000	59	297	408%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Table 16 and 17.

14. Off-season Vegetables – Tomato. The assumed yield and income results of the tomato modelling are shown in Table 10.4. It is projected that the With project yield will increase by 76 per cent to 30 tonnes per ha. Net income after labour costs are projected to increase from NPR 101,000 to NPR 458,000, an increase of 353 per cent.

Table 10.5 - Off-season tomato production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹	% change
Yield	kg	17,000	30,000	76%
Net income – before labour	NPR '000	256	675	164%
Net income – after labour	NPR '000	101	458	353%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Table 18 and 19.

15. Oranges. The assumed yield and income results of existing orchard modelling are shown in Table 10.6. It is projected that the WP yield will increase by 117 per cent to 19.5 tonnes per ha. Net income after labour costs are projected to increase from NPR 315,000 to NPR 664,000 and increase of 111 per cent.

Table 10.6 - Orange production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹	% change
Yield	kg	9,000	19,500	117%
Net income – before labour	NPR '000	425	919	116%
Net income – after labour	NPR '000	315	664	111%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Table 10 and 13.

16. Potatoes. The assumed yield and income results of potato modelling are shown in Table 10.7. It is projected that the WP yield will increase by 108 per cent to 25 tonnes per ha. Net income after labour costs are projected to increase from NPR 50,000 to NPR 380,000 per ha, an increase of 111 per cent.

Table 10.7 - Potato production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹	% change
Yield	kg	12,000	25,000	108%
Net income – before labour	NPR '000	200	495	148%
Net income – after labour	NPR '000	50	355	611%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Table 26 and 27

17. Timur. The assumed yield and income results of the existing timur modelling are shown in Table 10.8. It is projected that the WP existing per hectare yield will increase by 30 per cent to 1.3 tonnes per ha. With project net income after labour costs at full development are positive at NPR 311,000 per ha. New plantings are expected to yield 1.56 tonnes per hectare and return

Table 10.8 - Timur production model – yield and net income – per hectare

Parameter – Existing trees	Unit	Without	With ¹¹	% change
Yield	kg	1,000	1,300	30%
Net income – before labour	NPR '000	199	260	31%
Net income – after labour	NPR '000	39	311	567%

Parameter – New plantings	Unit	Without	With ¹¹	% change
Yield	kg	-	1,563	-
Net income – before labour	NPR '000	-	341	-
Net income – after labour	NPR '000	-	51	-

¹¹ At full development – Without = Without project, With = With project

Full details in Annex 1 Tables 20 to 23

18. **Turmeric.** The turmeric model assumes a change from the production of raw turmeric in the existing model (WoP) of 10 tonnes per ha to the production of dried turmeric in the new model (WP) at 2.6 tonnes per ha. These yield assumptions and resulting net income results modelling are shown in Table 10.9. It is projected that the net income after labour costs will increase from NPR 150,000 to NPR 240,000 at full development an increase of 60 per cent.

Table 10.9 - Turmeric production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹¹	% change
Yield – raw turmeric	kg	10,000	-	-
Yield – dried turmeric	kg	-	2,600	-
Net income – before labour	NPR '000	220	340	54%
Net income – after labour	NPR '000	150	240	60%

¹¹ At full development – Without = Without project, With = With project

Full details in Annex 1 Tables 24 - 25

19. **Walnut.** The assumed yield and income results of the existing walnut modelling are shown in Table 10.10. With better management, it is projected that the WP yield will increase by 400 per cent to 4 tonnes per ha. Net income after labour costs are projected to increase from NPR 267,000 to NPR 1,456,000 per ha, an increase of over 400 per cent.

Table 10.10 - Walnut production model – yield and net income – per hectare

Parameter	Unit	Without	With ¹¹	% change
Yield	kg	800	1,300	63%
Net income – before labour	NPR '000	295	468	425%
Net income – after labour	NPR '000	267	376	445%

¹¹ At full development – Without = Without project, With = With project

Full details in Annex 1 Tables 28 to 30.

C. Value Chain Production Models – Livestock

20. **Goat meat production.** Two goat meat production models have been developed. The first representing a low hills scenario appropriate for Surkhet, Salyan, Rukum, Dailekh and Jajarkot. The second model represents a high hills scenario, appropriate for Jumla, Kalikot, Mugu, Humla and Dolpa. The details of the herd projection models for both scenarios are shown in Annex 1 Tables 31 (Low Hills) and 34 (High Hills). An initial herd assumption combined with the representative production parameters generates a stock growth model. This model is used to define the annual projected: (i) herd composition; (ii) the sale weights; and, (iii) the feed requirements¹⁶⁴.

21. **Low Hills goat production model.** The stock growth model is initiated with a household herd of 4 females, 2 bucks and 6 kids (0 to 1 years old). By the tenth year of the project the herd is projected

¹⁶⁴ These are all input parameters for the goat production FARMOD production activity modelling.

to compose 30 females, zero bucks¹⁶⁵ and 49 kids. The projected annual sale weights and corresponding net income results are show in Table 10.11. The sale weights are projected to rise from the WoP circumstances of 130 kg LW per household per annum to 984 kg LW per household per annum in the WP scenario. Net income before and after labour indicates significant increases.

Table 10.11 - Goat enterprise activity model – Low Hills - yield and net income

Parameter	Unit	Without	With ¹	% change
Yield – Live sale weights	kg liveweight	130	984	657%
Net income – before labour	NPR '000	29	114	299%
Net income – after labour	NPR '000	17	48	182%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Tables 32 and 33.

22. High Hills goat production model. In the case of the High Hills scenario the stock growth model is initiated with a household herd of 15 females, 2 bucks and 10 kids. By the tenth year of the project the herd is projected to compose 51 females, zero bucks and 70 kids. The projected annual sale weights and corresponding net income results are show in Table 10.12. The sale weights are projected to rise from the WoP circumstances of 260 kg LW per household per annum to 1,747 kg LW per household per annum in the WP scenario. Net income before and after labour again indicates significant increases greater than 200% at full development.

Table 10.12 - Goat enterprise activity model – High Hills - yield and net income

Parameter	Unit	Without	With ¹	% change
Yield – Live sale weights	kg liveweight	261	1,747	573%
Net income – before labour	NPR '000	52	261	402%
Net income – after labour	NPR '000	40	195	386%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Tables 35 and 36.

23. Milk production. The milking activity stock growth model is initiated with a household herd of 2 breeding females, 1 bull and 2 calves. By the tenth year of the project the herd is projected to compose 7 breeding females, zero bulls and 5 calves. The detailed herd projection model is provided in Annex 1 Table 37. The projected annual milk sale and corresponding net income results are show in Table 10.13. The milk sales are projected to rise from the WoP estimate of 3,514 litres per household per annum to 18,270 litres per household per annum in the WP scenario at full development. Net income before and after labour again indicates significant increases greater than 400% at full development.

Table 10.13 Milk enterprise activity model – yield and net income

Parameter	Unit	Without	With ¹	% change
Yield – milk sales	litres	3,514	18,270	420%
Net income – before labour	NPR '000	176	946	438%
Net income – after labour	NPR '000	134	832	521%

¹ At full development – Without = Without project, With = With project
Full details in Annex 1 Tables 38 and 39.

24. Each of the models presented above indicates a sound basis for investment with improvements in net income at the enterprise/activity budget level. The construction of the representative household models for each of the VC commodities involves:

- Formulating a representative household farm according to a typical cropping pattern. Each VC farm will then consist of the VC commodity plus other typical crops for such a household.

¹⁶⁵ The purchase of cross-breed bucks by the group substitutes for the local bucks.

These crops are: maize, wheat and paddy rice. In addition, for the livestock related models, irrigated forage legume and nutritious grasses are also included. Typical cropping patterns and household sizes are presented below in Table 10.14

- Once representative VC households have been formulated the next step is to add the related investment costs and credit terms. For example, in the goat production model, goat housing and irrigation investment costs are included. Such costs maybe borne solely by an individual household or maybe that household's share of a group investment outlay.
- Finally, other fixed overheads are added to the farm model, an example of which would be annual irrigation or building maintenance.

25. Thus, the household models are constructed in a physical and financial sense. The related cashflows form the basis of the investment appraisal at farm level. The following sections present the cropping patterns and the required investments for the respective household types.

D. Value Chain Household Models – Cropping Pattern

26. The cropping pattern for each of the representative VC commodity households is shown in Table 10.14. In each case the main VC commodity is shown together with the other typical crops grown. Areas are specified in ropani and hectares. In most cases expansion of the VC crop in the WP scenario is undertaken on maize areas. The total farm size does not change between WoP and WP.

Table 10.14 - Value Chain Commodity Household Cropping Patterns

VC HH	Unit ¹	Crop					
Apple Low hills		Apples P²	Apples PP³	Apples New	Maize	Wheat / Paddy⁴	Total
	WoP ropani	1.50	1.50	-	4.00	3.00	10.0
	WP ropani	1.50	1.50	3.00	1.00	3.00	10.0
	WoP ha	0.08	0.08	-	0.20	0.15	0.5
	WP ha	0.08	0.08	0.15	0.05	0.15	0.5
Apple High hills		Apples P	Apples PP	Apples New	Maize	Wheat / Paddy	Total
	WoP ropani	1.50	1.50	-	7.00	-	10.0
	WP ropani	1.50	1.50	3.00	4.00	-	10.0
	WoP ha	0.08	0.08	-	0.35	-	0.5
	WP ha	0.08	0.08	0.15	0.20	-	0.5
Ginger Mid hills		Ginger	Maize	Wheat / Paddy			Total
	WoP ropani	3.00	6.00	3.00	-	-	12.0
	WP ropani	5.00	4.00	3.00	-	-	12.0
	WoP ha	0.15	0.30	0.15	-	-	0.6
	WP ha	0.25	0.20	0.15	-	-	0.6
OSV Mid hills		Cole	Tomato	Cucumber	Maize	Wheat / Paddy	Total
	WoP ropani	0.67	0.67	0.67	7.00	3.00	12.0
	WP ropani	1.33	1.33	1.33	5.00	3.00	12.0
	WoP ha	0.03	0.03	0.03	0.35	0.15	0.6
	WP ha	0.07	0.07	0.07	0.25	0.15	0.6

VC HH	Unit ¹	Crop					
OSV High hills		Cole	Tomato	Cucumber	Maize	Wheat / Paddy	Total
	WoP ropani	0.67	0.67	0.67	10.00	-	12.0
	WP ropani	1.33	1.33	1.33	8.00	-	12.0
	WoP ha	0.03	0.03	0.03	0.50	-	0.6
	WP ha	0.07	0.07	0.07	0.40	-	0.6
Turmeric Mid hills		Turmeric	Maize	Wheat / Paddy			Total
	WoP ropani	2.00	7.00	3.00	-	-	12.0
	WP ropani	4.00	5.00	3.00	-	-	12.0
	WoP ha	0.10	0.35	0.15	-	-	0.6
	WP ha	0.20	0.25	0.15	-	-	0.6
Timur Mid hills		Tumir	Maize	Wheat / Paddy			Total
	WoP ropani	1.00	11.00	-	-	-	12.0
	WP ropani	2.00	10.00	-	-	-	12.0
	WoP ha	0.05	0.55	-	-	-	0.6
	WP ha	0.10	0.50	-	-	-	0.6
Potato Mid hills		Potato	Maize	Wheat / Paddy			Total
	WoP ropani	3.00	6.00	3.00	-	-	12.0
	WP ropani	5.00	4.00	3.00	-	-	12.0
	WoP ha	0.15	0.30	0.15	-	-	0.6
	WP ha	0.25	0.20	0.15	-	-	0.6
Potato High hills		Potato	Maize	Wheat / Paddy			Total
	WoP ropani	3.00	7.00	-	-	-	10.0
	WP ropani	5.00	5.00	-	-	-	10.0
	WoP ha	0.15	0.35	-	-	-	0.50
	WP ha	0.25	0.25	-	-	-	0.50
Orange Mid hills		Orange	Maize	Wheat / Paddy	-	-	Total
	WoP ropani	2.00	7.00	3.00	-	-	12.0
	WP ropani	4.00	5.00	3.00	-	-	12.0
	WoP ha	0.10	0.35	0.15	-	-	0.60
	WP ha	0.20	0.25	0.15	-	-	0.60

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis

VC HH	Unit¹	Crop						
Walnut High hills		Walnuts	Maize	-	-	-	Total	
	WoP ropani	1.00	9.00	-	-	-	10.0	
	WP ropani	2.00	8.00	-	-	-	10.0	
	WoP ha	0.05	0.45	-	-	-	0.50	
	WP ha	0.10	0.40	-	-	-	0.50	
Goats Mid hills		Fodder legume	Fodder grass	Maize	Wheat / Paddy		Total	
	Yr 1	WoP ropani	-	-	9.00	3.00	-	12.0
		WP ropani	0.75	0.75	7.50	3.00	-	12.0
		WoP ha	-	-	0.45	0.15	-	0.6
		WP ha	0.04	0.04	0.38	0.15	-	0.6
	Yr 10	WoP ropani	-	-	9.00	3.00	-	12.0
		WP ropani	3.75	3.75	1.50	3.00	-	12.0
		WoP ha	-	-	0.45	0.15	-	0.6
WP ha		0.19	0.19	0.08	0.15	-	0.6	
Milk Mid hills		Fodder legume	Fodder grass	Maize	Wheat / Paddy		Total	
	WoP ropani	-	-	9.00	3.00	-	12.0	
	WP ropani	1.00	1.00	7.00	3.00	-	12.0	
	WoP ha	-	-	0.45	0.15	-	0.6	
	WP ha	0.05	0.05	0.35	0.15	-	0.6	

\1 1 hectare = 20 ropani WP = Without project, WP = With project

\2 Apples P – apples currently in production

\3 Apples PP – apples planted but yet to produce

\4 Wheat and paddy are rotated each year.

E. Value Chain Household Models – Typical investments

27. The typical investments at either the group or individual household level are shown in Table 10.15. The grant proportion of the investment amount is assumed 85 per cent for a group related activity (e.g. irrigation) and 50 per cent for an individual investment activity (e.g. animal housing). The non-grant portion of the investment is assumed to be borrowed.¹⁶⁶

28. Financing for loans less than NPR 100,000 is assumed through a local microfinance institution at 18% interest over one year. Loans greater than NPR 100,000 are repaid over two years.

Table 10.15 - Value Chain Commodity Typical Group and HH Investments

Value Chain	Investment Description	Investment (NPR)	Basis	Equivalent HH Inv (NPR)	Grant component (NPR)	Loan Component (NPR) ¹
Apples ¹²	Irrigation scheme	700,000	Group	23,333	19,833	3,500
	Grading machine	500,000	Group	16,667	14,167	2,500
Ginger ¹³	Irrigation scheme	500,000	Group	16,667	14,167	2,500
	Seed storage	200,000	Indiv	200,000	100,000	100,000
	Ginger drying unit	3,000,000	Group	100,000	85,000	15,000
Goat High ¹⁴	Mini tractors	300,000	Group	10,000	8,500	1,500
	Irrigation scheme	700,000	Group	23,333	19,833	3,500
	Goat housing	150,000	Indiv	150,000	75,000	75,000
	Dipping tank	60,000	Group	2,000	1,700	300
Goat Low ¹⁵	Breeding bucks	125,000	Group	4,167	3,542	625
	Irrigation scheme	500,000	Group	16,667	14,167	2,500
	Goat housing	100,000	Indiv	100,000	50,000	50,000
	Dipping tank	50,000	Group	1,667	1,417	250
Milk ¹⁵	Breeding bucks	100,000	Group	3,333	2,833	500
	Cow shed (7 cows)	350,000	Indiv	350,000	175,000	175,000
	Irrigation scheme	700,000	Group	23,333	19,833	3,500
OSV Mid ¹⁶	Irrigation scheme	3,000,000	Group	100,000	85,000	15,000
	Plastic tunnel house	1,350,000	Group	45,000	22,500	22,500
OSV Low ¹⁷	Irrigation scheme	3,000,000	Group	100,000	85,000	15,000
	Plastic tunnel house	1,050,000	Group	35,000	17,500	17,500
	Mini tractors	300,000	Group	10,000	8,500	1,500
Potato High ¹⁸	Irrigation scheme	700,000	Group	23,333	19,833	3,500
	Seed storage facility	300,000	Group	10,000	8,500	1,500
Potato Mid ¹⁹	Irrigation scheme	500,000	Group	16,667	14,167	2,500
	Seed storage facility	240,000	Group	8,000	6,800	1,200
	Mini tractor	300,000	Group	10,000	8,500	1,500
Timur ¹⁰	Harvesting equip	10,000	Indiv	10,000	5,000	5,000

¹⁶⁶ The procedure adopted to model this in Farmod is to: (a) set the borrowing terms in the Long Term Credit Division; and (b) include the investment items under the Area/Family Household Model / Investment Cost Division. In this instance the total household contribution has been entered for each item under the Investment Cost Division while the Percent financed parameter in the Long Term Credit Division for both the one and two year loan types have been set to 50%. This forces the model to finance the remaining 50% from household resources.

Value Chain	Investment Description	Investment (NPR)	Basis	Equivalent HH Inv (NPR)	Grant component (NPR)	Loan Component (NPR) ¹¹
	Drying tarpaulin	80,000	Indiv	80,000	40,000	40,000
Tumeric ¹¹¹	Irrigation scheme	500,000	Group	16,667	14,167	2,500
	Mini tractor	300,000	Group	10,000	8,500	1,500
	Drying tarpaulin	50,000	Indiv	50,000	25,000	25,000
Oranges	Irrigation scheme	500,000	Group	16,667	14,167	2,500
Walnuts	Irrigation scheme	700,000	Group	23,333	19,833	3,500

¹¹ Assumes grant 85% and 50% of investment for group and individual investments respectively. Loan financed through an MFI at 18% over 1 year, 2 years if investment > NPR 100,000.

¹² Jumla, Kalikot, Mugu, Humla, Dolpa

¹³ Surkhet, Salyan, Rukum

¹⁴ Jumla, Kalikot, Mugu, Humla, Dolpa

¹⁵ Surkhet, Salyan, Rukum, Dailekh, Jajarkot

¹⁶ Kalikot, Jajarkot, Rukum

¹⁷ Surkhet, Salyan, Dailekh

¹⁸ Jumla, Kalikot, Mugu, Humla and Dolpa

¹⁹ Surkhet, Salyan, Dailekh, Rukum & Jajarkot

¹¹⁰ Surkhet, Salyan, Jajarkot, Dailekh, Rukum & Kalikot

¹¹¹ Surkhet, Salyan, Jajarkot, Dailekh, Rukum

F. Value Chain Household Models – Seasonal Credit

29. The incremental annual operating costs in all models are assumed to be financed using seasonal credit via a local microfinance provider at 18 per cent interest with repayment in one year.

G. Value Chain Household Models - Investment Analysis Results

30. The outcome of the farm budget analysis for the value chain household models described above is shown in Table 10.16. The table indicates rates of return well above the hurdle rate of 10% being the proxy for the financial cost of capital¹⁶⁷. The rates of return clearly indicate the potential of the selected value chain commodities when assessed on a household basis.

¹⁶⁷ 10% discount rate equivalent to a one year retail bank deposit rate, e.g. www.nibl.com.np 26 April 2017.

Table 10.16 - Key Financial Parameters by Value Chain Commodity Household Types

VC Household Type	IRR %	NPV @ 10% (NPR '000) ¹	Returns per Family Day of Labour (NPR) ²	Returns per Family Day of Labour (USD) ²
Apple – Low Hills	73.7	562.24	2,926	29
Apple – High Hills	80.5	586.97	3,411	33
Ginger	50.5	309.09	1,304	13
OSV – Low Hills	54.9	358.49	1,270	12
OSV – Mid Hills	101.1	506.90	1,275	13
Orange – Mid Hills	86.8	566.79	2,288	22
Potato – Mid Hill	35.5	320.19	1,464	14
Potato – High Hills	35.2	325.45	1,592	16
Timur	23.1	109.50	1078	11
Turmeric	64.5	183.32	1,547	15
Walnuts – High Hills	28.2	179.21	2,397	24
Goat – Low Hills	100.1	1,026.94	1,978	19
Goat – High Hills	99.2	1,444.00	2,581	25
Milk – Mid Hills	78.0	3,332.78	3,535	35

Notes:

¹ IRR and NPV derived from Farmod's Farm Family Benefits After Financing cashflow see financial budgets Annex 2.

² Year 10 WP value.

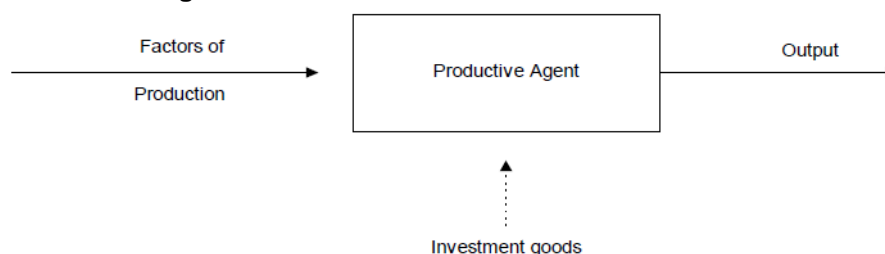
Supplementary Financial Analysis – Ginger Value Chain Case Study

31. The analysis presented above follows the conventional approach to agricultural investment appraisals. Given the development objective of the project is to *contribute to the achievement of Nepal's SDG 8 target through* sustainable improvement in the income and food security of smallholders and disadvantaged rural groups¹⁶⁸ involved in commercially-oriented production and marketing systems in selected high value agricultural value chains, it is appropriate to examine the financial viability from the producers' perspective. A financial analysis can also be undertaken "along" individual value chain commodities to identify the value added.

32. In simple terms a value chain can be broken down into individual agents that create value added through a production process. Figure 10.1 represents a productive agent as a box into which inputs flow and out of which comes a product or an output. Implicit in the notion of a "flow" is a period of time (in this context often referred to as the accounting period) which is usually taken to be a year. This allows us to divide the inputs of the production process into two groups:

- factors of production which are totally transformed or consumed during the accounting period, **intermediate inputs**;
- factors of production which are only partially used during the accounting period, where they provide inputs to the production process over a number of years before being fully depleted, **investments goods**.

Figure 10.1 - Productive Agent



Source: FAO (2005) Commodity Chain Analysis Financial Analysis EASYPol Module 44

33. If **II** is the value of intermediate inputs used and **Y** is the value of the output, then the difference, **Y-II**, represents the value which the agent has added during the accounting period to the value of the inputs in the process of production or processing. **Value added (VA)** is defined by the equation:

$$VA = Y - II$$

34. The new wealth created by a productive activity is not, therefore, measured by the gross value **Y** of the product, but by the value **Y** reduced by the wealth which had to be consumed in the production process. Value added measures the creation of wealth, the contribution of the production process to the growth of the economy. The tool to analysis the value added by a productive agent is a production and trading account that defines and combined both these functions¹⁶⁹. The remainder of this section applies this approach to the proposed ASDP ginger value chain. The approach illustrates how the production and trading accounts are composed and ultimately consolidated into an estimate of the VA.

35. The value along the chain is sum of the individual agents' value added. The table above concludes that the value added by the agents identified in Table 10.17 is NPR 27,000 per tonne of ginger. The farm modelling undertaken for the financial analysis described earlier estimates that at full development the ginger VC households will be producing an incremental 9,240 tonnes of ginger per annum. The value added in the proposed ginger chain is estimated as **NPR 246 million or USD 2.5 million per annum**.

¹⁶⁸ Dalits, Janajatis, Muslims, youth, landless, others

¹⁶⁹ Refer to FAO (2005) Commodity Chain Analysis Financial Analysis EASYPol Module 44 for further elaboration.

Table 10.17 - Ginger Value Chain Production and Trading Accounts

Producer			
Inputs	NPR '000/t	Outputs	NPR '000/t
Intermediate goods (II)		Sales (Y)	
Seed rhizomes ¹¹	10	Sales of ginger ¹⁴	25
Purchased labour ¹²	5		
Transport ¹³	2		
Sub-total II Producer	17		
Value Added Producer			
VA = Y minus II	8		
Total	25	Total	25
Trader			
Inputs	NPR '000/t	Outputs	NPR '000/t
Intermediate goods (II)		Sales (Y)	
Purchased ginger ¹⁵	25	Sales of ginger	28
Purchased labour ¹⁶	1		
Sub-total II Trader	26		
Value Added Trader			
VA = Y minus II	2		
Total	28	Total	28
Processor			
Inputs	NPR '000/t	Outputs	NPR '000/t
Intermediate goods (II)		Sales (Y)	
Inputs	28	Sales of dried ginger	56
Purchased labour	6		
Supplies and services	4		
Transport	2		
Sub-total II Processor	40		
Value Added Processor			
VA = Y minus II	17		
Total	56	Total	56
Summary			
VA Producer	8		
VA Trader	2		
VA Processor	17		
Total value added per tonne	27		

Notes:

¹¹ Generally 1 tonne ginger produced from 1 ropani of land. Seed rhizome requirement for 1 ropani is 200 kg. Price is NPR 50 per kg.

¹² 10-person days are required per ropani. Rate is NPR 500 per day.

¹³ Transportation cost to collection point is NPR 2 per kg.

¹⁴ Revenue 1 ha NPR 400,000, yield 1 ha 16 tonnes therefore revenue from the sale of 1 tonne = 400/16 or 25 NPR'000.

¹⁵ The sales of the producer are the input costs of the trader etc.

¹⁶ Handling of ginger at collection center @ NPR 1/kg.

ECONOMIC ANALYSIS

A. Objectives and Methodology

36. The objective of the economic analysis is to evaluate the expected contribution of the proposed project to the economic development of the project districts and economy at large. The purpose of such analysis is to determine whether the economic benefits sufficiently justify the use of the project resources. The analysis includes all incremental costs and incremental benefits that are quantifiable and associated with proposed ASDP investments. Non-quantified benefits are also described.

37. **Target population and participation.** The Programme would be implemented in Surkhet, Dailekh, Salyan, Jajarkot, Kalikot, Jumla, Mugu, Dolpa, Humla and (western) Rukum districts in Province 6 of Nepal. The later four districts are incremental to the HVAP area and would be integrated into the Programme in line with the development of road corridors 170 and the Mid-hills highway. The programme would commence immediately in the six existing HVAP districts and in Mugu and Rukum, with Dolpa and Humla being integrated in to the Programme as road access improves.

38. The programme would target smallholder producers and landless rural people interested to engage in targeted value chain activities. It is expected that the ASDP would serve around 35,000 direct beneficiaries (producers households and agri-industry entrepreneurs and employees) and around 40,000 indirect household beneficiaries (through public infrastructure, financial services and agricultural extension development). For the purposes of this analysis the 35,000 direct beneficiaries are assumed to be producer households. The breakdown for this target group by value chain and district is presented below.

39. **Approach.** The valuation of the incremental production at household level forms the basis of the benefit valuation analytical framework. Individual crop production and livestock enterprise models representing the likely value chain commodities are established together with the typical household staple crops. In the manner described in the financial analysis, crop and livestock enterprise models are combined to estimate incremental household production and cashflow. These representative households are then aggregated to establish a project level value of incremental production. This is then combined with incremental project costs to derive the key appraisal indicators¹⁷¹.

B. Cost Benefit Analysis

40. **Economic analysis – Main Assumptions.** The key parameters underpinning the economic analysis are presented below¹⁷².

Parameter	Value	Remarks
Official exchange rate	102	USD 1 = NRS (August 2017)
Shadow exchange rate	102	
Standard conversion factor	0.91	As commonly applied in recent projects designs in Nepal. As appropriate all financial costs are converted into economic costs through the elimination of subsidies, duties and taxes.
Value added tax	13%	Included in project costs and eliminated as appropriate for conversion to economic costs.
Shadow wage rate factor (SWRF)	85%	Applied to unskilled wage rates to reflect the relative abundance of unskilled labor, though in some locations at some times of year this may undervalue unskilled labor due to the temporary migration of labor to other parts of Nepal or abroad.

¹⁷⁰ Namely: (i) Chhinchu-Jajarkot–Dolpa; (ii) Surkhet-Kalikot-Jumla-Mugu; and (iii) Surkhet-Dailekh

¹⁷¹ The Subproject Division in Farmod is used to phase in the representative models through the Farm Distributions function.

¹⁷² The analysis employs the function available in both Costab and Farmod to generate economic costs and benefits respectively.

41. **Quantified Benefits – Incremental Production.** The quantified benefits assume a phased introduction of the beneficiary households. The assumed uptake in incremental and cumulative terms across the value chain types is shown in Table 10.19. The adoption rate assumed is 75%. This is justified due to the experiences of the HVAP and the common districts that the ASDP will share. Given this adoption rate the expected number of direct beneficiaries is reduced from the target of 35,000 to around 26,380. This reduction allows for both non-adoption and drop out over time. The composition of the household VC models is described above in the financial analysis. The project incremental benefits are derived through the aggregation of the individual household models phased into the analysis according to the distributions shown in Table 10.18.

42. The entry of each household into the project is represented in the cashflow by the incremental net benefit stream of the related household model.

43. **Note on Unquantified Benefits.** Unquantified benefits are expected to be realised for around 40,000 households through the establishment and/or improvement to public infrastructure¹⁷³ as well as the development of financial¹⁷⁴ and agricultural extension services¹⁷⁵.

44. Benefits from rural roads are foreseen to include: (i) changed patterns of production/increased areas; (ii) increased agricultural productivity; (iii) increased marketed output; (iv) increased producer prices; (v) reduced losses (on-farm before transport and during transport); (vi) Increased profits for vehicle operators; and (vii) social benefits through increased access to health and other social services, and information (refer to Annex 3 Table 1 for further details).

45. A cost benefit analysis of a typical scenario foreseen in the ASDP has been developed (refer to Annex 3 Table 2) to support the justification for rural roads. The model illustrates the costs and benefits of the construction of a gravel road 3 kilometers in length, connecting 2 villages to a district road. The costs are based on a rate of USD 100,000 per kilometer and an annual maintenance cost estimated at 2.5 per cent of the investment costs. Benefits are derived from the incremental quality and marketed volumes of ginger, off-season vegetables, potatoes and goat meat. These benefits are justified due to: (a) increased availability and reduced cost of inputs; (b) increased access to support services, including extension; (c) reduced transport time and accessibility throughout the year; (d) better year long access to markets due to improved accessibility; (e) reduced transport costs and losses during transport. The results of the analysis indicate the NPV > 0 at NPR 200 million and IRR > discount rate at 66 per cent. The conclusion from this analysis is that inclusion of rural road in the programme would likely lead to substantial incremental net benefits and is therefore a robust investment.

46. **Increment economic costs.** The costs are based on the full ASDP project costing with the elimination of the value of the beneficiaries' contributions¹⁷⁶. Other costs have been adjusted to economic terms and taxes, duties and price contingencies removed. Allowances have been made for the following ongoing recurrent expenditures: (i) participatory planning and capacity building at CAESCs (ward level)¹⁷⁷; (ii) capacity building AFECs (municipal level)¹⁷⁸; and, (iii) ongoing maintenance of public infrastructure¹⁷⁹.

¹⁷³ Outcome 2: Market-oriented community infrastructure - Output 2.1: Co-financed community market infrastructure

¹⁷⁴ Outcome 3: Rural financial services fund value chain development

¹⁷⁵ Outcome 4: Agriculture services sustainably support innovation and value chain development – Output 4.1 Participatory and pluralistic extension service development

¹⁷⁶ The value of the investments included in the household modelling are deducted from the project cost to avoid double counting.

¹⁷⁷ 400 CAESC @ USD 250 every third year

¹⁷⁸ 60 AFEC @ USD 500 every third year

¹⁷⁹ Assumed at 15% of ~ USD 6 million investment in public infrastructure.

