IFAD
Investing in rural people

Republic of Tajikistan

Community-based Agricultural Support Project (CASP)

Final project design report

Main report and appendices

Document Date: 15-May 2017
Project No. 2000001284
Report No: 4515-TJ

Near East, North Africa and Europe Division
Programme Management Department

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Currency equivalents

Currency Unit	=	
US$1.0	=	

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

ADB	Asian Development Bank
AKF	Aga Khan Foundation
AMSC	Agricultural Mechanization Service Centre
ASAP	Adaptation for Smallholder Agriculture Programme
ATAC	Agriculture Training and Advisory Centre
AWPB	Annual Work Plan and Budget
BDS	Business Development Services
CACILM	Central Asian Countries' Initiative on Land Management
CARITAS	Catholic Agency for Overseas Aid and Development
CC	Climate Change
CDF	Community Development Funds
CDS	Community Development Specialist
CF	Community Facilitator
CGA	Community Grant Agreement
CIF	Climate Investment Funds
CIG	Common Interest Group
CIS	Commonwealth of Independent States
CLPMP	Community Livestock and Pasture Management Plan
CN	Concept Note
CO	Community Organization
DCC	Donor Coordination Council
DDC	District Development Committees
DFID	Department for International Development (United Kingdom)
DPO	District Project Officer
EAEU	Eurasian Economic Union
EBRD	European Bank for Reconstruction and Development
ECA	Europe and Central Asia
EC	European Commission
EIU	Economist Intelligent Unit
ERR	Economic Internal Rate of Return
FAO	Food and Agriculture Organization of the United Nations
FHH	Female Headed Household
FIRR	Financial Internal Rate of Return
FM	Financial Management
FSU	Former Soviet Union
GAO	Gross Agricultural Output
GAP	Gender Action Plan
GDI	Gender Development Index
GDP	Gross Domestic Product
GIZ	German International Cooperation
GNI	Gross National Income
GOT	Government of Tajikistan
HDI	Human Development Index
HH	Household
ICARDA	International Center for Agricultural Research in the Dry Areas
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IGA	Income Generating Activity
IMF	International Monetary Fund
INGO	International Non-Governmental Organisation

IRR	Internal Rate of Return
JC	*Jamoat* Council
JCSS	Joint Country Support Strategy
KM	Knowledge Management
KLSP	Khatlon Livelihoods Support Project
LPDP	Livestock and Pasture Development Project
LU	Livestock Unit (equal to one adult sheep)
M&E	Monitoring and Evaluation
MFI	Microfinance Institution
MIS	Management Information System
MOA	Ministry of Agriculture
MOF	Ministry of Finance
MOU	Memorandum of Understanding
MSDSP	Mountain Societies Development Support Programme
Mt	Metric ton
NAAS	National Academy of Agricultural Sciences
NBT	National Bank of Tajikistan
NDS	National Development Strategy
NGO	Non-Governmental Organisation
NPV	Net Present Value
PAR	Portfolio at risk
PIM	Project Implementation Manual
PMU	Project Management Unit
PPP	Purchasing Power Parity
PRS(P)	Poverty Reduction Strategy (Paper)
PSC	Project Steering Committee
PUU	Pasture Users' Union
PUUB	PUU Board
PY	Project Year
RIMS	Results and Impact Management System
RRS	Rayons of Republican Subordination
SCLMG	State Committee for Land Management and Geodesy
SCF	Strategic Climate Fund
SCISPM	State Committee on Investments and State Property Management
SDC	Swiss Development Cooperation
SDR	Special Drawing Right(s)
SIDA	Swedish International Development Agency
SME	Small and Medium Enterprises
Somoni	Local currency
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	Technical Assistance
TAU	Tajik Agrarian University
TLSS	Tajikistan Living Standards Survey
ToT	Training of Trainers
TOR	Terms of Reference
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
US$	United States Dollar
VO	Village Organization
WB	World Bank
WFP	World Food Programme
WG	Women Group