Table 10.18 - Household Participation Assumptions

	PY 1	PY 2	PY 3	PY 4	PY 5	PY 6
Incremental households by VC type						
Apples Low Hills	79	180	450	394	158	-
Apples High Hills	79	180	450	394	158	-
Ginger	293	653	765	765	-	-
Goats Mid Hills	304	529	596	608	23	-
Goats High Hills	304	529	596	608	23	-
Mandarin	90	338	675	788	-	-
Milk	68	405	585	540	45	-
OSV Low Hills ¹	270	596	799	833	270	-
OSV High Hills	270	596	799	833	270	-
Potato Mid Hills	113	293	664	641	158	-
Potato High Hills	113	293	664	641	158	-
Timur	135	315	450	315	23	-
Tumeric	248	473	675	630	90	-
Walnut	-	135	428	450	90	-
Total						-
Cumulative households by VC type						
Apples Low Hills	79	259	709	1,103	1,261	1,261
Apples High Hills	79	259	709	1,103	1,261	1,261
Ginger	293	946	1,711	2,476	2,476	2,476
Goats Mid Hills	304	833	1,429	2,037	2,060	2,060
Goats High Hills	304	833	1,429	2,037	2,060	2,060
Mandarin	90	428	1,103	1,891	1,891	1,891
Milk	68	473	1,058	1,598	1,643	1,643
OSV Low Hills	270	866	1,665	2,498	2,768	2,768
OSV High Hills	270	866	1,665	2,498	2,768	2,768
Potato Mid Hills	113	406	1,070	1,711	1,869	1,869
Potato High Hills	113	406	1,070	1,711	1,869	1,869
Timur	135	450	900	1,215	1,238	1,238
Tumeric	248	721	1,396	2,026	2,116	2,116
Walnut	-	135	563	1,013	1,103	1,103
Total	2,366	7,881	16,477	24,917	26,383	26,383

¹ OSV – out of season vegetables

Source: Consultant's estimates.

C. Project economic viability

47. Three indicators have been used to assess the overall performance of the project. These are (i) the economic internal rate of return (EIRR); (ii) the economic net present value (ENPV) and the benefit cost ratio (BCR). These were estimated using cash flow of the incremental benefit and cost streams as outlined above. A summary of the discount economic cash flow is provided in Annex 3 Table 3. The overall ASDP project EIRR is 24.1 per cent. The estimated ENPV at a 10 per cent discount rate is NPR 9,752 million (USD 95.61 million). The BCR of 1.57 indicating a return of approximately 1.6 dollars for every dollar invested. These results indicate that the project investments yield a positive rate of return as the EIRR > the hurdle rate (10 per cent) and the ENPV > zero¹⁸⁰.

48. These returns described above are further supported by the additional non-quantified benefits derived from the establishment and/or improvement to public infrastructure as well as the

¹⁸⁰ A social discount rate of 10% is assumed consistent with recent WB practice.

development of financial and agricultural extension services across the broader communities. The investment in the project is therefore viable from an economic perspective.

49. The main identified risks that may affect the economic outcome of the Project area are shown in Table 10.19. A sensitivity analysis has been conducted to assess the potential impact of these risks resulting: in (a) reduced benefits; (b) increased costs; and/or (c) delayed benefits (see Table 10.20).

Table 10.19 - Overview of Main Project Risks affecting Project Economic Outcome

Risk category	Risk	Likelihood/ severity	Potential impact reflected in sensitivity analysis		
			Reduced benefits	Increased costs	Delayed benefits
Economy and Market Risks	External shocks to macro economy.	M/H	X	X	X
	Increase cost of inputs.	L/H		X	
	Reduced producer prices.	L/H	X		
	Reduced demand.	L/H	X		
Institutional	New provincial and municipal administrative systems take time to stabilize	M/H	X	X	X
	Insufficient cohesion within farmer groups affect their success potential	M	X		X
	Ineffective coordination between provinces, municipalities and agribusiness undermining implementation progress				
	Sustainable use of Programme-financed civil works and Inadequate capacity for community-based O&M.	M	X		X
	Elite capture/ disadvantaged groups able to participate effectively	L/M	X		X
Market	Lack of technical capacity to respond to the identified needs	M	X	X	X
	Lower market prices for commodities	M	X		X
	Financial service providers not interested to invest in Programme-targeted value chains Borrowers divert loans for other purpose	M	X		X
	Insufficient historic weather data limits spread and quality of insurance products Cooperatives not interested in amalgamation and increased business efficiency	M	X	X	X
Policy	Farmers not treated as clients by government agencies and agri-business				
	Climate change adaptation does not become underpin agricultural and rural development policies at municipal levels	M	X		X
	Poor municipal business environment does not provide incentive for agri-business investments				
Others	Natural calamities including flood and drought lower output of farm production	H	XX	X	XX
	Damages to civil works built caused by natural disasters, like floods and land sliding.	M	X		X

50. An increase in programme costs by 10 per cent will reduce the EIRR to 21.1 per cent, while a decrease in overall programme benefits by 20 per cent will result in an EIRR of 17.2 per cent. A one-year delay in benefits reduces the EIRR to 18.7 per cent and a two-year delay to 15.3 per cent. A combination of a reduction in benefits of 20 per cent and an increase in costs by 20 per cent reduces the EIRR to 11.2 per cent indicating the investment is remains viable in the face of adverse circumstances. The switching values show that the programme will remain economically viable if benefits decreased by 36 per cent, or programme costs increased by 57 per cent. Table 10.20 below provides an overview of the various scenarios of the sensitivity analysis and indicates the economic viability of the Project. Based on these results it is fair to conclude that the investment is justified.

Table 10.20 – Sensitivity Analysis

Scenario			Link to Risk Matrix Issues	ENPV (NPR million)
Base Case				
<i>Δ% to Base Case</i>				
Project Costs	Incr'l Benefits	Benefits delayed by		
+ 10%			Increase in the cost of inputs.	8,049
+ 20%				6,346
	- 20%		Reduced producer prices / demand. Infrastructure investments are not directed to areas of highest production potential. Technical coordination is not responsive to the grassroots level needs.	4,396
	- 40%			(960)
+ 10%	- 10%		Combinations of the above	5,371
+ 20%	- 20%			990
Base Case	Base Case	1 year	Ineffective inter-institutional cooperation & dialogue on development issues means financing is not disbursed in a timely manner to support field implementation.	7,318
		2 years		5,104
		3 years		3,092
Base case	- 20%	1 year	Insufficient cohesion within farmer groups affect their success potential Ineffective coordination between provinces, municipalities and agribusiness undermining implementation progress Financial service providers not interested to invest in Programme-targeted value chains Borrowers divert loans for other purpose	745
		2 years		(1,025)
		3 years		(2,635)
+ 20%	- 20%	2 years	Climate-change and disaster impacts. External shocks to macro economy.	(2,728)
Switching Values ¹				
Costs				57.2%
Benefits				(36.4%)

¹ Percent change in cost and/or benefit streams to obtain an ENPV of USD 0, i.e., economic viability threshold.

Annex 1 – Prices and Production Models

Annex 1 Table 1 Financial Prices	314
Annex 1 Table 2 Apple – Existing Orchard – Yields and Inputs	319
Annex 1 Table 3 Apple – Existing Orchard – Financial Budget	319
Annex 1 Table 4 Apple – Existing Pre-Production Orchard – Yields and Inputs	320
Annex 1 Table 5 Apple – Existing Pre-Production Orchard – Financial Budget	320
Annex 1 Table 6 Apple – New Orchard – Yields and Inputs	321
Annex 1 Table 7 Apple – New Orchard – Financial Budget	321
Annex 1 Table 8 Ginger – Yields and Inputs	322
Annex 1 Table 9 Ginger – Financial Budget	322
Annex 1 Table 10 Orange – Existing Orchard - Yields and Inputs	323
Annex 1 Table 11 Orange – Existing Orchard – Financial Budget	323
Annex 1 Table 12 Orange – New Orchard - Yields and Inputs	324
Annex 1 Table 13 Orange – New Orchard – Financial Budget	324
Annex 1 Table 14 Cole Vegetables - Yields and Inputs	325
Annex 1 Table 15 Cole Vegetables – Financial Budget	326
Annex 1 Table 16 Cucumber - Yields and Inputs	327
Annex 1 Table 17 Cucumber – Financial Budget	328
Annex 1 Table 18 Tomato - Yields and Inputs	329
Annex 1 Table 19 Tomato – Financial Budget	330
Annex 1 Table 20 Timur – Existing - Yields and Inputs	331
Annex 1 Table 21 Timur – Existing– Financial Budget	331
Annex 1 Table 22 Timur – New - Yields and Inputs	332
Annex 1 Table 23 Timur – New – Financial Budget	332
Annex 1 Table 24 Turmeric (Dried) – Yields and Inputs	333
Annex 1 Table 25 Turmeric (Dried) – Financial Budget	333
Annex 1 Table 26 Potato – Yields and Inputs	334
Annex 1 Table 27 Potato – Financial Budget	334
Annex 1 Table 28 Walnut – Existing - Yields and Inputs	335
Annex 1 Table 29 Walnut – Existing – Financial Budget	335
Annex 1 Table 30 Walnut – New - Yields and Inputs	336
Annex 1 Table 31 Goat – Low Hills – Herd Projection Model	337
Annex 1 Table 32 Goat – Low Hills – Yields and Inputs	338
Annex 1 Table 33 Goat – Low Hills – Financial Budget	339
Annex 1 Table 34 Goat – High Hills – Herd Projection Model	340
Annex 1 Table 35 Goat – High Hills – Yields and Inputs	341
Annex 1 Table 36 Goat – High Hills – Financial Budget	342
Annex 1 Table 37 Milk – Herd Projection Model	343
Annex 1 Table 38 Milk – Yields and Inputs	344
Annex 1 Table 39 Milk – Financial Budget	345

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 1 Financial Prices

(In NRP)

	Unit	2000-2024
Outputs		
Value chain crops		
Oranges - Existing	kg	50
Oranges - New	kg	55
Walnut - existing /a	kg	400
Walnut - new /b	kg	450
Tomato traditional	kg	20
Tomato improved	kg	20
Cole vegetables traditional	kg	15
Cole vegetables improved	kg	15
Cucumber traditional	kg	15
Cucumber improved	kg	15
Apples Grades A & B	kg	55
Apples Grades C & D	kg	20
Turmeric - raw /c	kg	20
Turmeric - dried	kg	100
Turmeric - seed	kg	20
Timur (current quality) /d	kg	200
Timur (improved quality) /e	kg	250
Ginger - existing	kg	25
Ginger - new	kg	30
Ginger - rhizomes /f	kg	50
Potato - traditional	kg	20
Potato - improved	kg	20
Potato - seed /g	kg	50
Cereal crops - Domestic /h		
Wheat /i	kg	25
Paddy	kg	20
Cereal crops - Livestock /j		
Maize /k	kg	20
Fodder crops		
Legume fodder /l	kg DM	20
Legume fodder /m	kg DM	25
Nutritious grass /n	kg DM	12
Nutritious grass /o	kg DM	20
Forest based fodder	kg DM	0.01
Collected fodder	kg DM	0.01
Crop residues		
Wheat straw /p	kg	10
Maize straw /q	kg	8
Paddy straw /r	kg	10
Livestock products		
Goat sales (liveweight) - existing	kg LW	350
Goat sales (liveweight) - new	kg LW	425
Milk sales /s	litre	60
Goat manure	kg	3
Cow manure	kg	2
Inputs		
Planting materials		
Seed nutritious grass - low hills /t	kg	150
Seed nutritious grass - high hills /u	kg	350
Seed legume fodder - high hills /v	kg	700
Seed legume fodder - low hills /w	kg	250
Seed forest forage	kg	1,000
Ginger rhizomes	kg	50
Tomato seed /x	packet	400
Turmeric rhizomes	kg	20

(In NRP)

	Unit	2000-2024
Cole vegetables /y	packet	400
Cucumber seed /z	packet	400
Apple seedling	each	100
Potato seed	kg	50
Improved wheat seed /aa	kg	50
Improved maize seed /bb	kg	30
Improved paddy seed /cc	kg	60
Walnut saplings	each	100
Orange saplings	kg	40
Fertilizer		
DAP /dd	kg	50
Urea /ee	kg	40
Potash /ff	kg	30
Farm yard manure	basket	50
NPK /gg	kg	22
Livestock operating costs		
Goat vaccines & treatments	head	250
Cattle vaccines & treatments	head	1,000
Feed supplement - goats /hh	each	300
Feed supplement - cattle /ii	each	3,000
Livestock feed requirement /jj	kg	20
Artificial insemination	service	1,000
Technical advisory services		
Lead resource person fee	day	800
Apple VC investment inputs /kk		
Irrigation scheme /ll	lump sum	23,333
Apple Grading Machine /mm	each	11,667
Ginger VC investment inputs		
Irrigation /nn	lump sum	16,667
HH rhizome storage facility /oo	each	200,000
Ginger drying unit	lump sum	100,000
Mini tractor /pp	lump sum	10,000
Goat investment inputs		
Irrigation scheme High Hills /qq	lump sum	23,333
Irrigation scheme Low Hills /rr	lump sum	16,667
Goat house - High hills /ss	lump sum	150,000
Goat house - Low hills /tt	lump sum	100,000
Dipping tank /uu	lump sum	1,667
Dipping tank /vv	lump sum	2,000
Breeding bucks /ww	lump sum	4,167
Breeding bucks /xx	lump sum	3,333
Milk investment inputs		
Milk collection centre /yy	lump sum	13,333
Animal housing /zz	lump sum	350,000
Milking machine /aaa	lump sum	7,500,000
Irrigation scheme /bbb	lump sum	23,333
OSV investment inputs		
Collection centre	lump sum	33,333
Collection centre	lump sum	26,667
Irrigation scheme /ccc	lump sum	100,000
Irrigation scheme /ddd	lump sum	100,000
Plastic tunnels /eee	lump sum	45,000
Plastic tunnels /fff	lump sum	35,000
Mini tractor /ggg	lump sum	10,000
Potato investment inputs - High Hills /hhh		
Irrigation scheme	lump sum	23,333
Seed storage /iii	lump sum	10,000
Collection Centre	lump sum	33,333

	Unit	2000-2024
Potato investment inputs - Mid Hills /jjj		
Irrigation scheme	lump sum	16,667
Seed storage /kkk	lump sum	8,000
Mini tractor /lll	lump sum	10,000
Collection entre	lump sum	26,667
Timur investment inputs /mmm		
Harvesting equipment /nnn	lump sum	10,000
Drying shade /ooo	lump sum	80,000
Turmeric investment inputs		
Irrigation scheme	lump sum	16,667
Mini tractor	lump sum	10,000
Dry shade	lump sum	50,000
Orange investment inputs		
Irrigation	lump sum	16,667
Walnut investment inputs		
Irrigation scheme	lump sum	23,333
Other		
Annual maintenance irrigation /ppp	lump sum	Value Basis
Annual maintenance cattle housing	lump sum	Value Basis
Annual maintenance goat housing	lump sum	Value Basis
Copper sulphate	kg	450
Lime	kg	60
Servo/Horticulture oil	kg	500
Blitox 50	kg	900
Micronutrient	kg	1,200
Staking materials	lump sum	Value Basis
Staking materials improved	lump sum	Value Basis
Plastic & Bamboo /qqq	lump sum	Value Basis
Agro-chemicals /or	lump sum	Value Basis
Silpauline /sss	each	1,000
Gloves	kg	1,000
Miscellaneous establishment costs	lump sum	Value Basis
Project costs		
ASDP Investment	lump sum	Value Basis
ASDP Recurrent	lump sum	Value Basis
Post ASDP CAESC recurrent /ttt	lump sum	Value Basis
Post ASDP AFEC recurrent /uuu	lump sum	Value Basis
Post ASDP Public infrastructure recurrent /vvv	lump sum	Value Basis
Labor		
Male family labor		
January male labor	man day	500
February male labor	man day	500
March male labor	man day	500
April male labor	man day	500
May male labor	man day	500
June male labor	man day	500
July male labor	man day	500
August male labor	man day	500
September male labor	man day	500
October male labor	man day	500
November male labor	man day	500
December male labor	man day	500
Female family labor		
January female labor	woman day	500
February female labor	woman day	500
March female labor	woman day	500
April female labor	woman day	500
May female labor	woman day	500
June female labor	woman day	500

(In NRP)

	Unit	2000-2024
July female labor	woman day	500
August female labor	woman day	500
September female labor	woman day	500
October female labor	woman day	500
November female labor	woman day	500
December female labor	woman day	500
Hired labour		
Hired labour - LRP /www	person day	1,000

\a Existing plantings

\b New plantings with the project.

\c Existing

\d Existing price

\e With ASDP interventions

\f Value of the ginger rhizomes retained for planting.

\g Practice of selling seed potatoes discontinued with the project as improved seed varieties are available.

\h Main production

\i Local varieties

\j Main production

\k Local varieties

\l Low hills eg Berseem / Leucena

\m High hills eg alfalfa, white clover

\n Low hills eg Mulato II

\o High hills eg ryegrass

\p Primarily poultry bedding.

\q Primarily for animal feed.

\r Value in the local market for animal feed and mushroom cultivation.

\s Average price.

\t E.g Mulato II (B. ruziziensis x B. decumbens x B. brizantha)

\u E.g Ryegrass (Lolium spp.)

\v E.g. White clover (Trifolium repens)

\w E.g. Berseem (Trifolium alexandrinum)

\x 5 grams

\y 10 grams - cabbage and cauliflower

\z 100 grams

\aa Available to both participating and non-participating HH.

\bb Available to both participating and non-participating HH.

\cc Available to both participating and non-participating HH.

\dd 18% N, 46% P

\ee 46% N

\ff 18% K

\gg 15:15:15 or similar.

\hh Locally sourced molasses/urea/mineral supplement.

\ii Locally sourced molasses/urea/mineral supplement.

\jj Maize equivalent. Based on ruminant net energy needs.

\kk Equivalent HH loan

\ll Household share of irrigation scheme.

\mm Household share of portable grading machine 2 tonnes per day.

\nn Household share of group irrigation scheme.

\oo Household owned asset.

\pp Group owned asset.

\qq Household share of group scheme.

\rr Household share of group scheme.

\ss Owned by household.

\tt Owned by household.

\uu Household share of group asset.

\vv Household share of group asset.

Unit	2000-2024
------	-----------

\ww Household share of group purchase.
\xx Household share of group purchase.
\yy Shared by 3 communities.
\zz Owned by household.
\aaa Owned by household.
\bbb Household's share of group scheme.
\ccc Kalikot, Jajarkot & Rukum
\ddd Surkhet, Salyan, Dailekh
\eee Kalikot, Jajarkot & Rukum
\fff Surkhet, Salyan & Dailekh
\ggg Surkhet, Salyan & Dailekh
\hhh Jumla, Kalikot, Mugu, Humla and Dolpa Districts
\iii Share of group storage facility
\jjj Surkhet, Salyan, Dailekh, Rukum & Jajarkot Districts
\kkk HH storage facility
\lll Surkhet, Salyan, Dailekh, Rukum & Jajarkot
\mmm Surkhet, Salyan, Jajarkot, Dailekh and Rukum Districts
\nnn Owned by individual household.
\ooo Silpauline shhets owned by individual household.
\ppp Household contribution to group scheme.
\qqq For bed covering
\rerr Pesticides, fungicides, micro-nutrients
\sss Tarpaulin for drying.
\ttt Participatory planning and capacity building at CAESCs (ward level).
\uuu Capacity building AFECs (municipal level).
\vvv Village link roads, trails and trail bridges, multi-purpose water supply, markets, collection centres.
\www Lead resource person

Annex 1 Table 2 Apple – Existing Orchard – Yields and Inputs

Agricultural Sector Development Project
Apple - Production Orchard Crop Model

YIELDS AND INPUTS

(Per ha) /a

Unit	Feb -- Nov							
	Existing Technology	New Technology			Increments			
	1 to 25	1	5	10 to 25	1	5	10 to 25	
Main Production								
Apples Grades A & B	kg	3,800	3,800	10,240	10,800	-	6,440	7,000
Apples Grades C & D	kg	11,200	11,200	7,520	7,200	-	-3,680	-4,000
Operating Inputs								
Copper sulphate	kg	-	-	7	7	-	7	7
Lime	kg	-	-	12	12	-	12	12
Servo/Horticulture oil	kg	-	-	1	1	-	1	1
Blitox 50	kg	-	-	0	0	-	0	0
Micronutrient	kg	-	-	1	1	-	1	1
Farm yard manure	basket	200	200	300	300	-	100	100
Labor								
Pruning & training	person day	-	20	20	20	20	20	20
Manuring	woman day	-	40	40	40	40	40	40
Harvesting	woman day	40	60	60	60	20	20	20
Transportation	woman day	50	80	80	80	30	30	30
Grading	man day	-	20	20	20	20	20	20

1a Existing fruiting apple orchard.

Annex 1 Table 3 Apple – Existing Orchard – Financial Budget

Agricultural Sector Development Project
Apple - Production Orchard Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha) /a

	Feb -- Nov							
	Existing Technology	New Technology			Increments			
	1 to 25	1	5	10 to 25	1	5	10 to 25	
Revenue								
Apples Grades A & B	209	209	563	594	-	354	385	
Apples Grades C & D	224	224	150	144	-	-74	-80	
Sub-total Revenue	433	433	714	738	-	281	305	
Input costs								
Copper sulphate	-	-	3	3	-	3	3	
Lime	-	-	1	1	-	1	1	
Servo/Horticulture oil	-	-	1	1	-	1	1	
Blitox 50	-	-	0	0	-	0	0	
Micronutrient	-	-	1	1	-	1	1	
Farm yard manure	10	10	15	15	-	5	5	
Sub-total Input costs	10	10	21	21	-	11	11	
Income (Before Labor Costs)	423	423	693	717	-	270	294	
Labor costs								
Pruning & training	-	20	20	20	20	20	20	
Manuring	-	20	20	20	20	20	20	
Harvesting	20	30	30	30	10	10	10	
Transportation	25	40	40	40	15	15	15	
Grading	-	10	10	10	10	10	10	
Sub-total Labor costs	45	120	120	120	75	75	75	
Income (After Labor Costs)	378	303	573	597	-75	195	219	

Income Before Labor: IRR = None, NPV = 1,940.54

Income After Labor: IRR = None, NPV = 1,259.76

1a Existing fruiting apple orchard.

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 4 Apple – Existing Pre-Production Orchard – Yields and Inputs

Agricultural Sector Development Project
Apple - Pre-Production Orchard Crop Mode
YIELDS AND INPUTS
(Per ha) /a

Unit	Feb -- Nov											
	Existing Technology			New Technology				Increments				
	1	5	10 to 25	1	5	10	25	1	5	10	25	
Main Production												
Apples Grades A & B	kg	-	2,827	3,800	-	3,022	10,553	10,800	-	195	6,753	7,000
Apples Grades C & D	kg	-	8,384	11,200	-	2,844	7,062	7,200	-	-5,540	-4,138	-4,000
Operating Inputs												
Copper sulphate	kg	-	-	-	7	7	7	7	7	7	7	7
Lime	kg	-	-	-	12	12	12	12	12	12	12	12
Servo/Horticulture oil	kg	-	-	-	1	1	1	1	1	1	1	1
Blitox 50	kg	-	-	-	0	0	0	0	0	0	0	0
Micronutrient	kg	-	-	-	1	1	1	1	1	1	1	1
Farm yard manure	basket	200	200	200	300	300	300	300	100	100	100	100
Labor												
Pruning & training	person day	-	-	-	20	20	20	20	20	20	20	20
Manuring	woman day	-	-	-	40	40	40	40	40	40	40	40
Harvesting	woman day	-	40	40	-	50	60	60	-	10	20	20
Transportation	woman day	50	50	50	80	80	80	80	30	30	30	30
Grading	man day	-	-	-	20	20	20	20	20	20	20	20

/a Previously planted apple trees coming into production

Annex 1 Table 5 Apple – Existing Pre-Production Orchard – Financial Budget

Agricultural Sector Development Project
Apple - Pre-Production Orchard Crop Mode
FINANCIAL BUDGET
(In NRP '000 Per ha) /a

	Feb -- Nov											
	Existing Technology			New Technology				Increments				
	1	5	10 to 25	1	5	10	25	1	5	10	25	
Revenue												
Apples Grades A & B	-	155	209	-	166	580	594	-	11	371	385	
Apples Grades C & D	-	168	224	-	57	141	144	-	-111	-83	-80	
Sub-total Revenue	-	323	433	-	223	722	738	-	-100	289	305	
Input costs												
Copper sulphate	-	-	-	3	3	3	3	3	3	3	3	
Lime	-	-	-	1	1	1	1	1	1	1	1	
Servo/Horticulture oil	-	-	-	1	1	1	1	1	1	1	1	
Blitox 50	-	-	-	0	0	0	0	0	0	0	0	
Micronutrient	-	-	-	1	1	1	1	1	1	1	1	
Farm yard manure	10	10	10	15	15	15	15	5	5	5	5	
Sub-total Input costs	10	10	10	21	21	21	21	11	11	11	11	
Income (Before Labor Costs)	-10	313	423	-21	202	701	717	-11	-111	278	294	
Labor costs												
Pruning & training	-	-	-	20	20	20	20	20	20	20	20	
Manuring	-	-	-	20	20	20	20	20	20	20	20	
Harvesting	-	20	20	-	25	30	30	-	5	10	10	
Transportation	25	25	25	40	40	40	40	15	15	15	15	
Grading	-	-	-	10	10	10	10	10	10	10	10	
Sub-total Labor costs	25	45	45	90	115	120	120	65	70	75	75	
Income (After Labor Costs)	-35	268	378	-111	87	581	597	-76	-181	203	219	

Income Before Labor: IRR = None, NPV = 934.01

Income After Labor: IRR = None, NPV = 291.79

/a Previously planted apple trees coming into production

Annex 1 Table 6 Apple – New Orchard – Yields and Inputs

Agricultural Sector Development Project
Apple - New Orchard Crop Model
YIELDS AND INPUTS
(Per ha) /a

Unit	Feb -- Nov														
	Existing Technology					New Technology					Increments				
	1 to 25	1	5	10	25	1	5	10	25	1	5	10	25		
Main Production															
Apples Grades A & B	kg	-	-	4,080	10,587	10,800	-	4,080	10,587	10,800	-	4,080	10,587	10,800	
Apples Grades C & D	kg	-	-	2,720	7,058	7,200	-	2,720	7,058	7,200	-	2,720	7,058	7,200	
Operating Inputs															
Copper sulphate	kg	-	7	7	7	7	7	7	7	7	7	7	7	7	
Lime	kg	-	12	12	12	12	12	12	12	12	12	12	12	12	
Servo/Horticulture oil	kg	-	1	1	1	1	1	1	1	1	1	1	1	1	
Blitox 50	kg	-	0	0	0	0	0	0	0	0	0	0	0	0	
Micronutrient	kg	-	1	1	1	1	1	1	1	1	1	1	1	1	
Farm yard manure	basket	-	300	300	300	300	300	300	300	300	300	300	300	300	
Labor															
Pruning & training	person day	-	20	20	20	20	20	20	20	20	20	20	20	20	
Manuring	woman day	-	-	19	36	8	-	19	36	8	-	19	36	8	
Harvesting	woman day	-	-	28	55	60	-	28	55	60	-	28	55	60	
Transportation	woman day	-	-	40	73	80	-	40	73	80	-	40	73	80	
Grading	man day	-	-	10	18	20	-	10	18	20	-	10	18	20	

^a New planting with ASDP.

Annex 1 Table 7 Apple – New Orchard – Financial Budget

Agricultural Sector Development Project
Apple - New Orchard Crop Model
FINANCIAL BUDGET
(In NRP '000 Per ha) /a

Unit	Feb -- Nov														
	Existing Technology					New Technology					Increments				
	1 to 25	1	5	10	25	1	5	10	25	1	5	10	25		
Revenue															
Apples Grades A & B	-	-	224	582	594	-	224	582	594	-	224	582	594		
Apples Grades C & D	-	-	54	141	144	-	54	141	144	-	54	141	144		
Sub-total Revenue	-	-	279	723	738	-	279	723	738	-	279	723	738		
Input costs															
Copper sulphate	-	3	3	3	3	3	3	3	3	3	3	3	3		
Lime	-	1	1	1	1	1	1	1	1	1	1	1	1		
Servo/Horticulture oil	-	1	1	1	1	1	1	1	1	1	1	1	1		
Blitox 50	-	0	0	0	0	0	0	0	0	0	0	0	0		
Micronutrient	-	1	1	1	1	1	1	1	1	1	1	1	1		
Farm yard manure	-	15	15	15	15	15	15	15	15	15	15	15	15		
Sub-total Input costs	-	21	21	21	21	21	21	21	21	21	21	21	21		
Income (Before Labor Costs)	-	-21	258	703	717	-21	258	703	717	-21	258	703	717		
Labor costs															
Pruning & training	-	20	20	20	20	20	20	20	20	20	20	20	20		
Manuring	-	-	9	18	4	-	9	18	4	-	9	18	4		
Harvesting	-	-	14	28	30	-	14	28	30	-	14	28	30		
Transportation	-	-	20	37	40	-	20	37	40	-	20	37	40		
Grading	-	-	5	9	10	-	5	9	10	-	5	9	10		
Sub-total Labor costs	-	20	68	111	104	20	68	111	104	20	68	111	104		
Income (After Labor Costs)	-	-41	190	591	613	-41	190	591	613	-41	190	591	613		

Income Before Labor: IRR = None, NPV = 3,856.35

Income After Labor: IRR = None, NPV = 3,153.03

^a New planting with ASDP.

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 8 Ginger – Yields and Inputs

Agricultural Sector Development Project

Ginger Crop Model

YIELDS AND INPUTS

(Per ha)

	Unit	Feb -- Nov				
		Existing		Increments		
		Technology	Technology	Technology	1	5 to 25
		1 to 25	1	5 to 25	1	5 to 25
Main Production						
Ginger - existing	kg	8,000	-	-	-8,000	-8,000
Ginger - new	kg	-	8,000	16,000	8,000	16,000
Ginger - rhizomes	kg	2,000	2,000	4,000	-	2,000
Operating						
Inputs						
Ginger rhizomes	kg	2,000	4,000	4,000	2,000	2,000
Farm yard manure	basket	400	600	1,000	200	600
Labor						
Land preparation	person day	20	20	20	-	-
Planting	woman day	20	20	20	-	-
Female	woman day	20	20	20	-	-
Weeding	woman day	-	20	20	20	20
Mother rhizome harvesting	woman day	-	40	40	40	40
Harvesting	man day	20	20	40	-	20
Cleaning & grading	woman day	20	20	40	-	20
Transportation	woman day	40	50	60	10	20

Annex 1 Table 9 Ginger – Financial Budget

Agricultural Sector Development Project

Ginger Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha)

	Feb -- Nov				
	Existing		Increments		
	Technology	Technology	Technology	1	5 to 25
	1 to 25	1	5 to 25	1	5 to 25
Revenue					
Ginger - existing	200	-	-	-200	-200
Ginger - new	-	240	480	240	480
Ginger - rhizomes	100	100	200	-	100
Sub-total Revenue	300	340	680	40	380
Input costs					
Ginger rhizomes	100	200	200	100	100
Farm yard manure	20	30	50	10	30
Sub-total Input costs	120	230	250	110	130
Income (Before Labor Costs)	180	110	430	-70	250
Labor costs					
Land preparation	20	20	20	-	-
Planting	10	10	10	-	-
Female	10	10	10	-	-
Weeding	-	10	10	10	10
Mother rhizome harvesting	-	20	20	20	20
Harvesting	10	10	20	-	10
Cleaning & grading	10	10	20	-	10
Transportation	20	25	30	5	10
Sub-total Labor costs	80	115	140	35	60
Income (After Labor Costs)	100	-5	290	-105	190

Income Before Labor: IRR = None, NPV = 1,665.39

Income After Labor: IRR = None, NPV = 1,153.83

Annex 1 Table 10 Orange – Existing Orchard - Yields and Inputs

Agricultural Sector Development Project

Orange Existing Crop Model

YIELDS AND INPUTS

(Per ha) /a

	Unit	Feb -- Nov						
		Existing Technology			New Technology			Increments
		1 to 25	1	5	10 to 25	1	5	10 to 25
Yields	kg	9,000	10,000	16,500	19,500	1,000	7,500	10,500
Operating Inputs								
Copper sulphate	kg	-	7	7	7	7	7	7
Lime	kg	-	12	12	12	12	12	12
Servo/Horticulture oil	kg	-	1	1	1	1	1	1
Blitox 50	kg	-	0	0	0	0	0	0
Micronutrient	kg	-	1	1	1	1	1	1
Farm yard manure	basket	500	1,000	1,000	1,000	500	500	500
Labor								
Pruning & training - LRP	person day	-	20	20	20	20	20	20
Manuring	woman day	40	80	80	80	40	40	40
Harvesting	woman day	90	135	195	195	45	105	105
Transport	woman day	90	135	195	195	45	105	105

\a Current plantings

Annex 1 Table 11 Orange – Existing Orchard – Financial Budget

Agricultural Sector Development Project

Orange Existing Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha) /a

	Feb -- Nov						
	Existing Technology			New Technology			Increments
	1 to 25	1	5	10 to 25	1	5	10 to 25
Revenue	450	500	825	975	50	375	525
Input costs							
Copper sulphate	-	3	3	3	3	3	3
Lime	-	1	1	1	1	1	1
Servo/Horticulture oil	-	1	1	1	1	1	1
Blitox 50	-	0	0	0	0	0	0
Micronutrient	-	1	1	1	1	1	1
Farm yard manure	25	50	50	50	25	25	25
Sub-total Input costs	25	56	56	56	31	31	31
Income (Before Labor Costs)	425	444	769	919	19	344	494
Labor costs							
Pruning & training - LRP	-	20	20	20	20	20	20
Manuring	20	40	40	40	20	20	20
Harvesting	45	68	98	98	23	53	53
Transport	45	68	98	98	23	53	53
Sub-total Labor costs	110	195	255	255	85	145	145
Income (After Labor Costs)	315	249	514	664	-66	199	349

Income Before Labor: IRR = None, NPV = 3,208.11

Income After Labor: IRR = None, NPV = 2,016.46

\a Current plantings

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 12 Orange – New Orchard - Yields and Inputs

Agricultural Sector Development Project
Orange New Crop Model

YIELDS AND INPUTS

(Per ha) /a

	Unit	Feb -- Nov						
		Existing Technology			New Technology			Increments
		1 to 25	1	5	10 to 25	1	5	10 to 25
Yields	kg	-	-	9,000	19,500	-	9,000	19,500
Operating Inputs								
Orange saplings	kg	-	300	-	-	300	-	-
Copper sulphate	kg	-	7	7	7	7	7	7
Lime	kg	-	12	12	12	12	12	12
Servo/Horticulture oil	kg	-	1	1	1	1	1	1
Blitox 50	kg	-	0	0	0	0	0	0
Micronutrient	kg	-	1	1	1	1	1	1
Farm yard manure	basket	-	1,000	1,000	1,000	1,000	1,000	1,000
Labor								
Land preparation	man day	-	140	-	-	140	-	-
Transplanting	woman day	-	20	-	-	20	-	-
Pruning & traing - LRP	person day	-	5	20	20	5	20	20
Manuring	woman day	-	80	80	80	80	80	80
Harvesting	woman day	-	-	90	195	-	90	195
Transport	woman day	-	-	90	195	-	90	195

1a New plantings with the project.

Annex 1 Table 13 Orange – New Orchard – Financial Budget

Agricultural Sector Development Project
Orange New Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha) /a

	Feb -- Nov						
	Existing Technology			New Technology			Increments
	1 to 25	1	5	10 to 25	1	5	10 to 25
Revenue	-	-	495	1,073	-	495	1,073
Input costs							
Orange saplings	-	12	-	-	12	-	-
Copper sulphate	-	3	3	3	3	3	3
Lime	-	1	1	1	1	1	1
Servo/Horticulture oil	-	1	1	1	1	1	1
Blitox 50	-	0	0	0	0	0	0
Micronutrient	-	1	1	1	1	1	1
Farm yard manure	-	50	50	50	50	50	50
Sub-total Input costs	-	68	56	56	68	56	56
Income (Before Labor Costs)	-	-68	439	1,017	-68	439	1,017
Labor costs							
Land preparation	-	70	-	-	70	-	-
Transplanting	-	10	-	-	10	-	-
Pruning & traing - LRP	-	5	20	20	5	20	20
Manuring	-	40	40	40	40	40	40
Harvesting	-	-	45	98	-	45	98
Transport	-	-	45	98	-	45	98
Sub-total Labor costs	-	125	150	255	125	150	255
Income (After Labor Costs)	-	-193	289	762	-193	289	762

Income Before Labor: IRR = None, NPV = 5,033.39

Income After Labor: IRR = None, NPV = 3,432.32

1a New plantings with the project.

Annex 1 Table 14 Cole Vegetables - Yields and Inputs

Agricultural Sector Development Project
Cole Vegetable Crop Model

YIELDS AND INPUTS

(Per ha) /a

Unit	Feb -- Nov							
	Existing	New Technology			Increments			
	Technology	1	5	10 to 25	1	5	10 to 25	
		1 to 25	1	5	10 to 25	1	5	10 to 25
Main Production								
Cole vegetables traditional	kg	17,000	-	-	-	-17,000	-17,000	-17,000
Cole vegetables improved	kg	-	20,000	28,000	30,000	20,000	28,000	30,000
Operating								
Inputs								
Cole vegetables	packet	20	20	20	20	-	-	-
Plastic & Bamboo	lump sum	-	5,000	10,000	10,000	5,000	10,000	10,000
DAP	kg	-	80	160	160	80	160	160
Urea	kg	100	150	200	200	50	100	100
Potash	kg	-	50	100	100	50	100	100
Farm yard manure	basket	400	500	1,000	1,000	100	600	600
Agro-chemicals	lump sum	10,000	30,000	40,000	40,000	20,000	30,000	30,000
Labor								
Nursery preparation	woman day	10	-	-	-	-10	-10	-10
Nursery preparation	woman day	-	20	20	20	20	20	20
Land preparation	man day	10	-	-	-	-10	-10	-10
Land preparation	man day	10	-	-	-	-10	-10	-10
Land preparation	man day	-	20	20	20	20	20	20
Manuring	woman day	40	-	-	-	-40	-40	-40
Manuring	woman day	-	100	100	100	100	100	100
Fertilizer application	woman day	10	-	-	-	-10	-10	-10
Fertilizer application	woman day	-	20	20	20	20	20	20
Pesticides & nutrient application	woman day	-	10	10	10	10	10	10
Pesticides & nutrient application	woman day	20	-	-	-	-20	-20	-20
Intercultural operations	woman day	10	-	-	-	-10	-10	-10
Intercultural operations	woman day	10	-	-	-	-10	-10	-10
Intercultural operations	woman day	-	30	30	30	30	30	30
Intercultural operations	woman day	-	30	30	30	30	30	30
Harvest	woman day	15	-	-	-	-15	-15	-15
Harvest	woman day	15	-	-	-	-15	-15	-15
Harvest	woman day	-	20	20	20	20	20	20
Harvest	woman day	-	20	20	20	20	20	20
Transportation	woman day	50	-	-	-	-50	-50	-50
Transportation	woman day	50	-	-	-	-50	-50	-50
Transportation	woman day	-	60	60	60	60	60	60
Transportation	woman day	-	60	60	60	60	60	60

\a Cabbage & cauliflower

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 15 Cole Vegetables – Financial Budget

Agricultural Sector Development Project

Cole Vegetable Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha) /a

	Feb -- Nov									
	Existing		New Technology				Increments			
	Technology	1 to 25	1	5	10	25	1	5	10	25
Revenue										
Cole vegetables traditional		255	-	-	-	-	-255	-255	-255	-255
Cole vegetables improved		-	300	532	720	750	300	532	720	750
Sub-total Revenue		255	300	532	720	750	45	277	465	495
Input costs										
Cole vegetables		8	8	8	8	8	-	-	-	-
Plastic & Bamboo		-	5	10	10	10	5	10	10	10
DAP		-	4	8	8	8	4	8	8	8
Urea		4	6	8	8	8	2	4	4	4
Potash		-	2	3	3	3	2	3	3	3
Farm yard manure		20	25	50	50	50	5	30	30	30
Agro-chemicals		10	30	40	40	40	20	30	30	30
Sub-total Input costs		42	80	127	127	127	38	85	85	85
Income (Before Labor Costs)		213	221	405	593	623	8	192	380	410
Labor costs										
Nursery preparation		5	-	-	-	-	-5	-5	-5	-5
Nursery preparation		-	10	10	10	10	10	10	10	10
Land preparation		5	-	-	-	-	-5	-5	-5	-5
Land preparation		5	-	-	-	-	-5	-5	-5	-5
Land preparation		-	10	10	10	10	10	10	10	10
Manuring		20	-	-	-	-	-20	-20	-20	-20
Manuring		-	50	50	50	50	50	50	50	50
Fertilizer application		5	-	-	-	-	-5	-5	-5	-5
Fertilizer application		-	10	10	10	10	10	10	10	10
Pesticides & nutrient application		-	5	5	5	5	5	5	5	5
Pesticides & nutrient application		10	-	-	-	-	-10	-10	-10	-10
Intercultural operations		5	-	-	-	-	-5	-5	-5	-5
Intercultural operations		5	-	-	-	-	-5	-5	-5	-5
Intercultural operations		-	15	15	15	15	15	15	15	15
Intercultural operations		-	15	15	15	15	15	15	15	15
Harvest		8	-	-	-	-	-8	-8	-8	-8
Harvest		8	-	-	-	-	-8	-8	-8	-8
Harvest		-	10	10	10	10	10	10	10	10
Harvest		-	10	10	10	10	10	10	10	10
Transportation		25	-	-	-	-	-25	-25	-25	-25
Transportation		25	-	-	-	-	-25	-25	-25	-25
Transportation		-	30	30	30	30	30	30	30	30
Transportation		-	30	30	30	30	30	30	30	30
Sub-total Labor costs		125	195	195	195	195	70	70	70	70
Income (After Labor Costs)		88	26	210	398	428	-63	122	310	340

Income Before Labor: IRR = None, NPV = 2,216.58

Income After Labor: IRR = None, NPV = 1,581.19

/a Cabbage & cauliflower

Annex 1 Table 16 Cucumber - Yields and Inputs

Agricultural Sector Development Project

Cucumber Crop Model

YIELDS AND INPUTS

(Per ha)

Unit	Feb -- Nov							
	Existing	New Technology			Increments			
	Technology	1	5	10 to 25	1	5	10 to 25	
Main Production								
Cucumber traditional	kg	17,000	-	-	-	-17,000	-17,000	-17,000
Cucumber improved	kg	-	20,000	28,000	30,000	20,000	28,000	30,000
Operating								
Inputs								
Cucumber seed	packet	20	20	20	20	-	-	-
Plastic & Bamboo	lump sum	1,500	4,000	10,000	10,000	2,500	8,500	8,500
DAP	kg	-	50	100	100	50	100	100
Urea	kg	50	120	140	140	70	90	90
Potash	kg	-	120	140	140	120	140	140
Farm yard manure	basket	200	300	1,000	1,000	100	800	800
Agro-chemicals	lump sum	20,000	30,000	50,000	50,000	10,000	30,000	30,000
Staking materials	lump sum	15,000	-	-	-	-15,000	-15,000	-15,000
Staking materials improved	lump sum	-	20,000	60,000	60,000	20,000	60,000	60,000
Labor								
Nursery preparation	woman day	10	-	-	-	-10	-10	-10
Nursery preparation	woman day	-	20	20	20	20	20	20
Land preparation	man day	10	-	-	-	-10	-10	-10
Land preparation	man day	-	20	20	20	20	20	20
Manuring	woman day	20	-	-	-	-20	-20	-20
Manuring	woman day	-	60	100	100	60	100	100
Fertilizer application	woman day	10	-	-	-	-10	-10	-10
Fertilizer application	woman day	-	30	40	40	30	40	40
Pesticides & nutrient application	woman day	-	30	40	40	30	40	40
Pesticides & nutrient application	woman day	10	-	-	-	-10	-10	-10
Staking	woman day	20	-	-	-	-20	-20	-20
Staking	woman day	-	30	40	40	30	40	40
Intercultural operations	woman day	10	-	-	-	-10	-10	-10
Intercultural operations	woman day	10	-	-	-	-10	-10	-10
Intercultural operations	woman day	-	20	20	20	20	20	20
Intercultural operations	woman day	-	20	20	20	20	20	20
Harvest	woman day	15	-	-	-	-15	-15	-15
Harvest	woman day	15	-	-	-	-15	-15	-15
Harvest	woman day	-	20	30	30	20	30	30
Harvest	woman day	-	20	30	30	20	30	30
Transportation	woman day	50	-	-	-	-50	-50	-50
Transportation	woman day	50	-	-	-	-50	-50	-50
Transportation	woman day	50	-	-	-	-50	-50	-50
Transportation	woman day	-	50	50	50	50	50	50
Transportation	woman day	-	50	50	50	50	50	50

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 17 Cucumber – Financial Budget

Agricultural Sector Development Project

Cucumber Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha)

	Feb -- Nov														
	Existing Technology					New Technology					Increments				
	1 to 25	1	5	10	25	1	5	10	25	1	5	10	25		
Revenue															
Cucumber traditional	255	-	-	-	-	-255	-255	-255	-255						
Cucumber improved	-	300	532	720	750	300	532	720	750						
Sub-total Revenue	255	300	532	720	750	45	277	465	495						
Input costs															
Cucumber seed	8	8	8	8	8	-	-	-	-						
Plastic & Bamboo	2	4	10	10	10	3	9	9	9						
DAP	-	3	5	5	5	3	5	5	5						
Urea	2	5	6	6	6	3	4	4	4						
Potash	-	4	4	4	4	4	4	4	4						
Farm yard manure	10	15	50	50	50	5	40	40	40						
Agro-chemicals	20	30	50	50	50	10	30	30	30						
Staking materials	15	-	-	-	-	-15	-15	-15	-15						
Staking materials improved	-	20	60	60	60	20	60	60	60						
Sub-total Input costs	57	88	193	193	193	31	136	136	136						
Income (Before Labor Costs)	199	212	339	527	557	14	141	329	359						
Labor costs															
Nursery preparation	5	-	-	-	-	-5	-5	-5	-5						
Nursery preparation	-	10	10	10	10	10	10	10	10						
Land preparation	5	-	-	-	-	-5	-5	-5	-5						
Land preparation	-	10	10	10	10	10	10	10	10						
Manuring	10	-	-	-	-	-10	-10	-10	-10						
Manuring	-	30	50	50	50	30	50	50	50						
Fertilizer application	5	-	-	-	-	-5	-5	-5	-5						
Fertilizer application	-	15	20	20	20	15	20	20	20						
Pesticides & nutrient application	-	15	20	20	20	15	20	20	20						
Pesticides & nutrient application	5	-	-	-	-	-5	-5	-5	-5						
Staking	10	-	-	-	-	-10	-10	-10	-10						
Staking	-	15	20	20	20	15	20	20	20						
Intercultural operations	5	-	-	-	-	-5	-5	-5	-5						
Intercultural operations	5	-	-	-	-	-5	-5	-5	-5						
Intercultural operations	-	10	10	10	10	10	10	10	10						
Intercultural operations	-	10	10	10	10	10	10	10	10						
Harvest	8	-	-	-	-	-8	-8	-8	-8						
Harvest	8	-	-	-	-	-8	-8	-8	-8						
Harvest	-	10	15	15	15	10	15	15	15						
Harvest	-	10	15	15	15	10	15	15	15						
Transportation	25	-	-	-	-	-25	-25	-25	-25						
Transportation	25	-	-	-	-	-25	-25	-25	-25						
Transportation	25	-	-	-	-	-25	-25	-25	-25						
Transportation	-	25	25	25	25	25	25	25	25						
Transportation	-	25	25	25	25	25	25	25	25						
Sub-total Labor costs	140	185	230	230	230	45	90	90	90						
Income (After Labor Costs)	59	27	109	297	327	-31	51	239	269						

Income Before Labor: IRR = None, NPV = 1,874.75

Income After Labor: IRR = None, NPV = 1,111.12

Annex 1 Table 18 Tomato - Yields and Inputs

Agricultural Sector Development Project

Tomato Crop Model

YIELDS AND INPUTS

(Per ha)

Unit	Feb -- Nov							
	Existing	New Technology			Increments			
	Technology	1	5	10 to 25	1	5	10 to 25	
Main Production								
Tomato traditional	kg	17,000	-	-	-	-17,000	-17,000	-17,000
Tomato improved	kg	-	20,000	28,000	30,000	20,000	28,000	30,000
Operating								
Inputs								
Tomato seed	packet	20	20	20	20	-	-	-
Plastic & Bamboo	lump sum	2,000	4,000	10,000	10,000	2,000	8,000	8,000
DAP	kg	-	60	120	120	60	120	120
Urea	kg	100	150	200	200	50	100	100
Potash	kg	-	50	100	100	50	100	100
Farm yard manure	basket	400	600	1,000	1,000	200	600	600
Staking materials	lump sum	30,000	-	-	-	-30,000	-30,000	-30,000
Staking materials improved	lump sum	-	60,000	60,000	60,000	60,000	60,000	60,000
Agro-chemicals	lump sum	20,000	30,000	50,000	50,000	10,000	30,000	30,000
Labor								
Nursery preparation	woman day	10	-	-	-	-10	-10	-10
Nursery preparation	woman day	-	20	20	20	20	20	20
Land preparation	man day	20	-	-	-	-20	-20	-20
Land preparation	man day	-	5	5	5	5	5	5
Manuring	woman day	30	-	-	-	-30	-30	-30
Manuring	woman day	-	50	100	100	50	100	100
Fertilizer application	woman day	10	-	-	-	-10	-10	-10
Fertilizer application	woman day	-	20	40	40	20	40	40
Pesticides & nutrient application	woman day	-	30	40	40	30	40	40
Pesticides & nutrient application	woman day	10	-	-	-	-10	-10	-10
Staking	woman day	30	-	-	-	-30	-30	-30
Staking	woman day	-	10	10	10	10	10	10
Intercultural operations	woman day	20	-	-	-	-20	-20	-20
Intercultural operations	woman day	20	-	-	-	-20	-20	-20
Intercultural operations	woman day	-	25	30	30	25	30	30
Intercultural operations	woman day	-	25	30	30	25	30	30
Harvest	woman day	20	-	-	-	-20	-20	-20
Harvest	woman day	20	-	-	-	-20	-20	-20
Harvest	woman day	20	-	-	-	-20	-20	-20
Harvest	woman day	-	25	30	30	25	30	30
Harvest	woman day	-	25	30	30	25	30	30
Transportation	woman day	50	-	-	-	-50	-50	-50
Transportation	woman day	50	-	-	-	-50	-50	-50
Transportation	woman day	-	50	50	50	50	50	50
Transportation	woman day	-	50	50	50	50	50	50

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 19 Tomato – Financial Budget

Agricultural Sector Development Project

Tomato Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha)

	Feb -- Nov									
	Existing	New Technology				Increments				
	Technology	1	5	10	25	1	5	10	25	
Revenue										
Tomato traditional	340	-	-	-	-	-340	-340	-340	-340	
Tomato improved	-	400	672	870	900	400	672	870	900	
Sub-total Revenue	340	400	672	870	900	60	332	530	560	
Input costs										
Tomato seed	8	8	8	8	8	-	-	-	-	
Plastic & Bamboo	2	4	10	10	10	2	8	8	8	
DAP	-	3	6	6	6	3	6	6	6	
Urea	4	6	8	8	8	2	4	4	4	
Potash	-	2	3	3	3	2	3	3	3	
Farm yard manure	20	30	50	50	50	10	30	30	30	
Staking materials	30	-	-	-	-	-30	-30	-30	-30	
Staking materials improved	-	60	60	60	60	60	60	60	60	
Agro-chemicals	20	30	50	50	50	10	30	30	30	
Sub-total Input costs	84	143	195	195	195	59	111	111	111	
Income (Before Labor Costs)	256	258	477	675	705	2	221	419	449	
Labor costs										
Nursery preparation	5	-	-	-	-	-5	-5	-5	-5	
Nursery preparation	-	10	10	10	10	10	10	10	10	
Land preparation	10	-	-	-	-	-10	-10	-10	-10	
Land preparation	-	3	3	3	3	3	3	3	3	
Manuring	15	-	-	-	-	-15	-15	-15	-15	
Manuring	-	25	50	50	50	25	50	50	50	
Fertilizer application	5	-	-	-	-	-5	-5	-5	-5	
Fertilizer application	-	10	20	20	20	10	20	20	20	
Pesticides & nutrient application	-	15	20	20	20	15	20	20	20	
Pesticides & nutrient application	5	-	-	-	-	-5	-5	-5	-5	
Staking	15	-	-	-	-	-15	-15	-15	-15	
Staking	-	5	5	5	5	5	5	5	5	
Intercultural operations	10	-	-	-	-	-10	-10	-10	-10	
Intercultural operations	10	-	-	-	-	-10	-10	-10	-10	
Intercultural operations	-	13	15	15	15	13	15	15	15	
Intercultural operations	-	13	15	15	15	13	15	15	15	
Harvest	10	-	-	-	-	-10	-10	-10	-10	
Harvest	10	-	-	-	-	-10	-10	-10	-10	
Harvest	10	-	-	-	-	-10	-10	-10	-10	
Harvest	-	13	15	15	15	13	15	15	15	
Harvest	-	13	15	15	15	13	15	15	15	
Transportation	25	-	-	-	-	-25	-25	-25	-25	
Transportation	25	-	-	-	-	-25	-25	-25	-25	
Transportation	-	25	25	25	25	25	25	25	25	
Transportation	-	25	25	25	25	25	25	25	25	
Sub-total Labor costs	155	168	218	218	218	13	63	63	63	
Income (After Labor Costs)	101	90	260	458	488	-11	159	357	387	

Income Before Labor: IRR = None, NPV = 2,477.62

Income After Labor: IRR = None, NPV = 1,970.22

Annex 1 Table 20 Timur – Existing - Yields and Inputs

Agricultural Sector Development Pr
Timur Existing Crop Model

YIELDS AND INPUTS

(Per ha) /a

	Unit	Feb -- Nov				
		Existing		Increments		
		Technology	Technology	Technology	Technology	Technology
		1 to 10	1	5 to 10	1	5 to 10
Yields	kg	1,000	1,000	1,300	-	300
Operating Inputs						
Farm yard manure	basket	20	-	-	-20	-20
Labor						
Harvesting	woman day	200	-	-	-200	-200
Drying	woman day	100	-	-	-100	-100
Manuring	woman day	20	-	-	-20	-20

\a Existing orchards operated by households.

Annex 1 Table 21 Timur – Existing– Financial Budget

Agricultural Sector Development Project
Timur Existing Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha) /a

	Feb -- Nov				
	Existing		Increments		
	Technology	Technology	Technology	Technology	Technology
	1 to 10	1	5 to 10	1	5 to 10
Revenue	200	200	260	-	60
Input costs					
Farm yard manure	1	-	-	-1	-1
Income (Before Labor Costs)	199	200	260	1	61
Labor costs					
Harvesting	100	-	-	-100	-100
Drying	50	-	-	-50	-50
Manuring	10	-	-	-10	-10
Sub-total Labor costs	160	-	-	-160	-160
Income (After Labor Costs)	39	200	260	161	221

Income Before Labor: IRR = None, NPV = 451.07

Income After Labor: IRR = None, NPV = 1,903.40

\a Existing orchards operated by households.

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 22 Timur – New - Yields and Inputs

Agricultural Sector Development Project
Timur New Crop Model

YIELDS AND INPUTS

(Per ha) /a

	Unit	Feb -- Nov						
		Existing Technology			New Technology			Increments
		1 to 25	1	5	10 to 25	1	5	10 to 25
Yields	kg	-	-	625	1,563	-	625	1,563
Operating Inputs								
Farm yard manure	basket	-	1,000	1,000	1,000	1,000	1,000	1,000
Labor								
Harvesting	woman day	-	400	400	400	400	400	400
Drying	woman day	-	100	100	100	100	100	100
Manuring	woman day	-	20	20	20	20	20	20
Orchard operations	woman day	-	60	60	60	60	60	60

1a 5m x 5m spacing, max yield/plant 2.5 kg/year

Annex 1 Table 23 Timur – New – Financial Budget

Agricultural Sector Development Project
Timur New Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha) /a

	Feb -- Nov						
	Existing Technology			New Technology			Increments
	1 to 25	1	5	10 to 25	1	5	10 to 25
Revenue	-	-	156	391	-	156	391
Input costs							
Farm yard manure	-	50	50	50	50	50	50
Income (Before Labor Costs)	-	-50	106	341	-50	106	341
Labor costs							
Harvesting	-	200	200	200	200	200	200
Drying	-	50	50	50	50	50	50
Manuring	-	10	10	10	10	10	10
Orchard operations	-	30	30	30	30	30	30
Sub-total Labor costs	-	290	290	290	290	290	290
Income (After Labor Costs)	-	-340	-184	51	-340	-184	51

Income Before Labor: IRR = None, NPV = 1,580.70

Income After Labor: IRR = None, NPV = -1,051.64

1a 5m x 5m spacing, max yield/plant 2.5 kg/year

Annex 1 Table 24 Turmeric (Dried) – Yields and Inputs

Turmeric (Dried) Crop Model YIELDS AND INPUTS (Per ha)		Feb -- Nov				
		Existing		Increments		
		Technology	Technology	Technology	1	5 to 25
Unit	1 to 25	1	5 to 25	1	5 to 25	
Main Production						
Turmeric - dried	kg	-	1,800	2,600	1,800	2,600
Turmeric - raw	kg	10,000	-	-	-10,000	-10,000
Turmeric - seed	kg	4,000	4,000	9,000	-	5,000
Operating Inputs						
Turmeric rhizomes	kg	2,000	2,500	2,500	500	500
Farm yard manure	basket	400	1,000	1,000	600	600
Labor						
Land preparation	man day	20	20	20	-	-
Planting	woman day	20	20	20	-	-
Mulching	woman day	20	20	20	-	-
Harvesting	man day	20	40	40	20	20
Grading & cleaning	woman day	20	40	40	20	20
Transportation	woman day	40	60	60	20	20

Annex 1 Table 25 Turmeric (Dried) – Financial Budget

Agricultural Sector Development Project Turmeric (Dried) Crop Model FINANCIAL BUDGET (In NRP '000 Per ha)		Feb -- Nov				
		Existing		Increments		
		Technology	Technology	Technology	1	5 to 25
	1 to 25	1	5 to 25	1	5 to 25	
Revenue						
Turmeric - dried	-	180	260	180	260	
Turmeric - raw	200	-	-	-200	-200	
Turmeric - seed	80	80	180	-	100	
Sub-total Revenue	280	260	440	-20	160	
Input costs						
Turmeric rhizomes	40	50	50	10	10	
Farm yard manure	20	50	50	30	30	
Sub-total Input costs	60	100	100	40	40	
Income (Before Labor Costs)	220	160	340	-60	120	
Labor costs						
Land preparation	10	10	10	-	-	
Planting	10	10	10	-	-	
Mulching	10	10	10	-	-	
Harvesting	10	20	20	10	10	
Grading & cleaning	10	20	20	10	10	
Transportation	20	30	30	10	10	
Sub-total Labor costs	70	100	100	30	30	
Income (After Labor Costs)	150	60	240	-90	90	

Income Before Labor: IRR = None, NPV = 670.50

Income After Labor: IRR = None, NPV = 398.19

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 26 Potato – Yields and Inputs

Agricultural Sector Development Project

Potato Crop Model

YIELDS AND INPUTS

(Per ha)

	Unit	Feb -- Nov							
		Existing Technology			New Technology			Increments	
		1 to 25	1	5	10 to 25	1	5	10 to 25	
Main Production									
Potato - traditional	kg	12,000	-	-	-	-12,000	-12,000	-12,000	
Potato - seed	kg	2,000	-	-	-	-2,000	-2,000	-2,000	
Potato - improved	kg	-	12,000	20,000	25,000	12,000	20,000	25,000	
Operating Inputs									
Potato seed	kg	2,000	2,400	2,400	2,400	400	400	400	
DAP	kg	-	220	220	220	220	220	220	
Urea	kg	-	140	140	140	140	140	140	
Potash	kg	-	100	100	100	100	100	100	
Farm yard manure	basket	400	1,000	1,000	1,000	600	600	600	
Agro-chemicals	lump sum	20,000	40,000	40,000	40,000	20,000	20,000	20,000	
Labor									
Transport manure	woman day	40	100	100	100	60	60	60	
Land preparation	man day	20	20	20	20	-	-	-	
Manuring	woman day	20	20	20	20	-	-	-	
Planting	woman day	20	20	20	20	-	-	-	
Intercultural operations	woman day	20	20	20	20	-	-	-	
Intercultural operations	woman day	-	20	20	20	20	20	20	
Harvest	man day	20	20	20	20	-	-	-	
Transport	woman day	160	60	60	60	-100	-100	-100	

Annex 1 Table 27 Potato – Financial Budget

Agricultural Sector Development Project

Potato Crop Model

FINANCIAL BUDGET

(In NRP '000 Per ha)

	Feb -- Nov									
	Existing Technology			New Technology			Increments			
	1 to 25	1	5	10	25	1	5	10	25	
Revenue										
Potato - traditional	240	-	-	-	-	-240	-240	-240	-240	
Potato - seed	100	-	-	-	-	-100	-100	-100	-100	
Potato - improved	-	240	480	725	750	240	480	725	750	
Sub-total Revenue	340	240	480	725	750	-100	140	385	410	
Input costs										
Potato seed	100	120	120	120	120	20	20	20	20	
DAP	-	11	11	11	11	11	11	11	11	
Urea	-	6	6	6	6	6	6	6	6	
Potash	-	3	3	3	3	3	3	3	3	
Farm yard manure	20	50	50	50	50	30	30	30	30	
Agro-chemicals	20	40	40	40	40	20	20	20	20	
Sub-total Input costs	140	230	230	230	230	90	90	90	90	
Income (Before Labor Costs)	200	10	250	495	520	-190	50	295	320	
Labor costs										
Transport manure	20	50	50	50	50	30	30	30	30	
Land preparation	10	10	10	10	10	-	-	-	-	
Manuring	10	10	10	10	10	-	-	-	-	
Planting	10	10	10	10	10	-	-	-	-	
Intercultural operations	10	10	10	10	10	-	-	-	-	
Intercultural operations	-	10	10	10	10	10	10	10	10	
Harvest	10	10	10	10	10	-	-	-	-	
Transport	80	30	30	30	30	-50	-50	-50	-50	
Sub-total Labor costs	150	140	140	140	140	-10	-10	-10	-10	
Income (After Labor Costs)	50	-130	110	355	380	-180	60	305	330	

Income Before Labor: IRR = None, NPV = 1,086.38

Income After Labor: IRR = None, NPV = 1,177.15

Annex 1 Table 28 Walnut – Existing - Yields and Inputs

YIELDS AND INPUTS (Per ha) /a		Feb -- Nov				
		Unit	Existing Technology		Increments	
			1 to 25	1	5 to 25	1
Yields	kg	800	800	1,300	-	500
Operating Inputs						
Copper sulphate	kg	-	2	2	2	2
Lime	kg	-	3	3	3	3
Servo/Horticulture oil	kg	-	0	0	0	0
Blitox 50	kg	-	0	0	0	0
Micronutrient	kg	-	0	0	0	0
Farm yard manure	basket	500	1,000	1,000	500	500
Labor						
Pruning & training - LRP	person day	-	20	20	20	20
Manuring	woman day	40	80	80	40	40
Harvesting	woman day	8	24	40	16	32
Transport	woman day	8	24	24	16	16

^a Current plantings

Annex 1 Table 29 Walnut – Existing – Financial Budget

FINANCIAL BUDGET (In NRP '000 Per ha) /a		Feb -- Nov				
		Existing Technology	Technology	Increments		
				1 to 25	1	5 to 25
Revenue		320	320	520	-	200
Input costs						
Copper sulphate		-	1	1	1	1
Lime		-	0	0	0	0
Servo/Horticulture oil		-	0	0	0	0
Blitox 50		-	0	0	0	0
Micronutrient		-	0	0	0	0
Farm yard manure		25	50	50	25	25
Sub-total Input costs		25	52	52	27	27
Income (Before Labor Costs)		295	268	468	-27	173
Labor costs						
Pruning & training - LRP		-	20	20	20	20
Manuring		20	40	40	20	20
Harvesting		4	12	20	8	16
Transport		4	12	12	8	8
Sub-total Labor costs		28	84	92	56	64
Income (After Labor Costs)		267	184	376	-83	109

Income Before Labor: IRR = None, NPV = 1,205.56

Income After Labor: IRR = None, NPV = 635.21

^a Current plantings

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Financial and economic analysis
Annex 1 Table 30 Walnut – New - Yields and Inputs

Agricultural Sector Development Project
Walnut New Crop Model
YIELDS AND INPUTS
(Per ha) /a

	Unit	Feb -- Nov														
		Existing Technology					New Technology					Increments				
		1 to 25	1	5	10	25	1	5	10	25	1	5	10	25		
Yields	kg	-	-	-	1,100	1,500	-	-	1,100	1,500	-	-	1,100	1,500		
Operating Inputs																
Walnut saplings	each	-	300	-	-	-	300	-	-	-	-	-	-	-		
Copper sulphate	kg	-	2	2	2	2	2	2	2	2	2	2	2			
Lime	kg	-	3	3	3	3	3	3	3	3	3	3	3			
Servo/Horticulture oil	kg	-	0	0	0	0	0	0	0	0	0	0	0			
Blitox 50	kg	-	0	0	0	0	0	0	0	0	0	0	0			
Micronutrient	kg	-	0	0	0	0	0	0	0	0	0	0	0			
Farm yard manure	basket	-	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000			
Labor																
Land preparation	man day	-	40	-	-	-	40	-	-	-	-	-	-			
Transplanting	woman day	-	20	-	-	-	20	-	-	-	-	-	-			
Pruning & traing - LRP	person day	-	5	20	20	20	5	20	20	20	20	20	20			
Manuring	woman day	-	80	80	80	80	80	80	80	80	80	80	80			
Harvesting	woman day	-	-	16	40	40	-	16	40	40	40	40	40			
Transport	woman day	-	-	16	40	40	-	16	40	40	40	40	40			

^a New plantings with the project. Improved varieties.

Annex 1 Table 31 Walnut – New – Financial Budget

Agricultural Sector Development Project
Walnut New Crop Model
FINANCIAL BUDGET
(In NRP '000 Per ha) /a

	Feb -- Nov														
	Existing Technology					New Technology					Increments				
	1 to 25	1	5	10	25	1	5	10	25	1	5	10	25		
Revenue	-	-	-	495	675	-	-	495	675	-	-	495	675		
Input costs															
Walnut saplings	-	30	-	-	-	30	-	-	-	-	-	-	-		
Copper sulphate	-	1	1	1	1	1	1	1	1	1	1	1			
Lime	-	0	0	0	0	0	0	0	0	0	0	0			
Servo/Horticulture oil	-	0	0	0	0	0	0	0	0	0	0	0			
Blitox 50	-	0	0	0	0	0	0	0	0	0	0	0			
Micronutrient	-	0	0	0	0	0	0	0	0	0	0	0			
Farm yard manure	-	50	50	50	50	50	50	50	50	50	50	50			
Sub-total Input costs	-	82	52	52	52	82	52	52	52	82	52	52			
Income (Before Labor Costs)	-	-82	-52	443	623	-82	-52	443	623	-82	-52	443	623		
Labor costs															
Land preparation	-	20	-	-	-	20	-	-	-	-	-	-			
Transplanting	-	10	-	-	-	10	-	-	-	-	-	-			
Pruning & traing - LRP	-	5	20	20	20	5	20	20	20	20	20	20			
Manuring	-	40	40	40	40	40	40	40	40	40	40	40			
Harvesting	-	-	8	20	20	-	8	20	20	-	8	20	20		
Transport	-	-	8	20	20	-	8	20	20	-	8	20	20		
Sub-total Labor costs	-	75	76	100	100	75	76	100	100	75	76	100	100		
Income (After Labor Costs)	-	-157	-128	343	523	-157	-128	343	523	-157	-128	343	523		

Income Before Labor: IRR = None, NPV = 1,776.45

Income After Labor: IRR = None, NPV = 1,021.96

^a New plantings with the project. Improved varieties.

Annex 1 Table 31 Goat – Low Hills – Herd Projection Model

PRODUCTION PARAMETERS			WITHOUT PROJECT	WITH PROJECT									
ITEMS	UNIT		1	1	2	3	4	5	6	7	8	9	10
Production parameters													
Age at first kidding/maturity	months		15	10	10	10	10	10	10	10	10	10	10
Kidding interval	months		10	8	8	8	8	8	8	8	8	8	8
Kidding percentage (fertility rate)	%		70%	70%	75%	75%	80%	80%	85%	85%	85%	90%	90%
Twinning percentage	%		30%	35%	40%	40%	45%	45%	50%	50%	50%	50%	50%
Number of kiddings per year	times		1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Mortality of adults	%		5%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%
Mortality of male kids	%		15%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Mortality of female kids	%		15%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Off-take rate females <1yr	%		30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Off-take rate females >1yr	%		20%	10%	10%	10%	10%	10%	10%	15%	15%	15%	15%
Off-take rate males <1yr	%		60%	85%	85%	85%	85%	85%	85%	90%	90%	90%	90%
Off-take rate males >1yr	%		60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Body weight of male	kg		40	45	45	50	50	55	55	60	65	65	65
Body weight of female	kg		35	40	45	50	50	55	55	55	55	55	55
Body weight of kid	kg		20	25	25	25	25	25	25	25	25	25	25
Sex ratio (% of does)	ratio		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Culling of does from 2nd years+	%		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Fiber production per goat	kg		2	3	3	3	3	3	3	3	3	3	3
Skin production per goat	kg		4	5	5	5	5	5	6	6	6	7	6
Stock growth model													
F7-8yrs			0	0	0	0	0	1	1	1	1	1	1
F6-7yrs			0	0	0	0	1	1	1	1	1	1	1
F5-6yrs			0	0	0	1	1	1	1	1	1	2	2
F4-5yrs			0	0	1	1	1	1	1	2	2	2	3
F 3-4yrs			0	2	1	1	1	1	2	2	3	4	5
F 2-3yrs			2	2	1	1	2	2	3	4	4	6	7
F 1-2yrs			2	2	1	2	3	3	4	5	7	9	11
<i>Kid 0-1yr</i>			<i>6</i>	<i>4</i>	<i>7</i>	<i>8</i>	<i>10</i>	<i>14</i>	<i>18</i>	<i>24</i>	<i>30</i>	<i>37</i>	<i>49</i>
M1-2yrs			1	1	0	0	0	0	0	0	0	0	0
M2-3yrs			1	0	-0	-0	-0	-0	-0	-0	-0	0	0
M3-4yrs			0	0	-0	0	0	0	0	0	0	0	0
M4-5yrs			0	0	-0	0	-0	-0	-0	-0	-0	-0	-0
M5-6yrs			0	0	0	0	-0	0	0	0	0	0	0
M6-7yrs			0	0	0	0	-0	0	-0	-0	-0	-0	-0
M7-8yrs			0	0	0	0	0	0	-0	0	0	0	0
Number of does			4	5	5	7	8	10	12	15	19	24	30
Number of bucks			2	1	0	0	0	0	0	0	-0	0	-0
Total stock			12	10	12	15	19	25	30	40	49	61	79
YIELDS AND INPUTS													
ITEMS	UNIT	PRICE	1	1	2	3	4	5	6	7	8	9	10
Main production output (yields)													
Animal sales - female	head		1	0	1	1	1	1	1	2	3	4	5
Animal sales - male	head		1	1	0	0	0	0	0	0	-0	0	-0
Animal sales - kids	head		3	3	4	5	6	8	10	14	18	22	29
Animal sales - total	head		5	4	4	6	7	9	12	17	21	26	34
Sale weights													
Animal sales - female	kg		28	19	24	33	41	56	68	127	158	199	249
Animal sales - male	kg		48	65	2	8	10	14	19	26	-1	0	-0
Animal sales - kids	kg		54	63	95	120	148	204	254	355	443	551	734
Animal sales - total	kg		130	147	121	161	199	273	341	508	601	750	984
Feed requirements													
Does weight	kg		140	186	239	327	407	559	681	849	1,056	1,330	1,662
Kids weight	kg		120	109	165	209	258	354	442	592	738	918	1,224
Bucks weight	kg		80	65	2	8	10	14	19	26	-1	0	-0
Total weight	kg		340	360	406	544	675	927	1,142	1,467	1,793	2,247	2,886
Daily DM requirement at % DM/kg LW	kg	2.8%	10	10	11	15	19	26	32	41	50	63	81
Annual requirement	kg		3,475	3,680	4,150	5,560	6,890	9,480	11,670	14,990	18,330	22,970	29,490
Conversion to maize grain equiv. fac	kg	2.5	1,390	1,470	1,660	2,220	2,760	3,790	4,670	6,000	7,330	9,190	11,800

Annex 1 Table 32 Goat – Low Hills – Yields and Inputs

Agricultural Sector Development Project

Goat (Low Hills) Activity Model

YIELDS AND INPUTS /a

	Unit	Feb -- Nov						
		Existing			New Technology			Increments
		Technology	1	5	10 to 25	1	5	10 to 25
Main Production								
Goat sales (liveweight) - existing	kg LW	130	-	-	-	-130	-130	-130
Goat sales (liveweight) - new	kg LW	-	147	273	984	147	273	984
Operating								
Inputs								
Goat vaccines & treatments	head	12	10	25	79	-2	13	67
Feed supplement - goats	each	-	10	25	79	10	25	79
Livestock feed requirement	kg	695	1,470	3,790	11,800	775	3,095	11,105
Labor								
Jan forage collection	woman day	2	2	4	8	-	2	6
Feb forage collection	woman day	2	2	4	8	-	2	6
Mar forage collection	woman day	2	2	4	8	-	2	6
Apr forage collection	woman day	2	2	4	8	-	2	6
May forage collection	woman day	2	2	4	8	-	2	6
Jun forage collection	woman day	2	2	4	8	-	2	6
Jul forage collection	woman day	2	2	4	8	-	2	6
Aug forage collection	woman day	2	2	4	8	-	2	6
Sep forage collection	woman day	2	2	4	8	-	2	6
Oct forage collection	woman day	2	2	4	8	-	2	6
Nov forage collection	woman day	2	2	4	8	-	2	6
Dec forage collection	woman day	2	2	4	8	-	2	6
Jan shed cleaning	woman day	-	1	1	3	1	1	3
Feb shed cleaning	woman day	-	1	1	3	1	1	3
Mar shed cleaning	woman day	-	1	1	3	1	1	3
Apr shed cleaning	woman day	-	1	1	3	1	1	3
May shed cleaning	woman day	-	1	1	3	1	1	3
Jun shed cleaning	woman day	-	1	1	3	1	1	3
Jul shed cleaning	woman day	-	1	1	3	1	1	3
Aug shed cleaning	woman day	-	1	1	3	1	1	3
Sep shed cleaning	woman day	-	1	1	3	1	1	3
Oct shed cleaning	woman day	-	1	1	3	1	1	3
Nov shed cleaning	woman day	-	1	1	3	1	1	3
Dec shed cleaning	woman day	-	1	1	3	1	1	3

la Surkhet, Salyan, Rukum, Dailekh and Jajarkot

Annex 1 Table 33 Goat – Low Hills – Financial Budget

Agricultural Sector Development Project

Goat (Low Hills) Activity Model

FINANCIAL BUDGET

(In NRP '000) /a

	Feb -- Nov						
	Existing	New Technology			Increments		
	Technology 1 to 25	1	5	10 to 25	1	5	10 to 25
Revenue							
Goat sales (liveweight) - existing	46	-	-	-	-46	-46	-46
Goat sales (liveweight) - new	-	51	106	394	51	106	394
Sub-total Revenue	46	51	106	394	6	61	348
Input costs							
Goat vaccines & treatments	3	3	6	20	-1	3	17
Feed supplement - goats	-	3	8	24	3	8	24
Livestock feed requirement	14	29	76	236	16	62	222
Sub-total Input costs	17	35	90	279	18	73	263
Income (Before Labor Costs)	29	17	17	114	-12	-12	86
Labor costs							
Jan forage collection	1	1	2	4	-	1	3
Feb forage collection	1	1	2	4	-	1	3
Mar forage collection	1	1	2	4	-	1	3
Apr forage collection	1	1	2	4	-	1	3
May forage collection	1	1	2	4	-	1	3
Jun forage collection	1	1	2	4	-	1	3
Jul forage collection	1	1	2	4	-	1	3
Aug forage collection	1	1	2	4	-	1	3
Sep forage collection	1	1	2	4	-	1	3
Oct forage collection	1	1	2	4	-	1	3
Nov forage collection	1	1	2	4	-	1	3
Dec forage collection	1	1	2	4	-	1	3
Jan shed cleaning	-	0	1	2	0	1	2
Feb shed cleaning	-	0	1	2	0	1	2
Mar shed cleaning	-	0	1	2	0	1	2
Apr shed cleaning	-	0	1	2	0	1	2
May shed cleaning	-	0	1	2	0	1	2
Jun shed cleaning	-	0	1	2	0	1	2
Jul shed cleaning	-	0	1	2	0	1	2
Aug shed cleaning	-	0	1	2	0	1	2
Sep shed cleaning	-	0	1	2	0	1	2
Oct shed cleaning	-	0	1	2	0	1	2
Nov shed cleaning	-	0	1	2	0	1	2
Dec shed cleaning	-	0	1	2	0	1	2
Sub-total Labor costs	12	15	35	66	3	23	54
Income (After Labor Costs)	17	2	-18	48	-15	-35	32

Income Before Labor: IRR = None, NPV = 272.42

Income After Labor: IRR = None, NPV = -29.30

la Surkhet, Salyan, Rukum, Dailekh and Jajarkot

Annex 1 Table 34 Goat – High Hills – Herd Projection Model

PRODUCTION PARAMETERS			WITHOUT PROJECT	WITH PROJECT									
ITEMS	UNIT		1	1	2	3	4	5	6	7	8	9	10
Production parameters													
Age at first kidding/maturity	months		15	10	10	10	10	10	10	10	10	10	10
Kidding interval	months		10	8	8	8	8	8	8	8	8	8	8
Kidding percentage (fertility rate)	%		70%	70%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Twinning percentage	%		30%	35%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Number of kiddings per year	times		1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Mortality of adults	%		5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Mortality of male kids	%		15%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Mortality of female kids	%		15%	10%	10%	7%	7%	7%	7%	7%	7%	7%	7%
Off-take rate females <1yr	%		30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Off-take rate females >1yr	%		20%	15%	15%	20%	20%	20%	20%	20%	25%	25%	25%
Off-take rate males <1yr	%		70%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Off-take rate males >1yr	%		70%	65%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Body weight of adult male	kg		40	45	45	50	50	55	55	60	65	65	65
Body weight of adult female	kg		35	40	45	50	50	55	55	55	55	55	55
Body weight of kid	kg		20	25	25	25	25	25	25	25	25	25	25
Sex ratio (% of does)	ratio		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Culling of does from 2nd year+	%		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Fiber production per goat	kg		2	3	3	3	3	3	3	3	3	3	3
Skin production per goat	kg		4	5	5	5	5	5	6	6	6	7	6
			30%	30%	30%	35%	35%	40%	40%	45%	45%	45%	45%
Stock growth model													
F7-8yrs			0	0	0	0	2	1	1	1	1	1	1
F6-7yrs			0	0	0	2	2	1	1	1	2	2	2
F5-6yrs			0	0	3	2	2	1	2	2	3	3	3
F4-5yrs			0	4	3	2	1	2	3	4	4	5	5
F 3-4yrs			5	4	3	2	3	3	5	5	6	7	7
F 2-3yrs			5	4	2	4	5	6	7	9	10	10	12
F 1-2yrs			5	3	5	6	8	9	11	13	15	17	20
<i>Kid 0-1yr</i>			10	16	20	26	30	36	40	46	54	63	70
M1-2yrs			1	1	0	0	0	0	0	0	0	0	0
M2-3yrs			1	0	0	0	0	0	0	0	0	0	0
M3-4yrs			0	0	0	0	0	0	0	0	0	0	0
M4-5yrs			0	0	0	0	0	0	0	0	0	0	0
M5-6yrs			0	0	0	0	0	0	0	0	0	0	0
M6-7yrs			0	0	0	0	0	0	0	0	0	0	0
M7-8yrs			0	0	0	0	0	0	0	0	0	0	0
Number of does			15	14	16	19	23	25	29	34	40	44	51
Number of bucks			2	1	0	0	0	0	0	0	0	0	0
Total stock			27	32	36	45	53	61	69	80	93	107	121
YIELDS AND INPUTS													
ITEMS	UNIT		WOP	WITH PROJECT									
			1	1	2	3	4	5	6	7	8	9	10
Main production output (yields)													
Animal sales - female	head		3	2	2	4	5	5	6	7	10	11	13
Animal sales - male	head		1	1	0	0	0	0	0	0	0	0	0
Animal sales - kids	head		5	10	12	15	18	21	24	28	32	38	42
Animal sales - total	head		9	13	15	19	23	26	30	34	42	49	55
Sale weights													
Animal sales - female	kg		105	84	110	191	226	278	322	374	549	611	696
Animal sales - male	kg		56	37	10	4	2	1	0	0	0	0	0
Animal sales - kids	kg		100	246	298	384	452	534	596	692	803	943	1,051
Animal sales - total	kg		261	366	418	579	679	812	919	1,066	1,351	1,554	1,747
Feed requirements													
Does weight	kg		525	560	731	956	1,130	1,388	1,612	1,869	2,195	2,446	2,784
Kids weight	kg		200	410	496	640	753	890	994	1,154	1,338	1,571	1,751
Bucks weight	kg		80	56	17	7	3	1	0	0	0	0	0
Total weight	kg		805	1,026	1,245	1,603	1,885	2,279	2,606	3,023	3,532	4,017	4,535
Daily DM requirement at % DM/kg LW	kg	2.8%	23	29	35	45	53	64	73	85	99	112	127
Annual requirement	kg		8,227	10,480	12,720	16,380	19,270	23,290	26,630	30,890	36,100	41,060	46,340
Conversion to maize grain equiv. fact	kg	2.5	3,290	4,190	5,090	6,550	7,710	9,320	10,650	12,360	14,440	16,420	18,540

Annex 1 Table 35 Goat – High Hills – Yields and Inputs

YIELDS AND INPUTS /a	Unit	Feb -- Nov						
		Existing Technology			New Technology			Increments
		1 to 25	1	5	10 to 25	1	5	10 to 25
Main Production								
Goat sales (liveweight) - existing	kg LW	261	-	-	-	-261	-261	-261
Goat sales (liveweight) - new	kg LW	-	366	812	1,747	366	812	1,747
Operating Inputs								
Goat vaccines & treatments	head	27	32	61	121	5	34	94
Feed supplement - goats	each	-	32	61	121	32	61	121
Livestock feed requirement	kg	1,645	4,190	9,320	18,540	2,545	7,675	16,895
Labor								
January - forage collection	woman day	2	2	4	8	-	2	6
February - forage collection	woman day	2	2	4	8	-	2	6
March - forage collection	woman day	2	2	4	8	-	2	6
April - forage collection	woman day	2	2	4	8	-	2	6
May - forage collection	woman day	2	2	4	8	-	2	6
June - forage collection	woman day	2	2	4	8	-	2	6
July - forage collection	woman day	2	2	4	8	-	2	6
August - forage collection	woman day	2	2	4	8	-	2	6
September - forage collection	woman day	2	2	4	8	-	2	6
October - forage collection	woman day	2	2	4	8	-	2	6
November - forage collection	woman day	2	2	4	8	-	2	6
December - forage collection	woman day	2	2	4	8	-	2	6
Jan shed cleaning	woman day	-	1	2	3	1	2	3
Feb shed cleaning	woman day	-	1	2	3	1	2	3
Mar shed cleaning	woman day	-	1	2	3	1	2	3
Apr shed cleaning	woman day	-	1	2	3	1	2	3
May shed cleaning	woman day	-	1	2	3	1	2	3
Jun shed cleaning	woman day	-	1	2	3	1	2	3
Jul shed cleaning	woman day	-	1	2	3	1	2	3
Aug shed cleaning	woman day	-	1	2	3	1	2	3
Sep shed cleaning	woman day	-	1	2	3	1	2	3
Oct shed cleaning	woman day	-	1	2	3	1	2	3
Nov shed cleaning	woman day	-	1	2	3	1	2	3
Dec shed cleaning	woman day	-	1	2	3	1	2	3

/a Jumla, Kalikot, Mugu, Humla and Dolpa

Annex 1 Table 36 Goat – High Hills – Financial Budget

Agricultural Sector Development Project
Goat (High Hills) Activity Model

FINANCIAL BUDGET

(In NRP '000) /a

	Feb -- Nov						
	Existing	New Technology			Increments		
	Technology	1	5	10 to 25	1	5	10 to 25
Revenue							
Goat sales (liveweight) - existing	91	-	-	-	-91	-91	-91
Goat sales (liveweight) - new	-	128	317	699	128	317	699
Sub-total Revenue	91	128	317	699	37	225	607
Input costs							
Goat vaccines & treatments	7	8	15	30	1	9	24
Feed supplement - goats	-	10	18	36	10	18	36
Livestock feed requirement	33	84	186	371	51	154	338
Sub-total Input costs	40	101	220	437	62	180	398
Income (Before Labor Costs)	52	27	97	261	-25	45	210
Labor costs							
January - forage collection	1	1	2	4	-	1	3
February - forage collection	1	1	2	4	-	1	3
March - forage collection	1	1	2	4	-	1	3
April - forage collection	1	1	2	4	-	1	3
May - forage collection	1	1	2	4	-	1	3
June - forage collection	1	1	2	4	-	1	3
July - forage collection	1	1	2	4	-	1	3
August - forage collection	1	1	2	4	-	1	3
September - forage collection	1	1	2	4	-	1	3
October - forage collection	1	1	2	4	-	1	3
November - forage collection	1	1	2	4	-	1	3
December - forage collection	1	1	2	4	-	1	3
Jan shed cleaning	-	1	1	2	1	1	2
Feb shed cleaning	-	1	1	2	1	1	2
Mar shed cleaning	-	1	1	2	1	1	2
Apr shed cleaning	-	1	1	2	1	1	2
May shed cleaning	-	1	1	2	1	1	2
Jun shed cleaning	-	1	1	2	1	1	2
Jul shed cleaning	-	1	1	2	1	1	2
Aug shed cleaning	-	1	1	2	1	1	2
Sep shed cleaning	-	1	1	2	1	1	2
Oct shed cleaning	-	1	1	2	1	1	2
Nov shed cleaning	-	1	1	2	1	1	2
Dec shed cleaning	-	1	1	2	1	1	2
Sub-total Labor costs	12	18	38	66	6	26	54
Income (After Labor Costs)	40	9	59	195	-31	19	156

Income Before Labor: IRR = None, NPV = 929.48

Income After Labor: IRR = None, NPV = 615.78

1a Jumla, Kalikot, Mugu, Humla and Dolpa

Annex 1 Table 37 Milk – Herd Projection Model

PRODUCTION PARAMETERS			WOP	WITH PROJECT									
ITEMS	UNIT			1	2	3	4	5	6	7	8	9	10
Production parameters													
Calving rate per year	%		75%	75%	80%	80%	90%	90%	90%	90%	90%	90%	90%
Male calves sold at age	month		12	1	1	1	1	1	1	1	1	1	1
Female calves sold at age	month		24	12	12	12	12	12	12	12	12	12	12
Mortality rate for male calves	%		15%	15%	12%	12%	10%	10%	8%	8%	8%	8%	8%
Mortality rate for female calves	%		15%	15%	12%	12%	10%	10%	10%	8%	8%	8%	8%
Mortality rate for cows	%		10%	10%	8%	8%	6%	6%	5%	5%	5%	5%	5%
Culling rate for bulls	%		0%	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%
Manure production per day per cow	kg/day		10	12	12	12	12	12	12	12	12	12	12
Production life of cow	year		8	8	8	8	8	8	8	8	8	8	8
Culling rate (based on prodn life)	%		12.50%	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
Sex ratio (% of cows)	ratio		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Lactation period	days		250	260	280	280	280	290	290	290	290	290	290
Milk production per cow	litre/day		5	6	7	8	8	9	9	10	10	10	10
Percentage milk sold	%		85%	85%	85%	85%	85%	85%	86%	87%	88%	89%	90%
Stock growth model													
F7-8yrs			0	0	0	0	0	0	1	0	0	0	1
F6-7yrs			0	0	0	0	0	1	1	0	0	1	1
F5-6yrs			0	0	0	0	1	1	0	0	1	1	1
F4-5yrs			0	0	0	1	1	0	0	1	1	1	1
F3-4yrs			0	0	2	1	0	1	1	1	1	1	1
F2-3yrs			0	2	1	0	1	1	1	1	1	1	1
F1-2yrs			2	1	0	1	1	1	1	1	1	1	2
Calves 0-1yr			2	0	1	2	2	2	3	3	3	4	5
M1-2yrs			1	1	0	1	1	0	0	0	0	0	0
M2-3yrs			0	1	1	0	1	0	0	0	0	0	0
Number of cow			2	3	2	3	3	4	5	5	5	6	7
Number of bull			1	2	1	1	1	0	0	0	0	0	0
Total stock			5	5	4	6	6	6	8	8	8	10	12
YIELDS AND INPUTS													
ITEMS	UNIT		WOP	1	2	3	4	5	6	7	8	9	10
Main production output (yields)													
Milk	litre		2,125	3,978	3,332	5,712	5,712	8,874	11,223	12,615	12,760	15,486	18,270
Manure	kg		18,250	21,900	17,520	26,280	26,280	26,280	35,040	35,040	35,040	43,800	52,560
Individual weights													
Female	kg		280	300	325	350	375	400	400	400	400	400	400
Male	kg		350	350	375	400	450	450	450	450	450	450	450
Combined weights													
Female weights	kg	350	560	900	650	1,050	1,125	1,600	2,000	2,000	2,000	2,400	2,800
Male weights	kg	400	350	613	287	238	624	0	0	0	0	0	0
Total	kg		910	1,513	937	1,288	1,749	1,600	2,000	2,000	2,000	2,400	2,800
Daily feed requirement kg DM @	kg	2.5%	23	38	23	32	44	40	50	50	50	60	70
Annual feed requirement kg DM @	kg		8,304	13,802	8,549	11,749	15,957	14,600	18,250	18,250	18,250	21,900	25,550
Conversion to maize grain equivalent	kg	2.5	3,320	5,520	3,420	4,700	6,380	5,840	7,300	7,300	7,300	8,760	10,220

Annex 1 Table 38 Milk – Yields and Inputs

YIELDS AND INPUTS ^{1/a}		Feb – Nov						
		Existing		New Technology			Increments	
		Technology	1	5	10 to 25	1	5	10 to 25
Unit	1 to 25	1	5	10 to 25	1	5	10 to 25	
Main Production								
Milk sales	litre	3,514	3,978	8,874	18,270	464	5,360	14,756
Cow manure	kg	18,250	21,900	26,280	52,560	3,650	8,030	34,310
Operating								
Inputs								
Cattle vaccines & treatments	head	5	4	6	12	-1	1	7
Feed supplement - cattle	each	-	3	4	7	3	4	7
Livestock feed requirement	kg	3,320	5,140	5,830	10,760	1,820	2,510	7,440
Artificial insemination	service	-	-	4	7	-	4	7
Labor								
January - milking	woman day	3	3	5	8	-	2	5
February - milking	woman day	3	3	5	8	-	2	5
March - milking	woman day	3	3	5	8	-	2	5
April - milking	woman day	3	3	5	8	-	2	5
May - milking	woman day	3	3	5	8	-	2	5
June - milking	woman day	3	3	5	8	-	2	5
July - milking	woman day	3	3	5	8	-	2	5
August - milking	woman day	3	3	5	8	-	2	5
September - milking	woman day	3	3	5	8	-	2	5
October - milking	woman day	3	3	5	8	-	2	5
November - milking	woman day	3	3	5	8	-	2	5
December - milking	woman day	3	3	5	8	-	2	5
January - forage collection	woman day	4	4	6	8	-	2	4
February - forage collection	woman day	4	4	6	8	-	2	4
March - forage collection	woman day	4	4	6	8	-	2	4
April - forage collection	woman day	4	4	6	8	-	2	4
May - forage collection	woman day	4	4	6	8	-	2	4
June - forage collection	woman day	4	4	6	8	-	2	4
July - forage collection	woman day	4	4	6	8	-	2	4
August - forage collection	woman day	4	4	6	8	-	2	4
September - forage collection	woman day	4	4	6	8	-	2	4
October - forage collection	woman day	4	4	6	8	-	2	4
November - forage collection	woman day	4	4	6	8	-	2	4
December - forage collection	woman day	4	4	6	8	-	2	4
Jan shed cleaning	woman day	-	1	2	3	1	2	3
Feb shed cleaning	woman day	-	1	2	3	1	2	3
Mar shed cleaning	woman day	-	1	2	3	1	2	3
Apr shed cleaning	woman day	-	1	2	3	1	2	3
May shed cleaning	woman day	-	1	2	3	1	2	3
Jun shed cleaning	woman day	-	1	2	3	1	2	3
Jul shed cleaning	woman day	-	1	2	3	1	2	3
Aug shed cleaning	woman day	-	1	2	3	1	2	3
Sep shed cleaning	woman day	-	1	2	3	1	2	3
Oct shed cleaning	woman day	-	1	2	3	1	2	3
Nov shed cleaning	woman day	-	1	2	3	1	2	3
Dec shed cleaning	woman day	-	1	2	3	1	2	3

^{1/a} Building a 2 cow herd to a 7 cow herd over 10 years.

Annex 1 Table 39 Milk – Financial Budget

Agricultural Sector Development Project

Milk Activity Model

FINANCIAL BUDGET

(In NRP '000) /a

	Feb -- Nov							
	Existing Technology				New Technology			
	1 to 25	1	5	10 to 25	1	5	10 to 25	
Revenue								
Milk sales	211	239	532	1,096	28	322	885	
Cow manure	37	44	53	105	7	16	69	
Sub-total Revenue	247	282	585	1,201	35	338	954	
Input costs								
Cattle vaccines & treatments	5	4	6	12	-1	1	7	
Feed supplement - cattle	-	9	12	21	9	12	21	
Livestock feed requirement	66	103	117	215	36	50	149	
Artificial insemination	-	-	4	7	-	4	7	
Sub-total Input costs	71	116	139	255	44	67	184	
Income (Before Labor Costs)	176	167	446	946	-9	270	770	
Labor costs								
January - milking	2	2	3	4	-	1	3	
February - milking	2	2	3	4	-	1	3	
March - milking	2	2	3	4	-	1	3	
April - milking	2	2	3	4	-	1	3	
May - milking	2	2	3	4	-	1	3	
June - milking	2	2	3	4	-	1	3	
July - milking	2	2	3	4	-	1	3	
August - milking	2	2	3	4	-	1	3	
September - milking	2	2	3	4	-	1	3	
October - milking	2	2	3	4	-	1	3	
November - milking	2	2	3	4	-	1	3	
December - milking	2	2	3	4	-	1	3	
January - forage collection	2	2	3	4	-	1	2	
February - forage collection	2	2	3	4	-	1	2	
March - forage collection	2	2	3	4	-	1	2	
April - forage collection	2	2	3	4	-	1	2	
May - forage collection	2	2	3	4	-	1	2	
June - forage collection	2	2	3	4	-	1	2	
July - forage collection	2	2	3	4	-	1	2	
August - forage collection	2	2	3	4	-	1	2	
September - forage collection	2	2	3	4	-	1	2	
October - forage collection	2	2	3	4	-	1	2	
November - forage collection	2	2	3	4	-	1	2	
December - forage collection	2	2	3	4	-	1	2	
Jan shed cleaning	-	1	1	2	1	1	2	
Feb shed cleaning	-	1	1	2	1	1	2	
Mar shed cleaning	-	1	1	2	1	1	2	
Apr shed cleaning	-	1	1	2	1	1	2	
May shed cleaning	-	1	1	2	1	1	2	
Jun shed cleaning	-	1	1	2	1	1	2	
Jul shed cleaning	-	1	1	2	1	1	2	
Aug shed cleaning	-	1	1	2	1	1	2	
Sep shed cleaning	-	1	1	2	1	1	2	
Oct shed cleaning	-	1	1	2	1	1	2	
Nov shed cleaning	-	1	1	2	1	1	2	
Dec shed cleaning	-	1	1	2	1	1	2	
Sub-total Labor costs	42	48	77	114	6	35	72	
Income (After Labor Costs)	134	119	369	832	-15	235	698	

Income Before Labor: IRR = None, NPV = 3,781.61

Income After Labor: IRR = None, NPV = 3,385.28

/a Building a 2 cow herd to a 7 cow herd over 10 years.

Annex 2 – Value Chain Household Farm Budgets

Annex 2 Table 1 Apple VC Household – Low Hills – Production and Inputs	347
Annex 2 Table 2 Apple VC Household – Low Hills – Financial Budget	348
Annex 2 Table 3 Apple VC Household – High Hills – Production and Inputs	349
Annex 2 Table 4 Apple VC Household – High Hills – Financial Budget	350
Annex 2 Table 5 Ginger VC Household – Production and Inputs	351
Annex 2 Table 6 Ginger VC Household – Financial Budget	352
Annex 2 Table 7 Off-season Vegetables VC Household – Low Hills – Production and Inputs	353
Annex 2 Table 8 Off-season Vegetables VC Household – Low Hills – Financial Budget	354
Annex 2 Table 9 Off-season Vegetables VC Household – Mid Hills – Production and Inputs	356
Annex 2 Table 10 Off-season Vegetables VC Household – Mid Hills – Financial Budget	357
Annex 2 Table 11 Orange VC Household – Production and Inputs	358
Annex 2 Table 12 Orange VC Household – Financial Budget	360
Annex 2 Table 13 Potato VC Household – Mid Hills – Production and Inputs	362
Annex 2 Table 14 Potato VC Household – Mid Hills – Financial Budget	363
Annex 2 Table 15 Potato VC Household – High Hills – Production and Inputs	364
Annex 2 Table 16 Potato VC Household – High Hills – Financial Budget	365
Annex 2 Table 17 Timur VC Household – Production and Inputs	366
Annex 2 Table 18 Timur VC Household – Financial Budget	367
Annex 2 Table 19 Turmeric VC Household – Production and Inputs	368
Annex 2 Table 20 Turmeric VC Household – Financial Budget	369
Annex 2 Table 21 Walnut VC Household – Production and Inputs	370
Annex 2 Table 22 Walnut VC Household – Financial Budget	371
Annex 2 Table 23 Goat VC Household – Low Hills – Production and Inputs	372
Annex 2 Table 24 Goat VC Household – Low Hills – Financial Budget	373
Annex 2 Table 25 Goat VC Household – High Hills – Production and Inputs	375
Annex 2 Table 26 Goat VC Household – High Hills – Financial Budget	376
Annex 2 Table 27 Milk VC Household – Production and Inputs	377
Annex 2 Table 28 Milk VC Household – Financial Budget	378

Annex 2 Table 1 Apple VC Household – Low Hills – Production and Inputs

Agricultural Sector Development Project
Apple VC - Low Hills Household
PRODUCTION AND INPUTS (Detailed)
(In Units) /a

Unit	Feb -- Nov									
	Without Project			With Project			Increments			
	1	5	10	1	5	10	1	5	10	
Main Production										
Apples Grades A & B	kg	304	530	608	304	1,673	3,296	-	1,143	2,688
Apples Grades C & D	kg	896	1,567	1,792	896	1,237	2,200	-	-330	408
Wheat	kg	450	450	-	450	450	0	-	-	0
Paddy	kg	-	-	750	-	0	750	-	0	-
Maize	kg	500	500	500	135	135	135	-365	-365	-365
Wheat straw	kg	1,125	1,125	-	1,125	1,125	0	-	-	0
Maize straw	kg	540	540	540	135	250	250	-405	-290	-290
Paddy straw	kg	-	-	1,125	-	0	1,125	-	0	-
Investment										
Irrigation scheme	lump sum	-	-	-	1	-	-	1	-	-
Apple Grading Machine	each	-	-	-	1	-	-	1	-	-
Operating										
Purchased Inputs										
Improved wheat seed	kg	18	18	-	18	18	0	-	-	0
Improved maize seed	kg	4	4	4	1	1	1	-3	-3	-3
Improved paddy seed	kg	-	-	8	-	0	8	-	0	-
DAP	kg	16	16	14	10	10	8	-6	-6	-6
Urea	kg	35	35	35	20	20	20	-15	-15	-15
Potash	kg	12	12	14	6	6	8	-6	-6	-6
Farm yard manure	basket	32	32	32	85	93	93	53	61	61
Copper sulphate	kg	-	-	-	2	2	2	2	2	2
Lime	kg	-	-	-	3	4	4	3	4	4
Servo/Horticulture oil	kg	-	-	-	0	0	0	0	0	0
Blitox 50	kg	-	-	-	0	0	0	0	0	0
Micronutrient	kg	-	-	-	0	0	0	0	0	0
Agro-chemicals	lump sum	1,750	1,750	1,750	1,000	1,000	1,000	-750	-750	-750
Labor										
April male labor	man day	3	3	3	1	1	1	-2	-2	-2
June male labor	man day	-	-	6	-	0	6	-	0	-
September male labor	man day	-	-	-	3	5	6	3	5	6
November male labor	man day	3	3	-	3	3	0	-	-	0
January female labor	woman day	2	2	-	2	2	0	-	-	0
February female labor	woman day	-	-	-	6	9	12	6	9	12
April female labor	woman day	7	7	1	6	6	0	-1	-1	-1
May female labor	woman day	2	2	2	1	1	1	-2	-2	-2
June female labor	woman day	-	-	0	-	-	0	-	-	-
July female labor	woman day	6	6	11	2	2	6	-5	-5	-5
August female labor	woman day	-	-	3	-	0	3	-	0	-
September female labor	woman day	11	14	14	18	32	42	6	17	27
October female labor	woman day	-	-	9	-	0	9	-	0	-
November female labor	woman day	1	1	-	1	1	0	-	-	0
Hired labour - LRP	person day	-	-	-	6	6	6	6	6	6

^a Jumla & Mugu Districts

Annex 2 Table 2 Apple VC Household – Low Hills – Financial Budget

Agricultural Sector Development Project

Apple VC - Low Hills Household

FINANCIAL BUDGET (DETAILED)

(In NRP '000) /a

	Feb -- Nov								
	Without Project			With Project			Increments		
	1	5	10	1	5	10	1	5	10
Main Production									
Apples Grades A & B	16.7	29.2	33.4	16.7	92.0	181.3	-	62.9	147.9
Apples Grades C & D	17.9	31.3	35.8	17.9	24.7	44.0	-	-6.6	8.2
Wheat	11.3	11.3	-	11.3	11.3	0.0	-	-	0.0
Paddy	-	-	15.0	-	0.0	15.0	-	0.0	-
Maize	10.0	10.0	10.0	2.7	2.7	2.7	-7.3	-7.3	-7.3
Wheat straw	11.3	11.3	-	11.3	11.3	0.0	-	-	0.0
Maize straw	4.3	4.3	4.3	1.1	2.0	2.0	-3.2	-2.3	-2.3
Paddy straw	-	-	11.3	-	0.0	11.3	-	0.0	-
Sub-total Main Production	71.5	97.3	109.9	60.9	144.0	256.2	-10.5	46.6	146.4
Production Cost									
Investment									
Irrigation scheme	-	-	-	23.3	-	-	23.3	-	-
Apple Grading Machine	-	-	-	11.7	-	-	11.7	-	-
Sub-total Investment Costs	-	-	-	35.0	-	-	35.0	-	-
Operating									
Purchased Inputs									
Improved wheat seed	0.9	0.9	-	0.9	0.9	0.0	-	-	0.0
Improved maize seed	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1
Improved paddy seed	-	-	0.5	-	0.0	0.5	-	0.0	-
DAP	0.8	0.8	0.7	0.5	0.5	0.4	-0.3	-0.3	-0.3
Urea	1.4	1.4	1.4	0.8	0.8	0.8	-0.6	-0.6	-0.6
Potash	0.4	0.4	0.4	0.2	0.2	0.2	-0.2	-0.2	-0.2
Farm yard manure	1.6	1.6	1.6	4.3	4.7	4.7	2.7	3.1	3.1
Copper sulphate	-	-	-	0.7	1.0	1.0	0.7	1.0	1.0
Lime	-	-	-	0.2	0.2	0.2	0.2	0.2	0.2
Servo/Horticulture oil	-	-	-	0.2	0.2	0.2	0.2	0.2	0.2
Blitox 50	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1
Micronutrient	-	-	-	0.2	0.3	0.3	0.2	0.3	0.3
Agro-chemicals	1.8	1.8	1.8	1.0	1.0	1.0	-0.8	-0.8	-0.8
Sub-Total Purchased Inputs	6.9	6.9	6.4	9.0	9.9	9.4	2.1	3.0	3.0
Labor									
September female labor	-	-	-	-	0.9	5.8	-	0.9	5.8
Hired labour - LRP	-	-	-	6.2	6.2	6.2	6.2	6.2	6.2
Sub-Total Hired Labor	-	-	-	6.2	7.1	12.0	6.2	7.1	12.0
Sub-total Operating Costs	6.9	6.9	6.4	15.2	17.0	21.4	8.3	10.1	15.0
Sub-Total Production Cost	6.9	6.9	6.4	50.2	17.0	21.4	43.3	10.1	15.0
Other Costs									
Lead resource person fee	-	-	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	-	-	3.5	3.5	-	3.5	3.5
Sub-Total Other Costs	-	-	-	4.0	7.5	4.0	4.0	7.5	7.5
OUTFLOWS	6.9	6.9	6.4	54.2	24.5	28.9	47.3	17.6	22.5
Cash Flow Before Financing	64.6	90.4	103.4	6.7	119.5	227.3	-57.8	29.1	123.9
Financial Inflows									
Disbursements on Long Term Loan	-	-	-	5.3	-	-	5.3	-	-
Disbursements on Short Term Loan	-	-	-	8.3	10.1	15.0	8.3	10.1	15.0
Transfer from Previous Period	6.4	6.9	6.4	6.4	6.9	6.4	-	-	-
Grants									
Grant - Irrigation	-	-	-	19.8	-	-	19.8	-	-
Grant - Grading machine	-	-	-	14.2	-	-	14.2	-	-
Sub-Total Grants	-	-	-	34.0	-	-	34.0	-	-
Sub-Total Financial Inflows	6.4	6.9	6.4	54.0	17.0	21.4	47.5	10.1	15.0
Financial Outflows									
Long Term Principal	-	-	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-	-	-
Short Term Principal	-	-	-	-	9.2	14.1	-	9.2	14.1
Short Term Interest	-	-	-	-	1.6	2.5	-	1.6	2.5
Transfer to Next Period	6.4	6.4	6.9	6.4	16.4	16.8	-	9.9	9.9
Sub-Total Financial Outflows	6.4	6.4	6.9	6.4	27.2	33.4	-	20.7	26.5
Net Financing	-	0.5	-0.5	47.5	-10.2	-12.0	47.5	-10.7	-11.5
Cash Flow After Financing	64.6	90.9	103.0	54.3	109.3	215.3	-10.3	18.4	112.4
Residual value of									
Transfer to Next Period	-	-	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	64.6	90.9	103.0	54.3	109.3	215.3	-10.3	18.4	112.4
Returns per Family-Day of Labor	1.9	2.4	2.1	1.3	1.9	2.9	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	-	-	0.9	4.6	-	-	-

IRR = 73.7%, NPV = 562.24

1a Jumla & Mugu Districts

Annex 2 Table 3 Apple VC Household – High Hills – Production and Inputs

Agricultural Sector Development Project
Apple VC - High Hills Household
PRODUCTION AND INPUTS (Detailed)
(In Units) /a

Unit	Feb -- Nov									
	Without Project			With Project			Increments			
	1	5	10	1	5	10	1	5	10	
Main Production										
Apples Grades A & B	kg	304	530	608	304	1,673	3,296	-	1,143	2,688
Apples Grades C & D	kg	896	1,567	1,792	896	1,237	2,200	-	-330	408
Maize	kg	875	875	875	540	540	540	-335	-335	-335
Maize straw	kg	945	945	945	540	1,000	1,000	-405	55	55
Investment										
Irrigation scheme	lump sum	-	-	-	1	-	-	1	-	-
Apple Grading Machine	each	-	-	-	1	-	-	1	-	-
Operating										
Purchased Inputs										
Improved maize seed	kg	7	7	7	4	4	4	-3	-3	-3
DAP	kg	14	14	14	8	8	8	-6	-6	-6
Urea	kg	35	35	35	20	20	20	-15	-15	-15
Potash	kg	14	14	14	8	8	8	-6	-6	-6
Farm yard manure	basket	32	32	32	85	93	93	53	61	61
Copper sulphate	kg	-	-	-	2	2	2	2	2	2
Lime	kg	-	-	-	3	4	4	3	4	4
Servo/Horticulture oil	kg	-	-	-	0	0	0	0	0	0
Blitox 50	kg	-	-	-	0	0	0	0	0	0
Micronutrient	kg	-	-	-	0	0	0	0	0	0
Agro-chemicals	lump sum	1,750	1,750	1,750	1,000	1,000	1,000	-750	-750	-750
Labor										
April male labor	man day	5	5	5	3	3	3	-2	-2	-2
September male labor	man day	-	-	-	3	5	6	3	5	6
February female labor	woman day	-	-	-	6	9	12	6	9	12
April female labor	woman day	2	2	2	1	1	1	-1	-1	-1
May female labor	woman day	4	4	4	2	2	2	-2	-2	-2
July female labor	woman day	11	11	11	6	6	6	-5	-5	-5
September female labor	woman day	11	14	14	18	32	42	6	17	27
Hired labour - LRP	person day	-	-	-	6	6	6	6	6	6

/a Jumla, Kalicot, Humla, Mugu and Dolpa Districts

Annex 2 Table 4 Apple VC Household – High Hills – Financial Budget

Agricultural Sector Development Project
Apple VC - High Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov								
	Without Project			With Project			Increments		
	1	5	10	1	5	10	1	5	10
Main Production									
Apples Grades A & B	16.7	29.2	33.4	16.7	92.0	181.3	-	62.9	147.9
Apples Grades C & D	17.9	31.3	35.8	17.9	24.7	44.0	-	-6.6	8.2
Maize	17.5	17.5	17.5	10.8	10.8	10.8	-6.7	-6.7	-6.7
Maize straw	7.6	7.6	7.6	4.3	8.0	8.0	-3.2	0.4	0.4
Sub-total Main Production	59.7	85.6	94.3	49.8	135.6	244.1	-9.9	50.0	149.7
Production Cost									
Investment									
Irrigation scheme	-	-	-	23.3	-	-	23.3	-	-
Apple Grading Machine	-	-	-	11.7	-	-	11.7	-	-
Sub-total Investment Costs	-	-	-	35.0	-	-	35.0	-	-
Operating									
Purchased Inputs									
Improved maize seed	0.2	0.2	0.2	0.1	0.1	0.1	-0.1	-0.1	-0.1
DAP	0.7	0.7	0.7	0.4	0.4	0.4	-0.3	-0.3	-0.3
Urea	1.4	1.4	1.4	0.8	0.8	0.8	-0.6	-0.6	-0.6
Potash	0.4	0.4	0.4	0.2	0.2	0.2	-0.2	-0.2	-0.2
Farm yard manure	1.6	1.6	1.6	4.3	4.7	4.7	2.7	3.1	3.1
Copper sulphate	-	-	-	0.7	1.0	1.0	0.7	1.0	1.0
Lime	-	-	-	0.2	0.2	0.2	0.2	0.2	0.2
Servo/Horticulture oil	-	-	-	0.2	0.2	0.2	0.2	0.2	0.2
Blitox 50	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1
Micronutrient	-	-	-	0.2	0.3	0.3	0.2	0.3	0.3
Agro-chemicals	1.8	1.8	1.8	1.0	1.0	1.0	-0.8	-0.8	-0.8
Sub-Total Purchased Inputs	6.1	6.1	6.1	8.2	9.0	9.0	2.1	3.0	3.0
Labor									
September female labor	-	-	-	-	0.9	5.8	-	0.9	5.8
Hired labour - LRP	-	-	-	6.2	6.2	6.2	6.2	6.2	6.2
Sub-Total Hired Labor	-	-	-	6.2	7.1	12.0	6.2	7.1	12.0
Sub-total Operating Costs	6.1	6.1	6.1	14.4	16.1	21.0	8.3	10.1	15.0
Sub-Total Production Cost	6.1	6.1	6.1	49.4	16.1	21.0	43.3	10.1	15.0
Other Costs									
Lead resource person fee	-	-	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	-	-	3.5	3.5	-	3.5	3.5
Sub-Total Other Costs	-	-	-	4.0	7.5	7.5	4.0	7.5	7.5
OUTFLOWS	6.1	6.1	6.1	53.4	23.6	28.5	47.3	17.6	22.5
Cash Flow Before Financing	53.6	79.5	88.3	-3.6	111.9	215.6	-57.2	32.4	127.3
Financial Inflows									
Disbursements on Long Term Loan	-	-	-	5.3	-	-	5.3	-	-
Disbursements on Short Term Loan	-	-	-	8.3	10.1	15.0	8.3	10.1	15.0
Transfer from Previous Period	6.1	6.1	6.1	6.1	6.1	6.1	-	-	-
Grants									
Grant - Irrigation	-	-	-	19.8	-	-	19.8	-	-
Grant - Grading machine	-	-	-	14.2	-	-	14.2	-	-
Sub-Total Grants	-	-	-	34.0	-	-	34.0	-	-
Sub-Total Financial Inflows	6.1	6.1	6.1	53.6	16.1	21.0	47.5	10.1	15.0
Financial Outflows									
Long Term Principal	-	-	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-	-	-
Short Term Principal	-	-	-	-	9.2	14.1	-	9.2	14.1
Short Term Interest	-	-	-	-	1.6	2.5	-	1.6	2.5
Transfer to Next Period	6.1	6.1	6.1	6.1	16.0	16.0	-	9.9	9.9
Sub-Total Financial Outflows	6.1	6.1	6.1	6.1	26.8	32.6	-	20.7	26.5
Net Financing	-	-	-	47.5	-10.7	-11.5	47.5	-10.7	-11.5
Cash Flow After Financing	53.6	79.5	88.3	43.9	101.3	204.0	-9.7	21.8	115.7
Residual value of									
Transfer to Next Period	-	-	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	53.6	79.5	88.3	43.9	101.3	204.0	-9.7	21.8	115.7
Returns per Family-Day of Labor	1.7	2.2	2.5	1.1	1.8	3.4	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	-	-	1.1	4.7	-	-	-

IRR = 80.5%, NPV = 586.97

1a Jumla, Kalicot, Humla, Mugu and Dolpa Districts

Annex 2 Table 5 Ginger VC Household – Production and Inputs

Agricultural Sector Development Project Ginger VC Household PRODUCTION AND INPUTS (Detailed) (In Units) /a		Feb -- Nov						
		Without Project			With Project		Increments	
		Unit	1 to 10	1	5 to 10	1	5 to 10	
Main Production								
Ginger - existing	kg	1,200	-	-	-1,200	-1,200		
Ginger - new	kg	-	2,000	4,000	2,000	4,000		
Ginger - rhizomes	kg	300	500	1,000	200	700		
Wheat	kg	450	450	450	-	-		
Paddy	kg	750	750	750	-	-		
Maize	kg	750	540	540	-210	-210		
Wheat straw	kg	1,125	1,125	1,125	-	-		
Maize straw	kg	810	540	1,000	-270	190		
Paddy straw	kg	1,125	1,125	1,125	-	-		
On-Farm Consumption								
Wheat	kg	450	450	450	-	-		
Paddy	kg	750	750	750	-	-		
Sales								
Ginger - existing	kg	1,200	-	-	-1,200	-1,200		
Ginger - new	kg	-	2,000	4,000	2,000	4,000		
Ginger - rhizomes	kg	300	500	1,000	200	700		
Maize	kg	750	540	540	-210	-210		
Wheat straw	kg	1,125	1,125	1,125	-	-		
Maize straw	kg	810	540	1,000	-270	190		
Paddy straw	kg	1,125	1,125	1,125	-	-		
Investment								
Irrigation	lump sum	-	1	-	1	-		
HH rhizome storage facility	each	-	1	-	1	-		
Ginger drying unit	lump sum	-	1	-	1	-		
Mini tractor	lump sum	-	1	-	1	-		
Operating								
Purchased Inputs								
Ginger rhizomes	kg	300	1,000	1,000	700	700		
Improved wheat seed	kg	18	18	18	-	-		
Improved maize seed	kg	6	4	4	-2	-2		
Improved paddy seed	kg	8	8	8	-	-		
DAP	kg	26	22	22	-4	-4		
Urea	kg	60	50	50	-10	-10		
Potash	kg	22	18	18	-4	-4		
Farm yard manure	basket	60	150	250	90	190		
Agro-chemicals	lump sum	3,000	2,500	2,500	-500	-500		
Labor								
January male labor	man day	3	5	10	2	7		
April male labor	man day	5	3	3	-2	-2		
June male labor	man day	6	6	6	-	-		
November male labor	man day	3	3	3	-	-		
January female labor	woman day	11	19	27	9	16		
April female labor	woman day	14	17	17	4	4		
May female labor	woman day	3	2	2	-1	-1		
June female labor	woman day	0	5	5	5	5		
July female labor	woman day	14	21	21	7	7		
August female labor	woman day	3	3	3	-	-		
October female labor	woman day	9	9	9	-	-		
November female labor	woman day	1	1	1	-	-		
Hired labour - LRP	person day	3	5	5	2	2		

/a Surkhet, Salyan, Jajarkot, Dialect and Rukum.

Annex 2 Table 6 Ginger VC Household – Financial Budget

Agricultural Sector Development Project
Ginger VC Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb – Nov				
	Without Project		With Project		
	1 to 10	1	5 to 10	1	5 to 10
Main Production					
Ginger - existing	30.0	-	-	-30.0	-30.0
Ginger - new	-	60.0	120.0	60.0	120.0
Ginger - rhizomes	15.0	25.0	50.0	10.0	35.0
Wheat	11.3	11.3	11.3	-	-
Paddy	15.0	15.0	15.0	-	-
Maize	15.0	10.8	10.8	-4.2	-4.2
Wheat straw	11.3	11.3	11.3	-	-
Maize straw	6.5	4.3	8.0	-2.2	1.5
Paddy straw	11.3	11.3	11.3	-	-
Sub-total Main Production	115.2	148.9	237.6	33.6	122.3
On-Farm Consumption					
Wheat	11.3	11.3	11.3	-	-
Paddy	15.0	15.0	15.0	-	-
Sub-Total On-Farm Consumption	26.3	26.3	26.3	-	-
Net Value Of Production	89.0	122.6	211.3	33.6	122.3
Production Cost					
Investment					
Irrigation	-	16.7	-	16.7	-
HH rhizome storage facility	-	200.0	-	200.0	-
Ginger drying unit	-	100.0	-	100.0	-
Mini tractor	-	10.0	-	10.0	-
Sub-total Investment Costs	-	326.7	-	326.7	-
Operating					
Purchased Inputs					
Ginger rhizomes	15.0	50.0	50.0	35.0	35.0
Improved wheat seed	0.9	0.9	0.9	-	-
Improved maize seed	0.2	0.1	0.1	-0.1	-0.1
Improved paddy seed	0.5	0.5	0.5	-	-
DAP	1.3	1.1	1.1	-0.2	-0.2
Urea	2.4	2.0	2.0	-0.4	-0.4
Potash	0.7	0.5	0.5	-0.1	-0.1
Farm yard manure	3.0	7.5	12.5	4.5	9.5
Agro-chemicals	3.0	2.5	2.5	-0.5	-0.5
Sub-Total Purchased Inputs	26.9	65.1	70.1	38.2	43.2
Labor					
Hired labour - LRP	3.0	5.0	5.0	2.0	2.0
Sub-total Operating Costs	29.9	70.1	75.1	40.2	45.2
Sub-Total Production Cost	29.9	396.7	75.1	366.9	45.2
Other Costs					
Lead resource person fee	-	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	3.5	-	3.5
Miscellaneous establishment costs	-	10.0	-	10.0	-
Sub-Total Other Costs	-	14.0	7.5	14.0	7.5
OUTFLOWS	29.9	410.7	82.6	380.9	52.7
Cash Flow Before Financing	59.1	-288.1	128.7	-347.2	69.6
Farm Family Benefits Before Financing	85.4	-261.9	155.0	-347.2	69.6
Financial Inflows					
Disbursements on Long Term Loan	-	119.0	-	119.0	-
Disbursements on Short Term Loan	-	40.2	45.2	40.2	45.2
Transfer from Previous Period	29.9	29.9	29.9	-	-
Grants					
Grant - Irrigation	-	14.2	-	14.2	-
Grant - Seed storage facility	-	100.0	-	100.0	-
Grant - Ginger drying unit	-	85.0	-	85.0	-
Grant - Mini tractor	-	8.5	-	8.5	-
Sub-Total Grants	-	207.7	-	207.7	-
Sub-Total Financial Inflows	29.9	396.7	75.1	366.9	45.2
Financial Outflows					
Long Term Principal	-	-	-	-	-
Long Term Interest	-	-	-	-	-
Short Term Principal	-	-	45.2	-	45.2
Short Term Interest	-	-	8.1	-	8.1
Transfer to Next Period	29.9	29.9	38.4	-	8.5
Sub-Total Financial Outflows	29.9	29.9	91.7	-	61.9
Net Financing	-	366.9	-16.6	366.9	-16.6
Cash Flow After Financing	59.1	78.8	112.1	19.6	53.0
Residual value of					
Transfer to Next Period	-	-0.0	-	-0.0	-
Farm Family Benefits After Financing	85.4	105.0	138.3	19.6	53.0
Returns per Family-Day of Labor	1.2	1.1	1.3	-	-
Incremental Returns per Incremental Family-Day of Labor	-	0.8	1.5	-	-

IRR = 50.5%, NPV = 309.09

/a Surkhet, Salyan, Jajarkot, Dialect and Rukum.

Annex 2 Table 7 Off-season Vegetables VC Household – Low Hills – Production and Inputs

Agricultural Sector Development Project

OSV VC - Low Hills Household

PRODUCTION AND INPUTS (Detailed)

(In Units) /a

Unit	Feb -- Nov								
	Without Project	With Project			Increments				
	1 to 10	1	5	10	1	5	10		
Main Production									
Tomato traditional	kg	561	-	-	-	-561	-561	-561	
Tomato improved	kg	-	666	1,862	1,995	666	1,862	1,995	
Cole vegetables traditional	kg	561	-	-	-	-561	-561	-561	
Cole vegetables improved	kg	-	666	1,862	1,995	666	1,862	1,995	
Cucumber traditional	kg	561	-	-	-	-561	-561	-561	
Cucumber improved	kg	-	666	1,862	1,995	666	1,862	1,995	
Wheat	kg	225	225	225	225	-	-	-	
Paddy	kg	375	375	375	375	-	-	-	
Maize	kg	875	945	675	675	70	-200	-200	
Wheat straw	kg	563	563	563	563	-	-	-	
Maize straw	kg	945	945	1,250	1,250	-	305	305	
Paddy straw	kg	563	563	563	563	-	-	-	
Investment									
Irrigation scheme	lump sum	-	1	-	-	1	-	-	
Plastic tunnels	lump sum	-	1	-	1	1	-	1	
Mini tractor	lump sum	-	1	-	-	1	-	-	
Operating									
Purchased Inputs									
Tomato seed	packet	1	1	1	1	0	1	1	
Cole vegetables	packet	1	1	1	1	0	1	1	
Cucumber seed	packet	1	1	1	1	0	1	1	
Improved wheat seed	kg	9	9	9	9	-	-	-	
Improved maize seed	kg	7	7	5	5	-	-2	-2	
Improved paddy seed	kg	4	4	4	4	-	-	-	
DAP	kg	21	27	42	42	6	21	21	
Urea	kg	58	64	76	76	6	18	18	
Potash	kg	19	26	37	37	7	19	19	
Farm yard manure	basket	33	47	200	200	14	167	167	
Staking materials	lump sum	1,485	-	-	-	-1,485	-1,485	-1,485	
Staking materials improved	lump sum	-	2,664	7,980	7,980	2,664	7,980	7,980	
Plastic & Bamboo	lump sum	116	433	1,995	1,995	317	1,880	1,880	
Agro-chemicals	lump sum	4,150	5,497	11,310	11,310	1,347	7,160	7,160	
Labor									
February male labor	man day	-	1	3	3	1	3	3	
April male labor	man day	6	5	4	4	-1	-2	-2	
June male labor	man day	3	3	3	3	-	-	-	
July male labor	man day	-	0	0	0	0	0	0	
October male labor	man day	1	-	-	-	-1	-1	-1	
November male labor	man day	2	2	2	2	-0	-0	-0	
January female labor	woman day	1	2	3	3	1	3	3	
February female labor	woman day	-	8	20	20	8	20	20	
March female labor	woman day	1	9	21	21	8	19	19	
April female labor	woman day	8	9	14	14	2	7	7	
May female labor	woman day	4	4	3	3	-1	-2	-2	
June female labor	woman day	2	1	1	1	-2	-1	-1	
July female labor	woman day	15	16	22	22	1	6	6	
August female labor	woman day	2	2	3	3	0	1	1	
September female labor	woman day	1	2	5	5	2	5	5	
October female labor	woman day	7	7	10	10	-0	3	3	
November female labor	woman day	7	2	4	4	-5	-3	-3	
December female labor	woman day	6	-	-	-	-6	-6	-6	

/a <1,000m Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 8 Off-season Vegetables VC Household – Low Hills – Financial Budget

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Economic and financial analysis

Agricultural Sector Development Project
OSV VC - Low Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov						
	Without Project	With Project			Increments		
	1 to 10	1	5	10	1	5	10
Main Production							
Tomato traditional	11.2	-	-	-	-11.2	-11.2	-11.2
Tomato improved	-	13.3	44.7	57.9	13.3	44.7	57.9
Cole vegetables traditional	8.4	-	-	-	-8.4	-8.4	-8.4
Cole vegetables improved	-	10.0	35.4	47.9	10.0	35.4	47.9
Cucumber traditional	8.4	-	-	-	-8.4	-8.4	-8.4
Cucumber improved	-	10.0	35.4	47.9	10.0	35.4	47.9
Wheat	5.6	5.6	5.6	5.6	-	-	-
Paddy	7.5	7.5	7.5	7.5	-	-	-
Maize	17.5	18.9	13.5	13.5	1.4	-4.0	-4.0
Wheat straw	5.6	5.6	5.6	5.6	-	-	-
Maize straw	7.6	7.6	10.0	10.0	-	2.4	2.4
Paddy straw	5.6	5.6	5.6	5.6	-	-	-
Sub-total Main Production	77.5	84.1	163.3	201.5	6.7	85.8	124.0
Production Cost							
Investment							
Irrigation scheme	-	100.0	-	-	100.0	-	-
Plastic tunnels	-	45.0	-	45.0	45.0	-	45.0
Mini tractor	-	10.0	-	-	10.0	-	-
Sub-total Investment Costs	-	155.0	-	45.0	155.0	-	45.0
Operating							
Tomato seed	0.3	0.3	0.5	0.5	0.0	0.3	0.3
Cole vegetables	0.3	0.3	0.5	0.5	0.0	0.3	0.3
Cucumber seed	0.3	0.3	0.5	0.5	0.0	0.3	0.3
Improved wheat seed	0.5	0.5	0.5	0.5	-	-	-
Improved maize seed	0.2	0.2	0.2	0.2	-	-0.1	-0.1
Improved paddy seed	0.2	0.2	0.2	0.2	-	-	-
DAP	1.0	1.4	2.1	2.1	0.3	1.1	1.1
Urea	2.3	2.6	3.0	3.0	0.2	0.7	0.7
Potash	0.6	0.8	1.1	1.1	0.2	0.6	0.6
Farm yard manure	1.7	2.3	10.0	10.0	0.7	8.3	8.3
Staking materials	1.5	-	-	-	-1.5	-1.5	-1.5
Staking materials improved	-	2.7	8.0	8.0	2.7	8.0	8.0
Plastic & Bamboo	0.1	0.4	2.0	2.0	0.3	1.9	1.9
Agro-chemicals	4.2	5.5	11.3	11.3	1.3	7.2	7.2
Sub-total Operating Costs	13.0	17.3	39.9	39.9	4.3	26.9	26.9
Sub-Total Production Cost	13.0	172.3	39.9	84.9	159.3	26.9	71.9
Other Costs							
Lead resource person fee	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	3.5	3.5	-	3.5	3.5
Miscellaneous establishment costs	-	15.0	-	-	15.0	-	-
Sub-Total Other Costs	-	19.0	7.5	7.5	19.0	7.5	7.5
OUTFLOWS	13.0	191.3	47.4	92.4	178.3	34.4	79.4
Cash Flow Before Financing	64.5	-107.2	115.9	109.0	-171.6	51.4	44.6
Financial Inflows							
Disbursements on Long Term Loan	-	39.0	-	22.5	39.0	-	22.5
Disbursements on Short Term Loan	-	4.3	26.9	26.9	4.3	26.9	26.9
Transfer from Previous Period	13.0	13.0	13.0	35.5	-	-	22.5
Contribution from own savings	-	5.0	-	-	5.0	-	-
Grants							
Grant - Irrigation	-	85.0	-	-	85.0	-	-
Grant - Plastic house	-	17.5	-	-	17.5	-	-
Grant - Mini tractor	-	8.5	-	-	8.5	-	-
Sub-Total Grants	-	111.0	-	-	111.0	-	-
Sub-Total Financial Inflows	13.0	172.3	39.9	84.9	159.3	26.9	71.9
Financial Outflows							
Long Term Principal	-	-	10.3	-	-	10.3	-
Long Term Interest	-	-	4.1	-	-	4.1	-
Short Term Principal	-	-	26.9	26.9	-	26.9	26.9
Short Term Interest	-	-	4.8	4.8	-	4.8	4.8
Transfer to Next Period	13.0	13.0	13.0	13.0	-	-	-
Sub-Total Financial Outflows	13.0	13.0	59.2	44.8	-	46.2	31.8
Net Financing	-	159.3	-19.2	40.2	159.3	-19.2	40.2
Cash Flow After Financing	64.5	52.1	96.7	149.2	-12.4	32.2	84.7
Change in Net Worth							
Contribution from own savings	-	5.0	-	-	5.0	-	-
Residual value of							
Transfer to Next Period	-	-	-	-	-	-	-
Sub-Total Change in Net Worth	-	-5.0	-	-	-5.0	-	-
Farm Family Benefits After Financing	64.5	47.1	96.7	149.2	-17.4	32.2	84.7
Returns per Family-Day of Labor	1.0	0.6	0.8	1.3	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	0.6	1.6	-	-	-

IRR = 54.9%, NPV = 358.49

la <1,000m Surkhhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 9 Off-season Vegetables VC Household – Mid Hills – Production and Inputs

Agricultural Sector Development Project
OSV VC - Mid Hills Household
PRODUCTION AND INPUTS (Detailed)
(In Units) /a

Unit	Feb -- Nov							
	Without Project	With Project			Increments			
	1 to 25	1	5	10 to 25	1	5	10 to 25	
Main Production								
Tomato traditional	kg	561	-	-	-	-561	-561	-561
Tomato improved	kg	-	666	1,862	1,995	666	1,862	1,995
Cole vegetables traditional	kg	561	-	-	-	-561	-561	-561
Cole vegetables improved	kg	-	666	1,862	1,995	666	1,862	1,995
Cucumber traditional	kg	561	-	-	-	-561	-561	-561
Cucumber improved	kg	-	666	1,862	1,995	666	1,862	1,995
Maize	kg	1,250	1,350	1,080	1,080	100	-170	-170
Maize straw	kg	1,350	1,350	2,000	2,000	-	650	650
Investment								
Irrigation scheme	lump sum	-	1	-	-	1	-	-
Plastic tunnels	lump sum	-	1	-	-	1	-	-
Operating								
Purchased Inputs								
Tomato seed	packet	1	1	1	1	0	1	1
Cole vegetables	packet	1	1	1	1	0	1	1
Cucumber seed	packet	1	1	1	1	0	1	1
Improved maize seed	kg	10	10	8	8	-	-2	-2
DAP	kg	20	26	41	41	6	21	21
Urea	kg	58	64	76	76	6	18	18
Potash	kg	20	27	39	39	7	19	19
Farm yard manure	basket	33	47	200	200	14	167	167
Staking materials	lump sum	1,485	-	-	-	-1,485	-1,485	-1,485
Staking materials improved	lump sum	-	2,664	7,980	7,980	2,664	7,980	7,980
Plastic & Bamboo	lump sum	116	433	1,995	1,995	317	1,880	1,880
Agro-chemicals	lump sum	4,150	5,497	11,310	11,310	1,347	7,160	7,160
Labor								
February male labor	man day	-	1	3	3	1	3	3
April male labor	man day	8	8	6	6	-1	-2	-2
July male labor	man day	-	0	0	0	0	0	0
October male labor	man day	1	-	-	-	-1	-1	-1
November male labor	man day	0	-	-	-	-0	-0	-0
January female labor	woman day	-	1	3	3	1	3	3
February female labor	woman day	-	8	20	20	8	20	20
March female labor	woman day	1	9	21	21	8	19	19
April female labor	woman day	5	7	12	12	2	7	7
May female labor	woman day	6	5	4	4	-1	-2	-2
June female labor	woman day	2	1	1	1	-2	-1	-1
July female labor	woman day	18	18	24	24	1	6	6
August female labor	woman day	1	1	2	2	0	1	1
September female labor	woman day	1	2	5	5	2	5	5
October female labor	woman day	3	2	5	5	-0	3	3
November female labor	woman day	6	1	3	3	-5	-3	-3
December female labor	woman day	6	-	-	-	-6	-6	-6

1a 1,000 to 2,000m Surkhet, Salyan, Jajarkot, Dialekh, Rukum, Kalicot, Jumla, Mugu, Humla & Dolpa

Annex 2 Table 10 Off-season Vegetables VC Household – Mid Hills – Financial Budget

Agricultural Sector Development Project
OSV VC - Mid Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov											
	hout Project		With Project						Increments			
	1 to 20	25	1	5	10	15 to 20	25	1	5	10	15 to 25	
Main Production												
Tomato traditional	11.2	11.2	-	-	-	-	-	-11.2	-11.2	-11.2	-11.2	
Tomato improved	-	-	13.3	44.7	57.9	59.9	59.9	13.3	44.7	57.9	59.9	
Cole vegetables traditional	8.4	8.4	-	-	-	-	-	-8.4	-8.4	-8.4	-8.4	
Cole vegetables improved	-	-	10.0	35.4	47.9	49.9	49.9	10.0	35.4	47.9	49.9	
Cucumber traditional	8.4	8.4	-	-	-	-	-	-8.4	-8.4	-8.4	-8.4	
Cucumber improved	-	-	10.0	35.4	47.9	49.9	49.9	10.0	35.4	47.9	49.9	
Maize	25.0	25.0	27.0	21.6	21.6	21.6	21.6	2.0	-3.4	-3.4	-3.4	
Maize straw	10.8	10.8	10.8	16.0	16.0	16.0	16.0	-	5.2	5.2	5.2	
Sub-total Main Production	63.9	63.9	71.1	153.0	191.2	197.2	197.2	7.3	89.2	127.4	133.4	
Production Cost												
Investment												
Irrigation scheme	-	-	100.0	-	-	-	-	100.0	-	-	-	
Plastic tunnels	-	-	35.0	-	-	-	-	35.0	-	-	-	
Sub-total Investment Costs	-	-	135.0	-	-	-	-	135.0	-	-	-	
Operating												
Tomato seed	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.0	0.3	0.3	0.3	
Cole vegetables	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.0	0.3	0.3	0.3	
Cucumber seed	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.0	0.3	0.3	0.3	
Improved maize seed	0.3	0.3	0.3	0.2	0.2	0.2	0.2	-	-0.1	-0.1	-0.1	
DAP	1.0	1.0	1.3	2.1	2.1	2.1	2.1	0.3	1.1	1.1	1.1	
Urea	2.3	2.3	2.6	3.0	3.0	3.0	3.0	0.2	0.7	0.7	0.7	
Potash	0.6	0.6	0.8	1.2	1.2	1.2	1.2	0.2	0.6	0.6	0.6	
Farm yard manure	1.7	1.7	2.3	10.0	10.0	10.0	10.0	0.7	8.3	8.3	8.3	
Staking materials	1.5	1.5	-	-	-	-	-	-1.5	-1.5	-1.5	-1.5	
Staking materials improved	-	-	2.7	8.0	8.0	8.0	8.0	2.7	8.0	8.0	8.0	
Plastic & Bamboo	0.1	0.1	0.4	2.0	2.0	2.0	2.0	0.3	1.9	1.9	1.9	
Agro-chemicals	4.2	4.2	5.5	11.3	11.3	11.3	11.3	1.3	7.2	7.2	7.2	
Sub-total Operating Costs	12.4	12.4	16.7	39.4	39.4	39.4	39.4	4.3	26.9	26.9	26.9	
Sub-Total Production Cost	12.4	12.4	151.7	39.4	39.4	39.4	39.4	139.3	26.9	26.9	26.9	
Other Costs												
Lead resource person fee	-	-	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Annual maintenance irrigation	-	-	-	3.5	3.5	3.5	3.5	-	3.5	3.5	3.5	
Miscellaneous establishment costs	-	-	20.0	-	-	-	-	20.0	-	-	-	
Sub-Total Other Costs	-	-	24.0	7.5	7.5	7.5	7.5	24.0	7.5	7.5	7.5	
OUTFLOWS	12.4	12.4	175.7	46.9	46.9	46.9	46.9	163.3	34.4	34.4	34.4	
Cash Flow Before Financing	51.4	51.4	-104.6	106.2	144.4	150.3	150.3	-156.0	54.8	92.9	98.9	
Financial Inflows												
Disbursements on Long Term Loan	-	-	32.5	-	-	-	-	32.5	-	-	-	
Disbursements on Short Term Loan	-	-	4.3	26.9	26.9	26.9	26.9	4.3	26.9	26.9	26.9	
Transfer from Previous Period	12.4	12.4	12.4	12.4	12.4	12.4	12.4	-	-	-	-	
Grants												
Grant - Irrigation	-	-	85.0	-	-	-	-	85.0	-	-	-	
Grant - Plastic house	-	-	22.5	-	-	-	-	22.5	-	-	-	
Sub-Total Grants	-	-	107.5	-	-	-	-	107.5	-	-	-	
Sub-Total Financial Inflows	12.4	12.4	156.7	39.4	39.4	39.4	39.4	144.3	26.9	26.9	26.9	
Financial Outflows												
Long Term Principal	-	-	-	-	-	-	-	-	-	-	-	
Long Term Interest	-	-	-	-	-	-	-	-	-	-	-	
Short Term Principal	-	-	-	26.9	26.9	26.9	26.9	-	26.9	26.9	26.9	
Short Term Interest	-	-	-	4.8	4.8	4.8	4.8	-	4.8	4.8	4.8	
Transfer to Next Period	12.4	12.4	12.4	12.4	12.4	12.4	12.4	-	-	-	-	
Sub-Total Financial Outflows	12.4	12.4	12.4	44.2	44.2	44.2	44.2	-	31.8	31.8	31.8	
Net Financing	-	-	144.3	-4.8	-4.8	-4.8	-4.8	144.3	-4.8	-4.8	-4.8	
Cash Flow After Financing	51.4	51.4	39.7	101.3	139.5	145.5	145.5	-11.8	49.9	88.1	94.1	
Residual value of												
Transfer to Next Period	-	12.4	-0.0	-	-	-	12.4	-0.0	-	-	-	
Farm Family Benefits After Financing	51.4	63.9	39.7	101.3	139.5	145.5	157.9	-11.8	49.9	88.1	94.1	
Returns per Family-Day of Labor	0.8	0.9	0.6	0.9	1.3	1.3	1.4	-	-	-	-	
Incremental Returns per Incremental Family-Day of Labor	-	-	-	1.2	2.1	2.2	2.2	-	-	-	-	

IRR = 101.1%, NPV = 506.19

a 1,000 to 2,000m Surkhet, Salyan, Jajarkot, Dialekh, Rukum, Kalicot, Jumla, Mugu, Humla & Dolpa

Annex 2 Table 11 Orange VC Household – Production and Inputs

Agricultural Sector Development Project
Orange VC - Mid Hills Household
PRODUCTION AND INPUTS (Detailed)
(In Units) /a

Unit	Feb -- Nov							
	Without Project	With Project			Increments			
	1 to 10	1	5	10	1	5	10	
Main Production								
Oranges - Existing	kg	900	1,000	1,650	1,950	100	750	1,050
Oranges - New	kg	-	-	900	1,950	-	900	1,950
Wheat	kg	450	450	450	450	-	-	-
Paddy	kg	750	750	750	750	-	-	-
Maize	kg	875	675	675	675	-200	-200	-200
Wheat straw	kg	1,125	1,125	1,125	1,125	-	-	-
Maize straw	kg	945	675	1,250	1,250	-270	305	305
Paddy straw	kg	1,125	1,125	1,125	1,125	-	-	-
On-Farm Consumption								
Wheat	kg	450	450	450	450	-	-	-
Paddy	kg	750	750	750	750	-	-	-
Sales								
Oranges - Existing	kg	900	1,000	1,650	1,950	100	750	1,050
Oranges - New	kg	-	-	900	1,950	-	900	1,950
Maize	kg	875	675	675	675	-200	-200	-200
Wheat straw	kg	1,125	1,125	1,125	1,125	-	-	-
Maize straw	kg	945	675	1,250	1,250	-270	305	305
Paddy straw	kg	1,125	1,125	1,125	1,125	-	-	-
Investment								
Irrigation	lump sum	-	1	-	-	1	-	-
Operating								
Purchased Inputs								
Improved wheat seed	kg	18	18	18	18	-	-	-
Improved maize seed	kg	7	5	5	5	-2	-2	-2
Improved paddy seed	kg	8	8	8	8	-	-	-
Orange saplings	kg	-	30	-	-	30	-	-
DAP	kg	28	24	24	24	-4	-4	-4
Urea	kg	65	55	55	55	-10	-10	-10
Potash	kg	24	20	20	20	-4	-4	-4
Farm yard manure	basket	50	200	200	200	150	150	150
Copper sulphate	kg	-	1	1	1	1	1	1
Lime	kg	-	2	2	2	2	2	2
Servo/Horticulture oil	kg	-	0	0	0	0	0	0
Blitox 50	kg	-	0	0	0	0	0	0
Micronutrient	kg	-	0	0	0	0	0	0
Agro-chemicals	lump sum	3,250	2,750	2,750	2,750	-500	-500	-500
Labor								
April male labor	man day	5	4	4	4	-2	-2	-2
May male labor	man day	-	14	-	-	14	-	-
June male labor	man day	6	6	6	6	-	-	-
November male labor	man day	3	3	3	3	-	-	-
January female labor	woman day	2	2	2	2	-	-	-
February female labor	woman day	4	16	16	16	12	12	12
April female labor	woman day	8	7	7	7	-1	-1	-1
May female labor	woman day	4	3	3	3	-1	-1	-1
June female labor	woman day	0	2	0	0	2	-	-
July female labor	woman day	15	12	12	12	-3	-3	-3
August female labor	woman day	3	3	3	3	-	-	-
September female labor	woman day	18	27	57	78	9	39	60
October female labor	woman day	9	9	9	9	-	-	-
November female labor	woman day	1	1	1	1	-	-	-
Hired labour - LRP	person day	-	3	4	4	3	4	4

1a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 12 Orange VC Household – Financial Budget

Nepal
Agriculture Sector Development Programme
Final programme design report
Appendix 10: Economic and financial analysis

Agricultural Sector Development Project
Orange VC - Mid Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov						
	Without Project	With Project			Increments		
	1 to 10	1	5	10	1	5	10
Main Production							
Oranges - Existing	45.0	50.0	82.5	97.5	5.0	37.5	52.5
Oranges - New	-	-	49.5	107.3	-	49.5	107.3
Wheat	11.3	11.3	11.3	11.3	-	-	-
Paddy	15.0	15.0	15.0	15.0	-	-	-
Maize	17.5	13.5	13.5	13.5	-4.0	-4.0	-4.0
Wheat straw	11.3	11.3	11.3	11.3	-	-	-
Maize straw	7.6	5.4	10.0	10.0	-2.2	2.4	2.4
Paddy straw	11.3	11.3	11.3	11.3	-	-	-
Sub-total Main Production	118.8	117.7	204.3	277.0	-1.2	85.4	158.2
On-Farm Consumption							
Wheat	11.3	11.3	11.3	11.3	-	-	-
Paddy	15.0	15.0	15.0	15.0	-	-	-
Sub-Total On-Farm Consumption	26.3	26.3	26.3	26.3	-	-	-
Net Value Of Production	92.6	91.4	178.0	250.8	-1.2	85.4	158.2
Production Cost							
Investment							
Irrigation	-	16.7	-	-	16.7	-	-
Operating							
Purchased Inputs							
Improved wheat seed	0.9	0.9	0.9	0.9	-	-	-
Improved maize seed	0.2	0.2	0.2	0.2	-0.1	-0.1	-0.1
Improved paddy seed	0.5	0.5	0.5	0.5	-	-	-
Orange saplings	-	1.2	-	-	1.2	-	-
DAP	1.4	1.2	1.2	1.2	-0.2	-0.2	-0.2
Urea	2.6	2.2	2.2	2.2	-0.4	-0.4	-0.4
Potash	0.7	0.6	0.6	0.6	-0.1	-0.1	-0.1
Farm yard manure	2.5	10.0	10.0	10.0	7.5	7.5	7.5
Copper sulphate	-	0.6	0.6	0.6	0.6	0.6	0.6
Lime	-	0.1	0.1	0.1	0.1	0.1	0.1
Servo/Horticulture oil	-	0.1	0.1	0.1	0.1	0.1	0.1
Blitox 50	-	0.1	0.1	0.1	0.1	0.1	0.1
Micronutrient	-	0.2	0.2	0.2	0.2	0.2	0.2
Agro-chemicals	3.3	2.8	2.8	2.8	-0.5	-0.5	-0.5
Sub-Total Purchased Inputs	12.0	20.6	19.4	19.4	8.6	7.4	7.4
Labor							
September female labor	-	-	13.5	24.0	-	13.5	24.0
Hired labour - LRP	-	2.5	4.0	4.0	2.5	4.0	4.0
Sub-Total Hired Labor	-	2.5	17.5	28.0	2.5	17.5	28.0
Sub-total Operating Costs	12.0	23.1	36.9	47.4	11.1	24.9	35.4
Sub-Total Production Cost	12.0	39.8	36.9	47.4	27.8	24.9	35.4
Other Costs							
Lead resource person fee	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	3.5	3.5	-	3.5	3.5
Sub-Total Other Costs	-	4.0	7.5	7.5	4.0	7.5	7.5
OUTFLOWS	12.0	43.8	44.4	54.9	31.8	32.4	42.9
Cash Flow Before Financing	80.6	47.6	133.6	195.9	-32.9	53.0	115.3
Farm Family Benefits Before Financing	106.8	73.9	159.9	222.1	-32.9	53.0	115.3
Financial Inflows							
Disbursements on Long Term Loan	-	2.5	-	-	2.5	-	-
Disbursements on Short Term Loan	-	11.1	24.9	35.4	11.1	24.9	35.4
Transfer from Previous Period	12.0	12.0	12.0	12.0	-	-	-
Grant - Irrigation	-	14.2	-	-	14.2	-	-
Sub-Total Financial Inflows	12.0	39.8	36.9	47.4	27.8	24.9	35.4
Financial Outflows							
Long Term Principal	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-
Short Term Principal	-	-	14.4	33.9	-	14.4	33.9
Short Term Interest	-	-	2.6	6.1	-	2.6	6.1
Transfer to Next Period	12.0	12.0	12.0	12.0	-	-	-
Sub-Total Financial Outflows	12.0	12.0	29.0	52.0	-	17.0	40.0
Net Financing	-	27.8	7.9	-4.6	27.8	7.9	-4.6
Cash Flow After Financing	80.6	75.4	141.5	191.3	-5.2	61.0	110.7
Residual value of							
Transfer to Next Period	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	106.8	101.7	167.8	217.5	-5.2	61.0	110.7
Returns per Family-Day of Labor	1.4	0.9	1.8	2.3	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	3.4	6.1	-	-	-

IRR = 86.8%, NPV = 566.79

/a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 13 Potato VC Household – Mid Hills – Production and Inputs

Agricultural Sector Development Project

Potato VC - Mid Hills Household

PRODUCTION AND INPUTS (Detailed)

(In Units) /a

Unit	Without Project			Feb -- Nov With Project			Increments		
	1 to 5	10	1	5	10	1	5	10	
Main Production									
Potato - traditional	kg	1,800	1,800	-	-	-	-1,800	-1,800	-1,800
Potato - improved	kg	-	-	3,000	5,000	6,250	3,000	5,000	6,250
Potato - seed	kg	300	300	-	-	-	-300	-300	-300
Wheat	kg	450	-	450	450	0	-	-	0
Paddy	kg	-	750	-	0	750	-	0	-
Maize	kg	750	750	540	540	540	-210	-210	-210
Wheat straw	kg	1,125	-	1,125	1,125	0	-	-	0
Maize straw	kg	810	810	540	1,000	1,000	-270	190	190
Paddy straw	kg	-	1,125	-	0	1,125	-	0	-
Investment									
Irrigation scheme	lump sum	-	-	1	-	-	1	-	-
Seed storage	lump sum	-	-	1	-	-	1	-	-
Mini tractor	lump sum	-	-	1	-	-	1	-	-
Operating									
Purchased Inputs									
Potato seed	kg	300	300	600	600	600	300	300	300
Improved wheat seed	kg	18	-	18	18	0	-	-	0
Improved maize seed	kg	6	6	4	4	4	-2	-2	-2
Improved paddy seed	kg	-	8	-	0	8	-	0	-
DAP	kg	20	18	71	71	69	51	51	51
Urea	kg	45	45	70	70	70	25	25	25
Potash	kg	16	18	37	37	39	21	21	21
Farm yard manure	basket	60	60	250	250	250	190	190	190
Agro-chemicals	lump sum	5,250	5,250	11,750	11,750	11,750	6,500	6,500	6,500
Labor									
January male labor	man day	3	3	5	5	5	2	2	2
April male labor	man day	8	8	8	8	8	1	1	1
June male labor	man day	-	6	-	0	6	-	0	-
November male labor	man day	3	-	3	3	0	-	-	0
January female labor	woman day	14	12	37	37	35	23	23	23
February female labor	woman day	3	3	5	5	5	2	2	2
March female labor	woman day	-	-	5	5	5	5	5	5
April female labor	woman day	32	26	22	22	16	-10	-10	-10
May female labor	woman day	3	3	2	2	2	-1	-1	-1
June female labor	woman day	-	0	-	-	0	-	-	-
July female labor	woman day	9	14	6	6	11	-3	-3	-3
August female labor	woman day	-	3	-	0	3	-	0	-
October female labor	woman day	-	9	-	0	9	-	0	-
November female labor	woman day	1	-	1	1	0	-	-	0

1a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 14 Potato VC Household – Mid Hills – Financial Budget

Agricultural Sector Development Project
Potato VC - Mid Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov								
	Without Project			With Project			Increments		
	1	5	10	1	5	10	1	5	10
Main Production									
Potato - traditional	36.0	36.0	36.0	-	-	-	-36.0	-36.0	-36.0
Potato - improved	-	-	-	60.0	120.0	181.3	60.0	120.0	181.3
Potato - seed	15.0	15.0	15.0	-	-	-	-15.0	-15.0	-15.0
Wheat	11.3	11.3	-	11.3	11.3	0.0	-	-	0.0
Paddy	-	-	15.0	-	0.0	15.0	-	0.0	-
Maize	15.0	15.0	15.0	10.8	10.8	10.8	-4.2	-4.2	-4.2
Wheat straw	11.3	11.3	-	11.3	11.3	0.0	-	-	0.0
Maize straw	6.5	6.5	6.5	4.3	8.0	8.0	-2.2	1.5	1.5
Paddy straw	-	-	11.3	-	0.0	11.3	-	0.0	-
Sub-total Main Production	95.0	95.0	98.7	97.6	161.3	226.3	2.6	66.3	127.6
Production Cost									
Investment									
Irrigation scheme	-	-	-	16.7	-	-	16.7	-	-
Seed storage	-	-	-	8.0	-	-	8.0	-	-
Mini tractor	-	-	-	10.0	-	-	10.0	-	-
Sub-total Investment Costs	-	-	-	34.7	-	-	34.7	-	-
Operating									
Purchased Inputs									
Potato seed	15.0	15.0	15.0	30.0	30.0	30.0	15.0	15.0	15.0
Improved wheat seed	0.9	0.9	-	0.9	0.9	0.0	-	-	0.0
Improved maize seed	0.2	0.2	0.2	0.1	0.1	0.1	-0.1	-0.1	-0.1
Improved paddy seed	-	-	0.5	-	0.0	0.5	-	0.0	-
DAP	1.0	1.0	0.9	3.5	3.5	3.5	2.6	2.6	2.6
Urea	1.8	1.8	1.8	2.8	2.8	2.8	1.0	1.0	1.0
Potash	0.5	0.5	0.5	1.1	1.1	1.2	0.6	0.6	0.6
Farm yard manure	3.0	3.0	3.0	12.5	12.5	12.5	9.5	9.5	9.5
Agro-chemicals	5.3	5.3	5.3	11.8	11.8	11.8	6.5	6.5	6.5
Sub-Total Purchased Inputs	27.6	27.6	27.1	62.7	62.7	62.2	35.1	35.1	35.1
Labor									
January female labor	-	-	-	3.3	3.3	2.5	3.3	3.3	2.5
April female labor	0.8	0.8	-	-	-	-	-0.8	-0.8	-
Sub-Total Hired Labor	0.8	0.8	-	3.3	3.3	2.5	2.5	2.5	2.5
Sub-total Operating Costs	28.3	28.3	27.1	65.9	65.9	64.7	37.6	37.6	37.6
Sub-Total Production Cost	28.3	28.3	27.1	100.6	65.9	64.7	72.3	37.6	37.6
Other Costs									
Lead resource person fee	-	-	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	-	-	3.5	3.5	-	3.5	3.5
Sub-Total Other Costs	-	-	-	4.0	7.5	7.5	4.0	7.5	7.5
OUTFLOWS	28.3	28.3	27.1	104.6	73.4	72.2	76.3	45.1	45.1
Cash Flow Before Financing	66.7	66.7	71.6	-7.0	87.9	154.1	-73.6	21.2	82.5
Financial Inflows									
Disbursements on Long Term Loan	-	-	-	8.0	-	-	8.0	-	-
Disbursements on Short Term Loan	-	-	-	37.6	37.6	37.6	37.6	37.6	37.6
Transfer from Previous Period	27.1	28.3	27.1	27.1	28.3	27.1	-	-	-
Grants									
Grant - Irrigation	-	-	-	14.2	-	-	14.2	-	-
Grant - Seed storage facility	-	-	-	8.5	-	-	8.5	-	-
Grant - Mini tractor	-	-	-	8.5	-	-	8.5	-	-
Sub-Total Grants	-	-	-	31.2	-	-	31.2	-	-
Sub-Total Financial Inflows	27.1	28.3	27.1	103.9	65.9	64.7	76.8	37.6	37.6
Financial Outflows									
Long Term Principal	-	-	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-	-	-
Short Term Principal	-	-	-	-	37.6	37.6	-	37.6	37.6
Short Term Interest	-	-	-	-	6.8	6.8	-	6.8	6.8
Transfer to Next Period	27.1	27.1	28.3	27.1	27.1	28.3	-	-	-
Sub-Total Financial Outflows	27.1	27.1	28.3	27.1	71.5	72.7	-	44.4	44.4
Net Financing	-	1.2	-1.2	76.8	-5.6	-8.0	76.8	-6.8	-6.8
Cash Flow After Financing	66.7	67.9	70.4	69.8	82.3	146.1	3.1	14.4	75.7
Residual value of									
Transfer to Next Period	-	-	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	66.7	67.9	70.4	69.8	82.3	146.1	3.1	14.4	75.7
Returns per Family-Day of Labor	0.9	0.9	0.8	0.8	0.9	1.5	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	-	0.2	1.0	5.4	-	-	-

IRR = 35.5%, NPV = 320.19

/a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 15 Potato VC Household – High Hills – Production and Inputs

Agricultural Sector Development Project
Potato VC - High Hills Household
PRODUCTION AND INPUTS (Detailed)
(In Units) /a

	Unit	Feb -- Nov									
		Without Project			With Project			Increments			
		1 to 10	1	5	10	1	5	10	1	5	10
Main Production											
Potato - traditional	kg	1,800	-	-	-	-1,800	-1,800	-1,800			
Potato - improved	kg	-	3,000	5,000	6,250	3,000	5,000	6,250			
Potato - seed	kg	300	-	-	-	-300	-300	-300			
Maize	kg	875	675	675	675	-200	-200	-200			
Maize straw	kg	945	675	1,250	1,250	-270	305	305			
Investment											
Irrigation scheme	lump sum	-	1	-	-	1	-	-			
Seed storage	lump sum	-	1	-	-	1	-	-			
Operating											
Purchased Inputs											
Potato seed	kg	300	600	600	600	300	300	300			
Improved maize seed	kg	7	5	5	5	-2	-2	-2			
DAP	kg	14	65	65	65	51	51	51			
Urea	kg	35	60	60	60	25	25	25			
Potash	kg	14	35	35	35	21	21	21			
Farm yard manure	basket	60	250	250	250	190	190	190			
Agro-chemicals	lump sum	4,750	11,250	11,250	11,250	6,500	6,500	6,500			
Labor											
January male labor	man day	3	5	5	5	2	2	2			
April male labor	man day	8	9	9	9	1	1	1			
January female labor	woman day	12	35	35	35	23	23	23			
February female labor	woman day	3	5	5	5	2	2	2			
March female labor	woman day	-	5	5	5	5	5	5			
April female labor	woman day	26	16	16	16	-10	-10	-10			
May female labor	woman day	4	3	3	3	-1	-1	-1			
July female labor	woman day	11	8	8	8	-3	-3	-3			

/a High hills Jumla, Kalicot, Humla, Mugu and Dolpa

Annex 2 Table 16 Potato VC Household – High Hills – Financial Budget

Agricultural Sector Development Project
Potato VC - High Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov						
	Without Project	With Project			Increments		
	1 to 10	1	5	10	1	5	10
Main Production							
Potato - traditional	36.0	-	-	-	-36.0	-36.0	-36.0
Potato - improved	-	60.0	120.0	181.3	60.0	120.0	181.3
Potato - seed	15.0	-	-	-	-15.0	-15.0	-15.0
Maize	17.5	13.5	13.5	13.5	-4.0	-4.0	-4.0
Maize straw	7.6	5.4	10.0	10.0	-2.2	2.4	2.4
Sub-total Main Production	76.1	78.9	143.5	204.8	2.8	67.4	128.7
Production Cost							
Investment							
Irrigation scheme	-	23.3	-	-	23.3	-	-
Seed storage	-	10.0	-	-	10.0	-	-
Sub-total Investment Costs	-	33.3	-	-	33.3	-	-
Operating							
Purchased Inputs							
Potato seed	15.0	30.0	30.0	30.0	15.0	15.0	15.0
Improved maize seed	0.2	0.2	0.2	0.2	-0.1	-0.1	-0.1
DAP	0.7	3.3	3.3	3.3	2.6	2.6	2.6
Urea	1.4	2.4	2.4	2.4	1.0	1.0	1.0
Potash	0.4	1.1	1.1	1.1	0.6	0.6	0.6
Farm yard manure	3.0	12.5	12.5	12.5	9.5	9.5	9.5
Agro-chemicals	4.8	11.3	11.3	11.3	6.5	6.5	6.5
Sub-Total Purchased Inputs	25.5	60.6	60.6	60.6	35.1	35.1	35.1
Labor							
January female labor	-	2.5	2.5	2.5	2.5	2.5	2.5
Sub-total Operating Costs	25.5	63.1	63.1	63.1	37.6	37.6	37.6
Sub-Total Production Cost	25.5	96.4	63.1	63.1	71.0	37.6	37.6
Other Costs							
Lead resource person fee	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	3.5	3.5	-	3.5	3.5
Sub-Total Other Costs	-	4.0	7.5	7.5	4.0	7.5	7.5
OUTFLOWS	25.5	100.4	70.6	70.6	75.0	45.1	45.1
Cash Flow Before Financing	50.6	-21.5	72.9	134.2	-72.1	22.3	83.6
Financial Inflows							
Disbursements on Long Term Loan	-	8.5	-	-	8.5	-	-
Disbursements on Short Term Loan	-	37.6	37.6	37.6	37.6	37.6	37.6
Transfer from Previous Period	25.5	25.5	25.5	25.5	-	-	-
Grants							
Grant - Irrigation	-	19.8	-	-	19.8	-	-
Grant - Seed storage facility	-	6.8	-	-	6.8	-	-
Sub-Total Grants	-	26.6	-	-	26.6	-	-
Sub-Total Financial Inflows	25.5	98.2	63.1	63.1	72.8	37.6	37.6
Financial Outflows							
Long Term Principal	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-
Short Term Principal	-	-	37.6	37.6	-	37.6	37.6
Short Term Interest	-	-	6.8	6.8	-	6.8	6.8
Transfer to Next Period	25.5	25.5	25.5	25.5	-	-	-
Sub-Total Financial Outflows	25.5	25.5	69.9	69.9	-	44.4	44.4
Net Financing	-	72.8	-6.8	-6.8	72.8	-6.8	-6.8
Cash Flow After Financing	50.6	51.2	66.1	127.4	0.6	15.5	76.8
Residual value of							
Transfer to Next Period	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	50.6	51.2	66.1	127.4	0.6	15.5	76.8
Returns per Family-Day of Labor	0.8	0.6	0.8	1.6	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	0.0	1.1	5.5	-	-	-

IRR = 35.2%, NPV = 325.45

1a High hills Jumla, Kalicot, Humla, Mugu and Dolpa

Annex 2 Table 17 Timur VC Household – Production and Inputs

Agricultural Sector Development Project Timur VC Household PRODUCTION AND INPUTS (Detailed) (In Units) /a		Feb -- Nov								
		Unit	Without	With Project			Increments			
			Project	1	5	10	1	5	10	
Main Production										
Timur (current quality)	kg	50	50	65	65	-	15	15		
Timur (improved quality)	kg	-	-	63	156	-	63	156		
Maize	kg	1,375	1,350	1,350	1,350	-25	-25	-25		
Maize straw	kg	1,485	1,350	2,500	2,500	-135	1,015	1,015		
Investment										
Harvesting equipment	lump sum	-	1	-	-	1	-	-		
Drying shade	lump sum	-	1	-	-	1	-	-		
Operating										
Purchased Inputs										
Improved maize seed	kg	11	10	10	10	-1	-1	-1		
DAP	kg	22	20	20	20	-2	-2	-2		
Urea	kg	55	50	50	50	-5	-5	-5		
Potash	kg	22	20	20	20	-2	-2	-2		
Farm yard manure	basket	1	100	100	100	99	99	99		
Agro-chemicals	lump sum	2,750	2,500	2,500	2,500	-250	-250	-250		
Labor										
April male labor	man day	8	8	8	8	-1	-1	-1		
February female labor	woman day	-	6	6	6	6	6	6		
March female labor	woman day	1	2	2	2	1	1	1		
April female labor	woman day	3	3	3	3	-0	-0	-0		
May female labor	woman day	6	5	5	5	-1	-1	-1		
July female labor	woman day	17	15	15	15	-2	-2	-2		
October female labor	woman day	40	40	40	40	-	-	-		
November female labor	woman day	5	10	10	10	5	5	5		

/a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh, Rukum & Kalicot.

Annex 2 Table 18 Timur VC Household – Financial Budget

Agricultural Sector Development Project

Timur VC Household

FINANCIAL BUDGET (DETAILED)

(In NRP '000) /a

	Feb -- Nov						
	Without Project	With Project			Increments		
	1 to 10	1	5	10	1	5	10
Main Production							
Timur (current quality)	10.0	10.0	13.0	13.0	-	3.0	3.0
Timur (improved quality)	-	-	15.6	39.1	-	15.6	39.1
Maize	27.5	27.0	27.0	27.0	-0.5	-0.5	-0.5
Maize straw	11.9	10.8	20.0	20.0	-1.1	8.1	8.1
Sub-total Main Production	49.4	47.8	75.6	99.1	-1.6	26.2	49.7
Production Cost							
Investment							
Harvesting equipment	-	10.0	-	-	10.0	-	-
Drying shade	-	80.0	-	-	80.0	-	-
Sub-total Investment Costs	-	90.0	-	-	90.0	-	-
Operating							
Purchased Inputs							
Improved maize seed	0.3	0.3	0.3	0.3	-0.0	-0.0	-0.0
DAP	1.1	1.0	1.0	1.0	-0.1	-0.1	-0.1
Urea	2.2	2.0	2.0	2.0	-0.2	-0.2	-0.2
Potash	0.7	0.6	0.6	0.6	-0.1	-0.1	-0.1
Farm yard manure	0.1	5.0	5.0	5.0	5.0	5.0	5.0
Agro-chemicals	2.8	2.5	2.5	2.5	-0.3	-0.3	-0.3
Sub-Total Purchased Inputs	7.1	11.4	11.4	11.4	4.3	4.3	4.3
Labor							
October female labor	5.0	5.0	5.0	5.0	-	-	-
Sub-total Operating Costs	12.1	16.4	16.4	16.4	4.3	4.3	4.3
Sub-Total Production Cost	12.1	106.4	16.4	16.4	94.3	4.3	4.3
Other Costs							
Lead resource person fee	-	4.0	4.0	4.0	4.0	4.0	4.0
OUTFLOWS	12.1	110.4	20.4	20.4	98.3	8.3	8.3
Cash Flow Before Financing	37.3	-62.6	55.2	78.7	-99.9	17.9	41.4
Financial Inflows							
Disbursements on Long Term Loan	-	45.0	-	-	45.0	-	-
Disbursements on Short Term Loan	-	4.3	4.3	4.3	4.3	4.3	4.3
Transfer from Previous Period	12.1	12.1	12.1	12.1	-	-	-
Grants							
Grant - Harvesting equipment	-	5.0	-	-	5.0	-	-
Grant - Drying tarpaulin	-	40.0	-	-	40.0	-	-
Sub-Total Grants	-	45.0	-	-	45.0	-	-
Sub-Total Financial Inflows	12.1	106.4	16.4	16.4	94.3	4.3	4.3
Financial Outflows							
Long Term Principal	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-
Short Term Principal	-	-	4.3	4.3	-	4.3	4.3
Short Term Interest	-	-	0.8	0.8	-	0.8	0.8
Transfer to Next Period	12.1	12.1	17.1	57.1	-	5.0	45.0
Sub-Total Financial Outflows	12.1	12.1	22.2	62.2	-	10.1	50.1
Net Financing	-	94.3	-5.8	-45.8	94.3	-5.8	-45.8
Cash Flow After Financing	37.3	31.7	49.4	32.9	-5.6	12.2	-4.4
Residual value of							
Transfer to Next Period	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	37.3	31.7	49.4	32.9	-5.6	12.2	-4.4
Returns per Family-Day of Labor	0.5	0.4	0.6	0.4	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	1.4	-	-	-	-

IRR = 23.1%, NPV = 109.50

/a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh, Rukum & Kalicot.

Annex 2 Table 19 Turmeric VC Household – Production and Inputs

Agricultural Sector Development Project Turmeric (dried) VC Household PRODUCTION AND INPUTS (Detailed) (In Units) /a		Feb -- Nov					
		Unit	Without Project			Increments	
			1 to 10	1	5 to 10	1	5 to 10
Main Production							
Turmeric - raw	kg	1,000	-	-	-1,000	-1,000	
Turmeric - dried	kg	-	360	520	360	520	
Turmeric - seed	kg	400	800	1,800	400	1,400	
Wheat	kg	450	450	450	-	-	
Paddy	kg	750	750	750	-	-	
Maize	kg	875	675	675	-200	-200	
Wheat straw	kg	1,125	1,125	1,125	-	-	
Maize straw	kg	945	675	1,250	-270	305	
Paddy straw	kg	1,125	1,125	1,125	-	-	
On-Farm Consumption							
Wheat	kg	450	450	450	-	-	
Paddy	kg	750	750	750	-	-	
Sales							
Turmeric - raw	kg	1,000	-	-	-1,000	-1,000	
Turmeric - dried	kg	-	360	520	360	520	
Turmeric - seed	kg	400	800	1,800	400	1,400	
Maize	kg	875	675	675	-200	-200	
Wheat straw	kg	1,125	1,125	1,125	-	-	
Maize straw	kg	945	675	1,250	-270	305	
Paddy straw	kg	1,125	1,125	1,125	-	-	
Investment							
Irrigation scheme	lump sum	-	1	-	1	-	
Mini tractor	lump sum	-	1	-	1	-	
Dry shade	lump sum	-	1	-	1	-	
Operating							
Purchased Inputs							
Turmeric rhizomes	kg	200	500	500	300	300	
Improved wheat seed	kg	18	18	18	-	-	
Improved maize seed	kg	7	5	5	-2	-2	
Improved paddy seed	kg	8	8	8	-	-	
DAP	kg	28	24	24	-4	-4	
Urea	kg	65	55	55	-10	-10	
Potash	kg	24	20	20	-4	-4	
Farm yard manure	basket	40	200	200	160	160	
Agro-chemicals	lump sum	3,250	2,750	2,750	-500	-500	
Labor							
January male labor	man day	2	8	8	6	6	
April male labor	man day	7	8	8	1	1	
June male labor	man day	6	6	6	-	-	
November male labor	man day	3	3	3	-	-	
January female labor	woman day	8	22	22	14	14	
April female labor	woman day	12	15	15	4	4	
May female labor	woman day	4	3	3	-1	-1	
June female labor	woman day	0	0	0	-	-	
July female labor	woman day	15	12	12	-3	-3	
August female labor	woman day	3	3	3	-	-	
October female labor	woman day	9	9	9	-	-	
November female labor	woman day	1	1	1	-	-	

^a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 20 Turmeric VC Household – Financial Budget

Agricultural Sector Development Project
Turmeric (dried) VC Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov						
	Without Project	With Project			Increments		
	1 to 10	1	5	10	1	5	10
Main Production							
Turmeric - raw	20.0	-	-	-	-20.0	-20.0	-20.0
Turmeric - dried	-	36.0	52.0	52.0	36.0	52.0	52.0
Turmeric - seed	8.0	16.0	36.0	36.0	8.0	28.0	28.0
Wheat	11.3	11.3	11.3	11.3	-	-	-
Paddy	15.0	15.0	15.0	15.0	-	-	-
Maize	17.5	13.5	13.5	13.5	-4.0	-4.0	-4.0
Wheat straw	11.3	11.3	11.3	11.3	-	-	-
Maize straw	7.6	5.4	10.0	10.0	-2.2	2.4	2.4
Paddy straw	11.3	11.3	11.3	11.3	-	-	-
Sub-total Main Production	101.8	119.7	160.3	160.3	17.8	58.4	58.4
On-Farm Consumption							
Wheat	11.3	11.3	11.3	11.3	-	-	-
Paddy	15.0	15.0	15.0	15.0	-	-	-
Sub-Total On-Farm Consumption	26.3	26.3	26.3	26.3	-	-	-
Net Value Of Production	75.6	93.4	134.0	134.0	17.8	58.4	58.4
Production Cost							
Investment							
Irrigation scheme	-	16.7	-	-	16.7	-	-
Mini tractor	-	10.0	-	-	10.0	-	-
Dry shade	-	50.0	-	-	50.0	-	-
Sub-total Investment Costs	-	76.7	-	-	76.7	-	-
Operating							
Turmeric rhizomes	4.0	10.0	10.0	10.0	6.0	6.0	6.0
Improved wheat seed	0.9	0.9	0.9	0.9	-	-	-
Improved maize seed	0.2	0.2	0.2	0.2	-0.1	-0.1	-0.1
Improved paddy seed	0.5	0.5	0.5	0.5	-	-	-
DAP	1.4	1.2	1.2	1.2	-0.2	-0.2	-0.2
Urea	2.6	2.2	2.2	2.2	-0.4	-0.4	-0.4
Potash	0.7	0.6	0.6	0.6	-0.1	-0.1	-0.1
Farm yard manure	2.0	10.0	10.0	10.0	8.0	8.0	8.0
Agro-chemicals	3.3	2.8	2.8	2.8	-0.5	-0.5	-0.5
Sub-total Operating Costs	15.5	28.2	28.2	28.2	12.7	12.7	12.7
Sub-Total Production Cost	15.5	104.9	28.2	28.2	89.4	12.7	12.7
Other Costs							
Lead resource person fee	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	3.5	3.5	-	3.5	3.5
Miscellaneous establishment costs	-	15.0	-	-	15.0	-	-
Sub-Total Other Costs	-	19.0	7.5	7.5	19.0	7.5	7.5
OUTFLOWS	15.5	123.9	35.7	35.7	108.4	20.2	20.2
Cash Flow Before Financing	60.1	-30.5	98.3	98.3	-90.5	38.2	38.2
Farm Family Benefits Before Financing	86.3	-4.2	124.5	124.5	-90.5	38.2	38.2
Financial Inflows							
Disbursements on Long Term Loan	-	29.0	-	-	29.0	-	-
Disbursements on Short Term Loan	-	12.7	12.7	12.7	12.7	12.7	12.7
Transfer from Previous Period	15.5	15.5	15.5	15.5	-	-	-
Grants							
Grant - Irrigation	-	14.2	-	-	14.2	-	-
Grant - Mini tractor	-	8.5	-	-	8.5	-	-
Grant - Drying tarpaulin	-	25.0	-	-	25.0	-	-
Sub-Total Grants	-	47.7	-	-	47.7	-	-
Sub-Total Financial Inflows	15.5	104.9	28.2	28.2	89.4	12.7	12.7
Financial Outflows							
Long Term Principal	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-
Short Term Principal	-	-	12.7	12.7	-	12.7	12.7
Short Term Interest	-	-	2.3	2.3	-	2.3	2.3
Transfer to Next Period	15.5	15.5	15.5	49.0	-	-	33.5
Sub-Total Financial Outflows	15.5	15.5	30.5	64.0	-	15.0	48.5
Net Financing	-	89.4	-2.3	-35.8	89.4	-2.3	-35.8
Cash Flow After Financing	60.1	58.9	96.0	62.5	-1.2	35.9	2.4
Residual value of							
Transfer to Next Period	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	86.3	85.2	122.2	88.7	-1.2	35.9	2.4
Returns per Family-Day of Labor	1.3	1.0	1.4	1.0	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	1.8	0.1	-	-	-

IRR = 64.5%, NPV = 183.32

/a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 21 Walnut VC Household – Production and Inputs

Agricultural Sector Development Project Walnut VC - High Hills Household PRODUCTION AND INPUTS (Detailed) (In Units) /a		Feb -- Nov							
		Unit	Without	With Project			Increments		
			Project	1	5	10	1	5	10
Main Production									
Walnut - existing	kg	40	40	65	65	-	25	25	
Walnut - new	kg	-	-	-	110	-	-	110	
Maize	kg	1,125	1,080	1,080	1,080	-45	-45	-45	
Maize straw	kg	1,215	1,080	2,000	2,000	-135	785	785	
Investment									
Irrigation scheme	lump sum	-	1	-	-	1	-	-	
Operating									
Purchased Inputs									
Improved maize seed	kg	9	8	8	8	-1	-1	-1	
Walnut saplings	each	-	30	-	-	30	-	-	
DAP	kg	18	16	16	16	-2	-2	-2	
Urea	kg	45	40	40	40	-5	-5	-5	
Potash	kg	18	16	16	16	-2	-2	-2	
Farm yard manure	basket	25	150	150	150	125	125	125	
Copper sulphate	kg	-	0	0	0	0	0	0	
Lime	kg	-	0	0	0	0	0	0	
Servo/Horticulture oil	kg	-	0	0	0	0	0	0	
Blitox 50	kg	-	0	0	0	0	0	0	
Micronutrient	kg	-	0	0	0	0	0	0	
Agro-chemicals	lump sum	2,250	2,000	2,000	2,000	-250	-250	-250	
Labor									
April male labor	man day	7	6	6	6	-1	-1	-1	
May male labor	man day	-	4	-	-	4	-	-	
February female labor	woman day	2	12	12	12	10	10	10	
April female labor	woman day	2	2	2	2	-0	-0	-0	
May female labor	woman day	5	4	4	4	-1	-1	-1	
June female labor	woman day	-	2	-	-	2	-	-	
July female labor	woman day	14	12	12	12	-2	-2	-2	
September female labor	woman day	1	2	6	11	2	6	10	
Hired labour - LRP	person day	-	2	3	3	2	3	3	

/a High hills Jumla, Kalicot, Humla, Mugu and Dolpa

Annex 2 Table 22 Walnut VC Household – Financial Budget

Agricultural Sector Development Project
Walnut VC - High Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov						
	Without Project	With Project			Increments		
	1 to 10	1	5	10	1	5	10
Main Production							
Walnut - existing	16.0	16.0	26.0	26.0	-	10.0	10.0
Walnut - new	-	-	-	49.5	-	-	49.5
Maize	22.5	21.6	21.6	21.6	-0.9	-0.9	-0.9
Maize straw	9.7	8.6	16.0	16.0	-1.1	6.3	6.3
Sub-total Main Production	48.2	46.2	63.6	113.1	-2.0	15.4	64.9
Production Cost							
Investment							
Irrigation scheme	-	23.3	-	-	23.3	-	-
Operating							
Purchased Inputs							
Improved maize seed	0.3	0.2	0.2	0.2	-0.0	-0.0	-0.0
Walnut saplings	-	3.0	-	-	3.0	-	-
DAP	0.9	0.8	0.8	0.8	-0.1	-0.1	-0.1
Urea	1.8	1.6	1.6	1.6	-0.2	-0.2	-0.2
Potash	0.5	0.5	0.5	0.5	-0.1	-0.1	-0.1
Farm yard manure	1.3	7.5	7.5	7.5	6.3	6.3	6.3
Copper sulphate	-	0.1	0.1	0.1	0.1	0.1	0.1
Lime	-	0.0	0.0	0.0	0.0	0.0	0.0
Servo/Horticulture oil	-	0.0	0.0	0.0	0.0	0.0	0.0
Blitox 50	-	0.0	0.0	0.0	0.0	0.0	0.0
Micronutrient	-	0.0	0.0	0.0	0.0	0.0	0.0
Agro-chemicals	2.3	2.0	2.0	2.0	-0.3	-0.3	-0.3
Sub-Total Purchased Inputs	7.0	15.9	12.9	12.9	8.8	5.8	5.8
Labor							
Hired labour - LRP	-	1.5	3.0	3.0	1.5	3.0	3.0
Sub-total Operating Costs	7.0	17.4	15.9	15.9	10.3	8.8	8.8
Sub-Total Production Cost	7.0	40.7	15.9	15.9	33.7	8.8	8.8
Other Costs							
Lead resource person fee	-	4.0	4.0	4.0	4.0	4.0	4.0
Annual maintenance irrigation	-	-	3.5	3.5	-	3.5	3.5
Sub-Total Other Costs	-	4.0	7.5	7.5	4.0	7.5	7.5
OUTFLOWS	7.0	44.7	23.4	23.4	37.7	16.3	16.3
Cash Flow Before Financing	41.2	1.5	40.2	89.7	-39.7	-1.0	48.5
Financial Inflows							
Disbursements on Long Term Loan	-	3.5	-	-	3.5	-	-
Disbursements on Short Term Loan	-	10.3	8.8	8.8	10.3	8.8	8.8
Transfer from Previous Period	7.0	7.0	7.0	7.0	-	-	-
Contribution from own savings	-	0.0	-	-	0.0	-	-
Grant - Irrigation	-	19.8	-	-	19.8	-	-
Sub-Total Financial Inflows	7.0	40.7	15.9	15.9	33.7	8.8	8.8
Financial Outflows							
Long Term Principal	-	-	-	-	-	-	-
Long Term Interest	-	-	-	-	-	-	-
Short Term Principal	-	-	8.8	8.8	-	8.8	8.8
Short Term Interest	-	-	1.6	1.6	-	1.6	1.6
Transfer to Next Period	7.0	7.0	7.0	7.0	-	-	-
Sub-Total Financial Outflows	7.0	7.0	17.5	17.5	-	10.4	10.4
Net Financing	-	33.7	-1.6	-1.6	33.7	-1.6	-1.6
Cash Flow After Financing	41.2	35.2	38.6	88.1	-6.0	-2.6	46.9
Change in Net Worth							
Contribution from own savings	-	0.0	-	-	0.0	-	-
Residual value of							
Transfer to Next Period	-	-	-	-	-	-	-
Sub-Total Change in Net Worth	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	41.2	35.2	38.6	88.1	-6.0	-2.6	46.9
Returns per Family-Day of Labor	1.4	0.8	0.9	1.9	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	-	-	2.7	-	-	-

IRR = 28.2%, NPV = 179.21

1a High hills Jumla, Kalicot, Humla, Mugu and Dolpa

Annex 2 Table 23 Goat VC Household – Low Hills – Production and Inputs

Agricultural Sector Development Project Goat VC - Low Hills Household PRODUCTION AND INPUTS (Detailed) (In Units) /a		Feb -- Nov								
		Without Project				With Project				Increments
		Unit	1 to 10	1	5	10	1	5	10	
Main Production										
Wheat	kg	450	450	450	450	-	-	-	-	-
Paddy	kg	750	750	750	750	-	-	-	-	-
Maize	kg	1,125	1,026	216	216	-99	-909	-909	-	-
Legume fodder	kg DM	-	160	1,520	1,520	160	1,520	1,520	-	-
Nutritious grass	kg DM	-	200	2,850	2,850	200	2,850	2,850	-	-
Forest based fodder	kg DM	-	2,000	8,000	8,000	2,000	8,000	8,000	-	-
Collected fodder	kg DM	-	8,000	8,000	8,000	8,000	8,000	8,000	-	-
Wheat straw	kg	1,125	1,125	1,125	1,125	-	-	-	-	-
Maize straw	kg	1,215	1,026	400	400	-189	-815	-815	-	-
Paddy straw	kg	1,125	1,125	1,125	1,125	-	-	-	-	-
Goat sales (liveweight) - existing	kg LW	130	-	-	-	-130	-130	-130	-	-
Goat sales (liveweight) - new	kg LW	-	147	273	984	147	273	984	-	-
On-Farm Use										
Maize	kg	-	-	-	216	-	-	216	-	-
Legume fodder	kg DM	-	0	0	1,520	0	0	1,520	-	-
Nutritious grass	kg DM	-	0	0	2,850	0	0	2,850	-	-
Forest based fodder	kg DM	-	2,000	8,000	8,000	2,000	8,000	8,000	-	-
Collected fodder	kg DM	-	1,675	1,475	8,000	1,675	1,475	8,000	-	-
Wheat straw	kg	891	0	0	1,125	-891	-891	234	-	-
Maize straw	kg	1,215	-0	0	400	-1,215	-1,215	-815	-	-
Paddy straw	kg	0	0	0	1,125	-	-	1,125	-	-
On-Farm Consumption										
Wheat	kg	450	450	450	450	-	-	-	-	-
Paddy	kg	750	750	750	750	-	-	-	-	-
Sales										
Maize	kg	1,125	1,026	216	-	-99	-909	-1,125	-	-
Legume fodder	kg DM	-	160	1,520	-	160	1,520	-	-	-
Nutritious grass	kg DM	-	200	2,850	-	200	2,850	-	-	-
Forest based fodder	kg DM	-	-	-	-	-	-	-	-	-
Collected fodder	kg DM	-	6,325	6,525	-	6,325	6,525	-	-	-
Wheat straw	kg	234	1,125	1,125	-	891	891	-234	-	-
Maize straw	kg	-	1,026	400	-	1,026	400	-	-	-
Paddy straw	kg	1,125	1,125	1,125	-	-	-	-1,125	-	-
Goat sales (liveweight) - existing	kg LW	130	-	-	-	-130	-130	-130	-	-
Goat sales (liveweight) - new	kg LW	-	147	273	984	147	273	984	-	-
Investment										
Irrigation scheme Low Hills	lump sum	-	1	-	-	1	-	-	-	-
Goat house - Low hills	lump sum	-	1	-	-	1	-	-	-	-
Dipping tank	lump sum	-	1	-	-	1	-	-	-	-
Breeding bucks	lump sum	-	1	1	-	1	1	-	-	-
Operating										
Purchased Inputs										
Seed nutritious grass - low hills	kg	-	0	1	1	0	1	1	-	-
Seed legume fodder - low hills	kg	-	0	1	1	0	1	1	-	-
Seed forest forage	kg	-	5	5	5	5	5	5	-	-
Improved wheat seed	kg	18	18	18	18	-	-	-	-	-
Improved maize seed	kg	9	8	2	2	-1	-7	-7	-	-
Improved paddy seed	kg	8	8	8	8	-	-	-	-	-
DAP	kg	32	29	17	17	-3	-15	-15	-	-
Urea	kg	75	68	38	38	-7	-37	-37	-	-
Potash	kg	28	25	13	13	-3	-15	-15	-	-
NPK	kg	-	194	248	248	194	248	248	-	-
Goat vaccines & treatments	head	12	10	25	79	-2	13	67	-	-
Feed supplement - goats	each	-	10	25	79	10	25	79	-	-
Livestock feed requirement	kg	-	-	-	2,562	-	-	2,562	-	-
Agro-chemicals	lump sum	3,750	3,400	1,900	1,900	-350	-1,850	-1,850	-	-
Labor										
April male labor	man day	7	6	1	1	-1	-6	-6	-	-
June male labor	man day	6	6	6	6	-	-	-	-	-
November male labor	man day	3	3	3	3	-	-	-	-	-
January female labor	woman day	4	4	7	13	1	4	9	-	-
February female labor	woman day	2	3	6	11	1	4	9	-	-
March female labor	woman day	2	3	6	11	1	4	9	-	-
April female labor	woman day	10	11	14	19	1	3	9	-	-
May female labor	woman day	7	7	8	13	1	2	7	-	-
June female labor	woman day	2	4	8	13	2	5	10	-	-
July female labor	woman day	20	19	14	19	-1	-6	-1	-	-
August female labor	woman day	5	6	9	14	1	4	9	-	-
September female labor	woman day	2	3	6	11	1	4	9	-	-
October female labor	woman day	11	12	15	20	1	4	9	-	-
November female labor	woman day	3	3	7	12	1	4	9	-	-
December female labor	woman day	2	3	6	11	1	4	9	-	-

1a Targeting expansion over 10 years from 4 to 10 breeding does.

Annex 2 Table 24 Goat VC Household – Low Hills – Financial Budget

Nepal
Agriculture Sector Development Programme
Final project design report
Appendix 10: Economic and Financial Analysis

Agricultural Sector Development Project
Goat VC - Low Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP) /a

	Feb -- Nov						
	Without Project		With Project			Increments	
	1 to 10	1	5	10	1	5	
Main Production							
Wheat	11,250.0	11,250.0	11,250.0	11,250.0	-	-	
Paddy	15,000.0	15,000.0	15,000.0	15,000.0	-	-	
Maize	22,500.0	20,520.0	4,320.0	4,320.0	-1,980.0	-18,180.0	
Legume fodder	-	3,200.0	30,400.0	30,400.0	3,200.0	30,400.0	
Nutritious grass	-	2,400.0	34,200.0	34,200.0	2,400.0	34,200.0	
Forest based fodder	-	20.0	80.0	80.0	20.0	80.0	
Collected fodder	-	80.0	80.0	80.0	80.0	80.0	
Wheat straw	11,250.0	11,250.0	11,250.0	11,250.0	-	-	
Maize straw	9,720.0	8,208.0	3,200.0	3,200.0	-1,512.0	-8,520.0	
Paddy straw	11,250.0	11,250.0	11,250.0	11,250.0	-	-	
Goat sales (liveweight) - existing	45,500.0	-	-	-	-45,500.0	-45,500.0	
Goat sales (liveweight) - new	-	51,450.0	106,470.0	393,600.0	51,450.0	106,470.0	
Sub-total Main Production	126,470.0	134,628.0	227,500.0	514,630.0	8,158.0	101,030.0	
On-Farm Use							
Maize	-	-	-	4,320.0	-	-	
Legume fodder	-	0.0	0.0	30,400.0	0.0	0.0	
Nutritious grass	-	0.0	0.0	34,200.0	0.0	0.0	
Forest based fodder	-	20.0	80.0	80.0	20.0	80.0	
Collected fodder	-	16.8	14.8	80.0	16.8	14.8	
Wheat straw	8,910.6	0.0	0.0	11,250.0	-8,910.6	-8,910.6	
Maize straw	9,720.0	-0.0	0.0	3,200.0	-9,720.0	-9,720.0	
Paddy straw	0.0	0.0	0.0	11,250.0	-	-	
Sub-Total On-Farm Use	18,630.6	36.8	94.8	94,780.0	-18,593.9	-18,535.9	
On-Farm Consumption							
Wheat	11,250.0	11,250.0	11,250.0	11,250.0	-	-	
Paddy	15,000.0	15,000.0	15,000.0	15,000.0	-	-	
Sub-Total On-Farm Consumption	26,250.0	26,250.0	26,250.0	26,250.0	-	-	
Net Value Of Production	81,589.4	108,341.3	201,155.3	393,600.0	26,751.9	119,565.9	
Production Cost							
Investment							
Irrigation scheme Low Hills	-	16,667.0	-	-	16,667.0	-	
Goat house - Low hills	-	100,000.0	-	-	100,000.0	-	
Dipping tank	-	1,667.0	-	-	1,667.0	-	
Breeding bucks	-	4,167.0	4,167.0	-	4,167.0	4,167.0	
Sub-total Investment Costs	-	122,501.0	4,167.0	-	122,501.0	4,167.0	
Operating							
Seed nutritious grass - low hills	-	30.0	142.5	142.5	30.0	142.5	
Seed legume fodder - low hills	-	50.0	237.5	237.5	50.0	237.5	
Seed forest forage	-	5,000.0	5,000.0	5,000.0	5,000.0	5,000.0	
Improved wheat seed	900.0	900.0	900.0	900.0	-	-	
Improved maize seed	270.0	228.0	48.0	48.0	-42.0	-222.0	
Improved paddy seed	450.0	450.0	450.0	450.0	-	-	
DAP	1,575.0	1,435.0	835.0	835.0	-140.0	-740.0	
Urea	3,000.0	2,720.0	1,520.0	1,520.0	-280.0	-1,480.0	
Potash	832.5	748.5	388.5	388.5	-84.0	-444.0	
NPK	-	4,276.8	5,464.8	5,464.8	4,276.8	5,464.8	
Goat vaccines & treatments	3,000.0	2,500.0	6,250.0	19,750.0	-500.0	3,250.0	
Feed supplement - goats	-	3,000.0	7,500.0	23,700.0	3,000.0	7,500.0	
Livestock feed requirement	-	-	-	51,230.0	-	-	
Agro-chemicals	3,750.0	3,400.0	1,900.0	1,900.0	-350.0	-1,850.0	
Sub-total Operating Costs	13,777.5	24,738.3	30,636.3	111,566.3	10,960.8	16,858.8	
Sub-Total Production Cost	13,777.5	147,239.3	34,803.3	111,566.3	133,461.8	21,025.8	
Other Costs							
Lead resource person fee	-	4,000.0	4,000.0	4,000.0	4,000.0	4,000.0	
Annual maintenance irrigation	-	-	3,500.0	3,500.0	-	3,500.0	
Annual maintenance goat housing	-	-	5,000.0	5,000.0	-	5,000.0	
Miscellaneous establishment costs	-	25,000.0	-	-	-	25,000.0	
Sub-Total Other Costs	-	29,000.0	12,500.0	12,500.0	29,000.0	12,500.0	
OUTFLOWS	13,777.5	176,239.3	47,303.3	124,066.3	162,461.8	33,525.8	
Cash Flow Before Financing	67,811.9	-67,898.1	153,852.0	269,533.7	-135,709.9	86,040.1	
Farm Family Benefits Before Financing	94,061.9	-41,648.1	180,102.0	295,783.7	-135,709.9	86,040.1	
Financial Inflows							
Disbursements on Long Term Loan	-	53,375.2	625.1	-	53,375.2	625.1	
Disbursements on Short Term Loan	-	10,960.8	16,858.8	97,788.8	10,960.8	16,858.8	
Transfer from Previous Period	13,777.5	13,777.5	17,319.5	13,777.5	-	3,542.0	
Contribution from own savings	-	708.8	-	-	708.8	-	
Grants							
Grant - Irrigation	-	14,167.0	-	-	14,167.0	-	
Grant - Goat house	-	50,000.0	-	-	50,000.0	-	
Grant - Dip tank	-	1,417.0	-	-	1,417.0	-	
Grant - breeding bucks	-	2,833.0	-	-	2,833.0	-	
Sub-Total Grants	-	68,417.0	-	-	68,417.0	-	
Sub-Total Financial Inflows	13,777.5	147,239.3	34,803.3	111,566.3	133,461.8	21,025.8	
Financial Outflows							
Long Term Principal	-	-	-	625.1	-	-	
Long Term Interest	-	-	-	112.5	-	-	
Short Term Principal	-	-	13,856.7	36,658.8	-	13,856.7	
Short Term Interest	-	-	2,494.2	6,598.6	-	2,494.2	
Transfer to Next Period	13,777.5	13,777.5	13,777.5	13,777.5	-	-	
Sub-Total Financial Outflows	13,777.5	13,777.5	30,128.4	57,772.4	-	16,350.9	
Net Financing	-	133,461.8	4,674.9	53,793.9	133,461.8	4,674.9	
Cash Flow After Financing	67,811.9	65,563.8	158,526.8	323,327.6	-2,248.1	90,714.9	
Change in Net Worth							
Contribution from own savings	-	708.8	-	-	708.8	-	
Residual value of	-	-	-	-	-	-	
Transfer to Next Period	-	-	-	-	-	-	
Sub-Total Change in Net Worth	-	-708.8	-	-	-708.8	-	
Farm Family Benefits After Financing	94,061.9	91,104.9	184,776.8	349,577.6	-2,957.0	90,714.9	
Returns per Family-Day of Labor	1,106.0	998.4	1,600.8	1,977.8	-	-	
Incremental Returns per Incremental Family-Day of Labor	-	-	2,986.0	2,786.4	-	-	

IRR = 100.1%, NPV = 1,026,936.36

la Targeting expansion over 10 years from 4 to 10 breeding does.

Annex 2 Table 25 Goat VC Household – High Hills – Production and Inputs

PRODUCTION AND INPUTS (Detailed) (In Units) /a		Feb -- Nov						
		Without Project			With Project			Increments
		1 to 10	1	5	10	1	5	10
Main Production	Unit							
Maize	kg	1,250	1,080	1,080	1,080	-170	-170	-170
Legume fodder	kg DM	-	100	900	900	100	900	900
Nutritious grass	kg DM	-	250	1,500	1,500	250	1,500	1,500
Forest based fodder	kg DM	-	200	3,648	8,000	200	3,648	8,000
Collected fodder	kg DM	-	800	3,648	8,000	800	3,648	8,000
Maize straw	kg	1,350	1,080	2,000	2,000	-270	650	650
Goat sales (liveweight) - existing	kg LW	261	-	-	-	-261	-261	-261
Goat sales (liveweight) - new	kg LW	-	366	812	1,747	366	812	1,747
On-Farm Use								
Maize	kg	1,200	1,080	1,080	1,080	-120	-120	-120
Legume fodder	kg DM	-	100	900	900	100	900	900
Nutritious grass	kg DM	-	250	1,500	1,500	250	1,500	1,500
Forest based fodder	kg DM	-	200	3,648	8,000	200	3,648	8,000
Collected fodder	kg DM	-	800	3,648	8,000	800	3,648	8,000
Maize straw	kg	1,350	1,080	2,000	2,000	-270	650	650
On-Farm Consumption								
Wheat	kg	450	450	450	450	-	-	-
Paddy	kg	750	750	750	750	-	-	-
Sales								
Maize	kg	51	-	-	-	-51	-51	-51
Goat sales (liveweight) - existing	kg LW	261	-	-	-	-261	-261	-261
Goat sales (liveweight) - new	kg LW	-	366	812	1,747	366	812	1,747
Investment								
Irrigation scheme High Hills	lump sum	-	1	-	-	1	-	-
Goat house - High hills	lump sum	-	1	-	-	1	-	-
Dipping tank	lump sum	-	1	-	-	1	-	-
Breeding bucks	lump sum	-	1	1	-	1	1	-
Operating								
Purchased Inputs								
Seed nutritious grass - high hills	kg	-	1	4	4	1	4	4
Seed legume fodder - high hills	kg	-	1	4	4	1	4	4
Seed forest forage	kg	-	1	2	5	1	2	5
Improved maize seed	kg	10	8	8	8	-2	-2	-2
DAP	kg	20	16	16	16	-4	-4	-4
Urea	kg	50	40	40	40	-10	-10	-10
Potash	kg	20	16	16	16	-4	-4	-4
NPK	kg	-	36	136	234	36	136	234
Goat vaccines & treatments	head	27	32	61	121	5	34	94
Feed supplement - goats	each	-	32	61	121	32	61	121
Livestock feed requirement	kg	-	2,214	3,702	9,440	2,214	3,702	9,440
Agro-chemicals	lump sum	2,500	2,000	2,000	2,000	-500	-500	-500
Labor								
April male labor	man day	8	6	6	6	-2	-2	-2
January female labor	woman day	2	3	6	11	1	4	9
February female labor	woman day	2	3	6	11	1	4	9
March female labor	woman day	2	3	6	11	1	4	9
April female labor	woman day	5	5	9	14	1	5	10
May female labor	woman day	7	7	11	16	0	4	9
June female labor	woman day	2	3	7	12	1	5	10
July female labor	woman day	17	15	19	24	-2	2	7
August female labor	woman day	2	3	6	11	1	4	9
September female labor	woman day	2	3	6	11	1	4	9
October female labor	woman day	2	3	6	11	1	4	9
November female labor	woman day	2	3	6	11	1	4	9
December female labor	woman day	2	3	6	11	1	4	9

/a Targeting expansion over 10 years from 15 to 30 breeding does.

Annex 2 Table 26 Goat VC Household – High Hills – Financial Budget

Agricultural Sector Development Project
Goat VC - High Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP) /a

	Feb – Nov						
	Without Project	With Project			Increments		
	1 to 10	1	5	10	1	5	10
Main Production							
Maize	25,000.0	21,600.0	21,600.0	21,600.0	-3,400.0	-3,400.0	-3,400.0
Legume fodder	-	2,500.0	22,500.0	22,500.0	2,500.0	22,500.0	22,500.0
Nutritious grass	-	5,000.0	30,000.0	30,000.0	5,000.0	30,000.0	30,000.0
Forest based fodder	-	2.0	36.5	80.0	2.0	36.5	80.0
Collected fodder	-	8.0	36.5	80.0	8.0	36.5	80.0
Maize straw	10,800.0	8,640.0	16,000.0	16,000.0	-2,160.0	5,200.0	5,200.0
Goat sales (liveweight) - existing	91,350.0	-	-	-	-91,350.0	-91,350.0	-91,350.0
Goat sales (liveweight) - new	-	128,100.0	316,680.0	698,800.0	128,100.0	316,680.0	698,800.0
Sub-total Main Production	127,150.0	165,850.0	406,853.0	789,060.0	38,700.0	279,703.0	661,910.0
On-Farm Use							
Maize	23,990.0	21,600.0	21,600.0	21,600.0	-2,390.0	-2,390.0	-2,390.0
Legume fodder	-	2,500.0	22,500.0	22,500.0	2,500.0	22,500.0	22,500.0
Nutritious grass	-	5,000.0	30,000.0	30,000.0	5,000.0	30,000.0	30,000.0
Forest based fodder	-	2.0	36.5	80.0	2.0	36.5	80.0
Collected fodder	-	8.0	36.5	80.0	8.0	36.5	80.0
Maize straw	10,800.0	8,640.0	16,000.0	16,000.0	-2,160.0	5,200.0	5,200.0
Sub-Total On-Farm Use	34,790.0	37,750.0	90,173.0	90,260.0	2,960.0	55,383.0	55,470.0
On-Farm Consumption							
Wheat	11,250.0	11,250.0	11,250.0	11,250.0	-	-	-
Paddy	15,000.0	15,000.0	15,000.0	15,000.0	-	-	-
Sub-Total On-Farm Consumption	26,250.0	26,250.0	26,250.0	26,250.0	-	-	-
Net Value Of Production	66,110.0	101,850.0	290,430.0	672,550.0	35,740.0	224,320.0	606,440.0
Production Cost							
Investment							
Irrigation scheme High Hills	-	23,333.0	-	-	23,333.0	-	-
Goat house - High hills	-	150,000.0	-	-	150,000.0	-	-
Dipping tank	-	1,667.0	-	-	1,667.0	-	-
Breeding bucks	-	4,167.0	4,167.0	-	4,167.0	4,167.0	-
Sub-total Investment Costs	-	179,167.0	4,167.0	-	179,167.0	4,167.0	-
Operating							
Seed nutritious grass - high hills	-	437.5	1,312.5	1,312.5	437.5	1,312.5	1,312.5
Seed legume fodder - high hills	-	875.0	2,625.0	2,625.0	875.0	2,625.0	2,625.0
Seed forest forage	-	500.0	2,280.0	5,000.0	500.0	2,280.0	5,000.0
Improved maize seed	300.0	240.0	240.0	240.0	-60.0	-60.0	-60.0
DAP	1,000.0	800.0	800.0	800.0	-200.0	-200.0	-200.0
Urea	2,000.0	1,600.0	1,600.0	1,600.0	-400.0	-400.0	-400.0
Potash	600.0	480.0	480.0	480.0	-120.0	-120.0	-120.0
NPK	-	792.0	2,993.8	5,148.0	792.0	2,993.8	5,148.0
Goat vaccines & treatments	6,750.0	8,000.0	15,250.0	30,250.0	1,250.0	8,500.0	23,500.0
Feed supplement - goats	-	9,600.0	18,300.0	36,300.0	9,600.0	18,300.0	36,300.0
Livestock feed requirement	-	44,272.0	74,032.0	188,800.0	44,272.0	74,032.0	188,800.0
Agro-chemicals	2,500.0	2,000.0	2,000.0	2,000.0	-500.0	-500.0	-500.0
Sub-total Operating Costs	13,150.0	69,596.5	121,913.3	274,555.5	56,446.5	108,763.3	261,405.5
Sub-Total Production Cost	13,150.0	248,763.5	126,080.3	274,555.5	235,613.5	112,930.3	261,405.5
Other Costs							
Lead resource person fee	-	4,000.0	4,000.0	4,000.0	4,000.0	4,000.0	4,000.0
Annual maintenance irrigation	-	-	3,500.0	3,500.0	-	3,500.0	3,500.0
Annual maintenance goat housing	-	-	5,000.0	5,000.0	-	5,000.0	5,000.0
Miscellaneous establishment costs	-	10,000.0	-	-	10,000.0	-	-
Sub-Total Other Costs	-	14,000.0	12,500.0	12,500.0	14,000.0	12,500.0	12,500.0
OUTFLOWS	13,150.0	262,763.5	138,580.3	287,055.5	249,613.5	125,430.3	273,905.5
Cash Flow Before Financing	52,960.0	-160,913.5	151,849.7	385,494.5	-213,873.5	98,889.7	332,534.5
Farm Family Benefits Before Financing	79,210.0	-134,663.5	178,099.7	411,744.5	-213,873.5	98,889.7	332,534.5
Financial Inflows							
Disbursements on Long Term Loan	-	79,375.1	625.1	-	79,375.1	625.1	-
Disbursements on Short Term Loan	-	56,446.5	108,763.3	261,405.5	56,446.5	108,763.3	261,405.5
Transfer from Previous Period	13,150.0	13,150.0	16,692.0	13,150.0	-	3,542.0	-
Grants							
Grant - Irrigation	-	19,833.0	-	-	19,833.0	-	-
Grant - Goat house	-	75,000.0	-	-	75,000.0	-	-
Grant - Dip tank	-	1,700.0	-	-	1,700.0	-	-
Grant - breeding bucks	-	3,542.0	-	-	3,542.0	-	-
Sub-Total Grants	-	100,075.0	-	-	100,075.0	-	-
Sub-Total Financial Inflows	13,150.0	249,046.6	126,080.3	274,555.5	235,896.6	112,930.3	261,405.5
Financial Outflows							
Long Term Principal	-	-	-	625.1	-	-	625.1
Long Term Interest	-	-	-	112.5	-	-	112.5
Short Term Principal	-	-	91,491.2	213,924.4	-	91,491.2	213,924.4
Short Term Interest	-	-	16,468.4	38,506.4	-	16,468.4	38,506.4
Transfer to Next Period	13,150.0	13,150.0	13,150.0	16,692.0	-	-	3,542.0
Sub-Total Financial Outflows	13,150.0	13,150.0	121,109.6	269,860.3	-	107,959.6	256,710.3
Net Financing	-	235,896.6	4,970.7	4,695.2	235,896.6	4,970.7	4,695.2
Cash Flow After Financing	52,960.0	74,983.1	156,820.4	390,189.7	22,023.1	103,860.4	337,229.7
Residual value of							
Transfer to Next Period	-	-0.0	-	-	-0.0	-	-
Farm Family Benefits After Financing	79,210.0	101,233.1	183,070.4	416,439.7	22,023.1	103,860.4	337,229.7
Returns per Family-Day of Labor	1,466.9	1,663.6	1,786.9	2,581.0	-	-	-
Incremental Returns per Incremental Family-Day of Labor	-	3,215.0	2,143.5	3,141.4	-	-	-

IRR = 99.2%, NPV = 1,444,009.24

∫a Targeting expansion over 10 years from 15 to 30 breeding does.

Annex 2 Table 27 Milk VC Household – Production and Inputs

Agricultural Sector Development Project
Milk VC - Mid Hills Household
PRODUCTION AND INPUTS (Detailed)
(In Units) /a

Unit	Feb -- Nov								
	Without Project	With Project			Increments				
	1 to 10	1	5	10	1	5	10		
Main Production									
Wheat	kg	450	450	450	450	-	-	-	
Paddy	kg	750	750	750	750	-	-	-	
Maize	kg	1,125	945	945	945	-180	-180	-180	
Legume fodder	kg DM	-	200	400	400	200	400	400	
Nutritious grass	kg DM	-	250	750	750	250	750	750	
Wheat straw	kg	1,125	1,125	1,125	1,125	-	-	-	
Maize straw	kg	1,215	945	1,750	1,750	-270	535	535	
Paddy straw	kg	1,125	1,125	1,125	1,125	-	-	-	
Milk sales	litre	3,514	3,978	8,874	18,270	464	5,360	14,756	
Cow manure	kg	18,250	21,900	26,280	52,560	3,650	8,030	34,310	
On-Farm Use									
Maize	kg	1,125	945	945	945	-180	-180	-180	
Legume fodder	kg DM	-	200	400	400	200	400	400	
Nutritious grass	kg DM	-	250	750	750	250	750	750	
Wheat straw	kg	1,125	1,125	1,125	1,125	-	-	-	
Maize straw	kg	1,215	945	1,750	1,750	-270	535	535	
Paddy straw	kg	1,125	1,125	1,125	1,125	-	-	-	
Sales									
Wheat	kg	450	450	450	450	-	-	-	
Paddy	kg	750	750	750	750	-	-	-	
Milk sales	litre	3,514	3,978	8,874	18,270	464	5,360	14,756	
Cow manure	kg	18,250	21,900	26,280	52,560	3,650	8,030	34,310	
Investment									
Milk collection centre	lump sum	-	1	-	-	1	-	-	
Animal housing	lump sum	-	1	-	-	1	-	-	
Irrigation scheme	lump sum	-	1	-	-	1	-	-	
Operating									
Purchased Inputs									
Seed nutritious grass - low hills	kg	-	0	0	0	0	0	0	
Seed legume fodder - low hills	kg	-	0	0	0	0	0	0	
Improved wheat seed	kg	18	18	18	18	-	-	-	
Improved maize seed	kg	9	7	7	7	-2	-2	-2	
Improved paddy seed	kg	8	8	8	8	-	-	-	
DAP	kg	32	28	28	28	-4	-4	-4	
Urea	kg	75	65	65	65	-10	-10	-10	
Potash	kg	28	24	24	24	-4	-4	-4	
NPK	kg	-	18	18	18	18	18	18	
Cattle vaccines & treatments	head	5	4	6	12	-1	1	7	
Feed supplement - cattle	each	-	3	4	7	3	4	7	
Livestock feed requirement	kg	1,052	2,961	3,105	8,035	1,909	2,053	6,983	
Artificial insemination	service	-	-	4	7	-	4	7	
Agro-chemicals	lump sum	3,750	3,250	3,250	3,250	-500	-500	-500	
Labor									
April male labor	man day	7	5	5	5	-2	-2	-2	
June male labor	man day	6	6	6	6	-	-	-	
November male labor	man day	3	3	3	3	-	-	-	
January female labor	woman day	9	10	14	21	1	6	12	
February female labor	woman day	7	8	13	19	1	6	12	
March female labor	woman day	7	8	13	19	1	6	12	
April female labor	woman day	15	16	21	27	1	5	12	
May female labor	woman day	12	12	16	23	0	5	11	
June female labor	woman day	7	8	13	19	1	6	12	
July female labor	woman day	25	23	28	34	-2	3	9	
August female labor	woman day	10	11	16	22	1	6	12	
September female labor	woman day	7	8	13	19	1	6	12	
October female labor	woman day	16	17	22	28	1	6	12	
November female labor	woman day	8	9	14	20	1	6	12	
December female labor	woman day	7	8	13	19	1	6	12	

/a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 2 Table 28 Milk VC Household – Financial Budget

Agricultural Sector Development Project
Milk VC - Mid Hills Household
FINANCIAL BUDGET (DETAILED)
(In NRP '000) /a

	Feb -- Nov								
	Without Project	With Project			Increments				
	1 to 10	1	5	10	1	5	10		
Main Production									
Wheat	11.3	11.3	11.3	11.3	-	-	-		
Paddy	15.0	15.0	15.0	15.0	-	-	-		
Maize	22.5	18.9	18.9	18.9	-3.6	-3.6	-3.6		
Legume fodder	-	4.0	8.0	8.0	4.0	8.0	8.0		
Nutritious grass	-	3.0	9.0	9.0	3.0	9.0	9.0		
Wheat straw	11.3	11.3	11.3	11.3	-	-	-		
Maize straw	9.7	7.6	14.0	14.0	-2.2	4.3	4.3		
Paddy straw	11.3	11.3	11.3	11.3	-	-	-		
Milk sales	210.8	238.7	532.4	1,096.2	27.8	321.6	885.4		
Cow manure	36.5	43.8	52.6	105.1	7.3	16.1	68.6		
Sub-total Main Production	328.3	364.7	683.7	1,300.0	36.4	355.3	971.7		
On-Farm Use									
Maize	22.5	18.9	18.9	18.9	-3.6	-3.6	-3.6		
Legume fodder	-	4.0	8.0	8.0	4.0	8.0	8.0		
Nutritious grass	-	3.0	9.0	9.0	3.0	9.0	9.0		
Wheat straw	11.3	11.3	11.3	11.3	-	-	-		
Maize straw	9.7	7.6	14.0	14.0	-2.2	4.3	4.3		
Paddy straw	11.3	11.3	11.3	11.3	-	-	-		
Sub-Total On-Farm Use	54.7	56.0	72.4	72.4	1.2	17.7	17.7		
Net Value Of Production	273.6	308.7	611.3	1,227.6	35.1	337.7	954.0		
Production Cost									
Investment									
Milk collection centre	-	13.3	-	-	13.3	-	-		
Animal housing	-	350.0	-	-	350.0	-	-		
Irrigation scheme	-	23.3	-	-	23.3	-	-		
Sub-total Investment Costs	-	386.7	-	-	386.7	-	-		
Operating									
Purchased Inputs									
Seed nutritious grass - low hills	-	0.0	0.0	0.0	0.0	0.0	0.0		
Seed legume fodder - low hills	-	0.1	0.1	0.1	0.1	0.1	0.1		
Improved wheat seed	0.9	0.9	0.9	0.9	-	-	-		
Improved maize seed	0.3	0.2	0.2	0.2	-0.1	-0.1	-0.1		
Improved paddy seed	0.5	0.5	0.5	0.5	-	-	-		
DAP	1.6	1.4	1.4	1.4	-0.2	-0.2	-0.2		
Urea	3.0	2.6	2.6	2.6	-0.4	-0.4	-0.4		
Potash	0.8	0.7	0.7	0.7	-0.1	-0.1	-0.1		
NPK	-	0.4	0.4	0.4	0.4	0.4	0.4		
Cattle vaccines & treatments	5.0	4.0	6.0	12.0	-1.0	1.0	7.0		
Feed supplement - cattle	-	9.0	12.0	21.0	9.0	12.0	21.0		
Livestock feed requirement	21.0	59.2	62.1	160.7	38.2	41.1	139.7		
Artificial insemination	-	-	4.0	7.0	-	4.0	7.0		
Agro-chemicals	3.8	3.3	3.3	3.3	-0.5	-0.5	-0.5		
Sub-Total Purchased Inputs	36.8	82.2	94.1	210.7	45.4	57.3	173.9		
Labor									
July female labor	-	-	-	2.1	-	-	2.1		
Sub-total Operating Costs	36.8	82.2	94.1	212.7	45.4	57.3	175.9		
Sub-Total Production Cost	36.8	468.9	94.1	212.7	432.1	57.3	175.9		
Other Costs									
Lead resource person fee	-	4.0	4.0	4.0	4.0	4.0	4.0		
Annual maintenance irrigation	-	-	3.5	3.5	-	3.5	3.5		
Annual maintenance cattle housing	-	-	26.3	26.3	-	26.3	26.3		
Sub-Total Other Costs	-	4.0	33.8	33.8	4.0	33.8	33.8		
OUTFLOWS	36.8	472.9	127.8	246.5	436.1	91.0	209.7		
Cash Flow Before Financing	236.8	-164.1	483.4	981.1	-400.9	246.6	744.3		
Financial Inflows									
Disbursements on Long Term Loan	-	180.5	-	-	180.5	-	-		
Disbursements on Short Term Loan	-	45.4	57.3	175.9	45.4	57.3	175.9		
Transfer from Previous Period	36.8	36.8	36.8	36.8	-	-	-		
Contribution from own savings	-	0.0	-	-	0.0	-	-		
Grants									
Grant - cow shed	-	175.0	-	-	175.0	-	-		
Grant - Collection centre	-	11.3	-	-	11.3	-	-		
Grant - Irrigation	-	19.8	-	-	19.8	-	-		
Sub-Total Grants	-	206.2	-	-	206.2	-	-		
Sub-Total Financial Inflows	36.8	468.9	94.1	212.7	432.1	57.3	175.9		
Financial Outflows									
Long Term Principal	-	-	-	-	-	-	-		
Long Term Interest	-	-	-	-	-	-	-		
Short Term Principal	-	-	77.1	143.3	-	77.1	143.3		
Short Term Interest	-	-	13.9	25.8	-	13.9	25.8		
Transfer to Next Period	36.8	36.8	36.8	36.8	-	-	-		
Sub-Total Financial Outflows	36.8	36.8	127.8	205.9	-	91.0	169.1		
Net Financing	-	432.1	-33.7	6.8	432.1	-33.7	6.8		
Cash Flow After Financing	236.8	267.9	449.7	987.9	31.1	212.9	751.1		
Change in Net Worth									
Contribution from own savings	-	0.0	-	-	0.0	-	-		
Residual value of	-	-	-	-	-	-	-		
Transfer to Next Period	-	-	-	-	-	-	-		
Sub-Total Change in Net Worth	-	-0.0	-	-	-0.0	-	-		
Farm Family Benefits After Financing	236.8	267.9	449.7	987.9	31.1	212.9	751.1		
Returns per Family-Day of Labor	1.6	1.8	2.1	3.5	-	-	-		
Incremental Returns per Incremental Family-Day of Labor	-	4.8	3.3	5.6	-	-	-		

IRR = 78.0%, NPV = 3,332.78

a Mid-hills Surkhet, Salyan, Jajarkot, Dialekh & Rukum

Annex 3 Table 1 – Benefits Arising from Rural Road Development

Benefits	Resulting from
Changed patterns of production/increased area	Introduction/expansion of higher value crops which become financially viable due to improved market access and reduced losses
Increased agricultural productivity	Increased availability and reduced cost of inputs.
	Increased access to support services, including extension.
Increased marketed output	Better access to markets due to improved accessibility throughout the year.
Increased producer prices	(i) Reduced transport costs; and (ii) higher quality of produce due to timely transportation and reduced losses during transport.
Reduced losses (on-farm before transport and during transport)	Reduced transport time and accessibility throughout the year.
Increased profits for vehicle operators	Reduction in vehicle operation and maintenance costs. Time savings. Opportunities for increased business (volumes transported).
Social benefits	Increased access to health and other social services, and information.

Annex 3 Table 2 – Illustrative Roads Cost Benefit Analysis

New gravel road: 2.5 - 3 m width				
Road length	3 km			
No. of villages reached:	2			
	households	people		
Village population reached:	150	750		
	million NRS	USD		
Cost per km:	11	100,000		
Cost per road:	32	300,000		
Cost per household reached:	0.2	2,000		
Production affected by infrastructure	Before	After	Change	
	Construction			
Ginger				
Total Area (ha)	10	10	0	0.0%
Avg. yield per ha and year (MT)	8	10	2	25.0%
Total production (MT)	80	100	20	25.0%
Marketed output before losses (100% of total production) (MT)	80	100	20	25.0%
Losses (on-farm before transport and during transport) (%)	10%	8%	0	-25.0%
Marketed output after losses (MT)	72	93	21	28.5%
Avg. price per unit of output (NPR'000)	25	25	0	0.0%
Total revenue of marketed output (NPR'000)	1,800	2,313	513	28.5%
OSV				
Total Area (ha)	7	15	8	114.3%
Avg. yield per ha and year (MT)	30.0	50.0	20	66.7%
Total production (MT)	210	750	540	257.1%
Marketed output before losses (60% of total production) (MT)	126	450	324	257.1%
Losses (on-farm before transport and during transport) (%)	10%	5%	0	0.0%
Marketed output after losses (MT)	113	428	314	277.0%
Avg. price per unit of output (NPR'000)	25	28	3	10.0%
Total revenue of marketed output (NPR'000)	2,835	11,756	8,921	314.7%
Potato				
Total Area (ha)	11	19	8	66.7%
Avg. yield per ha and year (MT)	12.0	20.0	8	66.7%
Total production (MT)	135.0	375.0	240	177.8%
Marketed output before losses (80% of total production) (MT)	108.0	300.0	192	177.8%
Losses (on-farm before transport and during transport) (%)	10%	5%	0	0.0%
Marketed output after losses (MT)	97.2	285.0	188	193.2%
Avg. price per unit of output (NPR'000)	20	30	10	50.0%
Total revenue of marketed output (NPR'000)	1,944	8,550	6,606	339.8%
Goats				
Liveweight of goats marketed per year (kg LW)	9,750	73,500	63,750	653.8%
Avg. net profit per kg LW marketed (NPR'000)	0.3	0.3	0	0.0%
Total net profit of marketed output (NPR'000)	2,905.5	21,903.0	18,998	653.8%
CBA Assumptions:		Results:	NPV 10%	IRR
Road construction cost (NPR'000)	31,800		NPR '000	
Annual maintenance @ 2.5% invest. (NPR'000)	795	10 years	119,566	65%
Incremental benefits phased in over 3 years		15 years	169,612	66%
Total increment benefit full dev (NPR'000)	35,037	20 years	200,686	66%

Annex 3 Table 3 – Cost Benefit Analysis - Cashflows and Indicators (NRP million)

Year	Incr. benefits	Production costs	ASDP Investment	ASDP Recurrent	Post ASDP CAESC recurrent	Post ASDP AFEC recurrent	Post ASDP Public infrastructure recurrent	Total incr costs	Net incr benefits
1	38	440	102	55	-	-	-	598	(560)
2	155	1,135	245	55	-	-	-	1,435	(1,280)
3	402	1,760	327	55	-	-	-	2,141	(1,739)
4	838	2,128	324	54	-	-	-	2,505	(1,667)
5	1,372	1,394	51	54	-	-	-	1,498	(126)
6	2,047	1,416	-	52	-	-	-	1,468	579
7	2,762	1,584	-	-	10	3	9	1,606	1,156
8	3,529	1,692	-	-	-	-	9	1,700	1,829
9	4,155	1,828	-	-	-	-	9	1,836	2,319
10	4,698	1,980	-	-	10	3	9	2,002	2,697
11	5,254	2,192	-	-	-	-	9	2,200	3,054
12	5,665	2,362	-	-	-	-	9	2,371	3,294
13	5,921	2,513	-	-	10	3	9	2,535	3,386
14	5,933	2,478	-	-	-	-	9	2,486	3,446
15	5,950	2,415	-	-	-	-	9	2,423	3,527
16	5,943	2,410	-	-	10	3	9	2,432	3,511
17	5,957	2,419	-	-	-	-	9	2,427	3,530
18	5,946	2,413	-	-	-	-	9	2,421	3,525
19	5,957	2,437	-	-	10	3	9	2,458	3,499
20	5,946	2,397	-	-	-	-	9	2,406	3,540
21	5,946	2,395	-	-	-	-	9	2,403	3,543
22	5,948	2,408	-	-	10	3	9	2,430	3,518
23	5,950	2,394	-	-	-	-	9	2,403	3,548
24	5,951	2,380	-	-	-	-	9	2,389	3,563
25	5,951	2,359	-	-	10	3	9	2,380	3,571

ENPV @ 10%	NPR million	9,752
ENPV @ 10%	USD million	92.0
EIRR	%	24.1
BCR	ratio	1.57
Switching value costs	%	57
Switching value benefits	%	(36)

Appendix 11: Draft Programme implementation manual

1. Appendices 4,5,6,7, 8 and 9 of the ASDP final programme design report provide the basis for a detailed Programme Implementation Manual, however, additional inputs are required concerning day-to-day ASDP financial management. The HVAP PCO will coordinate the preparation of the Final Design Report.
2. The mission, with HVAP PMU support, has prepared an “ASDP Stakeholder Compendium” to inform various stakeholders of the objectives and structure of the Programme and their roles in its implementation. The document will be translated into Nepali in the near future.

Appendix 12: Compliance with IFAD policies

Policy	Strategic Objectives
IFAD Strategic Framework 2016-2025- Enabling Inclusive and Sustainable Rural Transformation	The ASDP is strongly aligned with IFAD overarching goal " rural people overcome poverty and achieve food security through remunerative, sustainable and resilient livelihoods." The program takes into account key IFAD policies and strategies relating to targeting, gender, land, ethnic peoples and climate change contributing to the overall objectives of the Strategic Framework 2015-2025 and in particular to: SO1: Increase rural people's productive capacities; SO2: Increase rural people's benefits from market participation; and SO3: Strengthen the environmental sustainability and climate resilience of rural people's economic activities. Key policy orientation includes natural resources – land, water, energy and biodiversity; CC adaptation and mitigation; improved agricultural technologies and effective production services; integration of poor rural people within value chains; and technical skills development.
Nepal COSOP 2013 -2018	The Country Strategic Opportunities Programme (COSOP), which is aligned with the policies and strategies of the GoN, has three main objectives: (i) Increased access to Economic Opportunities by poor farmers and producers in hill and mountain areas; (ii) Community infrastructure and services improved in hill and mountain areas; and; (iii) Gender, ethnic, and caste-related disparities reduced through greater inclusion of disadvantaged groups to development.. The nature of the proposed primary target group will be poor rural households, composed mainly of subsistence farmers, wage laborers, landless people and market-participant smallholder producers. The target group will also include "near poor" households, which are an income group increasingly vulnerable to shocks, especially those associated with climate risk. This group will include the under-privileged "minority" people. Finally, specific provisions will be made to ensure the full participation of women and youth. All of these target group characteristics are consistent with IFAD policy. The ASDP funding builds on the HVAP and the ADS.
Environmental Natural Resource Management (ENRM) Policy	ASDP supports the primary and secondary objective of this policy by promoting sustainable agriculture and livestock production systems resilient to climate change. The Programme adheres to the following policy principles: (i) increased investment in approaches providing multiple benefits for sustainable intensification of agriculture: improved water management / resilient infrastructure; (ii) strengthening the governance of natural assets to the rural poor through community empowerment; (iii) equality and empowerment of women and minority peoples in the context of natural resource management and family nutrition; and (iv) Improving access of poor rural communities to financing for income generating and climate-proofing of investments.
IFAD's Climate Change Strategy	ASDP intends to invest in the development of the following key value chains: off season vegetables (including potato), rhizome crops (ginger and turmeric), fruits (apple, walnut), small livestock (goat) and NTFP. The programme will comply with the Value Chain Best-practice statement provided in IFAD's ENRM Policy (IFAD, 2011). Consistent with the goals, purpose and core principles of the ENRM Policy, the proposed Programme target groups are largely poor, women-headed and minority households and communities in the uplands of mid-western Nepal and sets out to address CC adaptation, sustainable land management and poverty reduction in an integrated fashion. The target group is disproportionately poor and highly dependent on staple crops, traditional agriculture and the natural

Policy	Strategic Objectives
	<p>resource base (e.g., NTFPs). Living in more remote areas, they have reduced access to markets and supporting services and so have low rates of agricultural investment and, in consequence, lower productivity. They are also identified as being highly sensitive to both CC and natural disaster impacts for all these same reasons. In response, the programme supports actions for long-term adaptation that address the drivers of vulnerability — such as adaptation options that reduce poverty and increase household resilience — and that integrate CC into development planning and public and private (VC and enterprise) investment.</p>
<p>IFAD's Policy for Gender equality and Women's empowerment</p>	<p>ASDP will systematically address issues of gender equality and women's empowerment. It will help women and their organizations in their advocacy for access to resources and knowledge. It will strengthen the capacity of Programme partners (national, local and decentralized institutions, training centers, private sector providers and national and international NGOs) to take into account issues of gender equality and community empowerment. This is particularly considered a difficult group to reach and therefore will be subject to special attention.</p>
<p>IFAD's Policy for indigenous people</p>	<p>The Programme approach to the minority groups (Dalit, Janajatis, Muslim, etc.) is consistent with IFAD's policy to ethnic minorities. Cultural differences will dictate the approach adopted, as well as different poverty levels. Local languages will be used in all village meeting, planning and extension sessions. Mobile teams responsible for implementation will reflect gender balance, and their members will have command of local languages. Capacity building tools will be developed in the languages of the main minority groups and take into consideration cultural differences. Special efforts will be made to recruit facilitators and LRPs speaking local languages.</p>
<p>IFAD's Knowledge Management Strategy</p>	<p>The ASDP is aligned with the Knowledge Management strategy, especially in the following areas (i) strengthening the process of knowledge sharing and learning; (ii) development of partnerships to provide a broader base of knowledge sharing and learning; and (iii) promotion of a dynamic platform for knowledge sharing and learning. The Programme will use (human and financial) resources to enhance its impact by sharing knowledge and learning.</p>

Appendix 13: Contents of the Programme Life File

1. ASDP Concept Note Aide Memoire
2. ASDP Concept Note
3. ASDP Detailed Design Mission Aide Memoire
4. Rural financial services report
5. ASDP Detailed Design Report
6. Out-of-season vegetables strategic investment plan
7. Goat meat strategic investment plan
8. Preliminary mapping of rural financial services in Province 6
9. ASDP Final project Design Report Aide Memoire