Definitions and Glossary

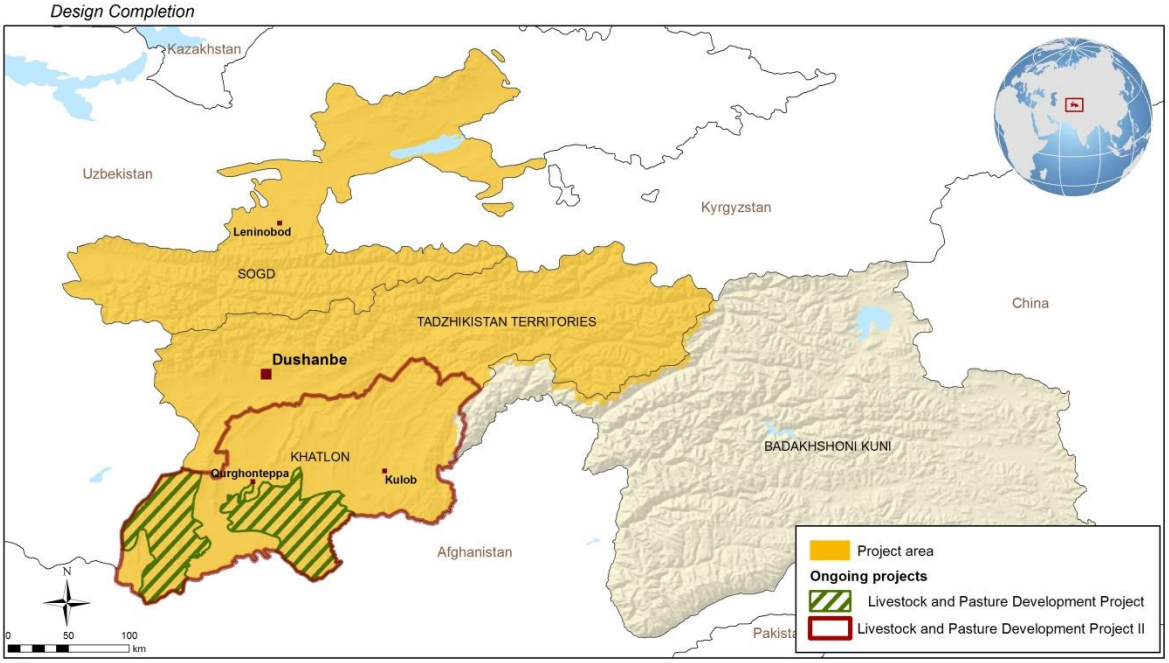
Smallholder farmers	Smallholder farmers refer to those with small sizes of agricultural land that rely mainly on family labour. In Tajikistan, smallholder farmers usually have access to small plots (0.15-0.40 ha) for crops near the homestead (often called 'kitchen gardens'), over which they have a permanent and heritable use right. Some of them might have received additional small plots, commonly called 'Presidential Lands'. In addition to those crop lands, smallholder farmers would have access to communal pasture land for grazing animals.
Dehkan farms	*Dehkan* farms are run by private persons at individual, family or collective levels. The size of *dehkan* farms varies from five to thousands of hectares. Family and collective *dehkan* farms appoint a head who officially holds the farm's land registration certificate and legally represents the interests of the farm. Many large collective *dehkan* farms, however, continue to operate as collective or state farms.
Village Organizations	Village Organizations (VOs) are the community-based organizations at the village level. Initially started with support from the Mountain Societies Development Support Programme (MSDSP) of the Aga Khan Foundation, creating a grassroots organizational entity to represent the village community, VOs gained momentum and their numbers have increased sharply. The VO concept and functions have been mainstreamed, and VOs currently have a legal status under the Law on Public Self-Initiative Bodies and cover basically all the country. VOs are recognized bodies by both the government and donors as focal points for linking and working with communities though are underfunded and in some cases have week governance.
Mahalla	*Mahalla* means a traditional forum of self-governance at the neighbourhood community level. Traditionally, it was governed by a council of elders. *Mahalla* in its current usage is understood as a social unit/community with mechanisms of self-governance.
Jamoat	*Jamoats* are the third-level administrative divisions (below district or *rayon*) in Tajikistan or sub-districts. There are about 406 *Jamoats* in the country.
Hukumat	*Hukumat* refers to a local government/state administration. *Hukumats* operate at region and district levels.

Map of the project area

Tajikistan

Community Based Agricultural Support Project (CASP)

Design Completion



IFAD

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 03-06-2017

Executive Summary

Country context and sectoral strategy

Tajikistan is a landlocked country bordering Afghanistan in the south, China in the east, Kyrgyzstan in the north, and Uzbekistan in the west. The country's population reached 8.5 million people in 2015. The country has one of the lowest per capita GDPs among the 15 former Soviet republics. The gross national income (GNI) per capita (Atlas method, current US$) was estimated at US$ 1,280 in 2015. The country has a narrow economic base dominated by the production of aluminium and cotton, the two main export commodities, supplemented by remittances from Tajik nationals working abroad. 5. Agriculture is a major component of the Tajik economy. In 2015 it accounted for 25% of GDP and it plays a significant role in the rural population's livelihood and food security. In 2015 agriculture employed 45% of the workforce, according to government statistics. Despite its critical importance, the agricultural resource base is characterized by limited arable land. The agricultural sector is in general characterized by poor efficiency and productivity and incomes are low. Key factors that limit development include lack of access to: finance, modern agricultural machinery and equipment, modern technologies and farming practices, and agro-services.

Tajikistan was one of the poorest members of the former USSR and after independence poverty increased sharply as a result of an abrupt termination of economic support from the Soviet Union and an extended civil war after independence in 1991, derailing all economic activity. However, progress has been made as available data show that poverty declined from 81% in 1999 to about 32% in 2014. One fifth of the population in Tajikistan is affected by food insecurity. The incidence of poverty is above average in rural areas (36.1%) which host over 80% of the total poor.

The productivity of the agricultural sector is significantly constrained by the limited access to agricultural machinery and equipment, services for operation and maintenance for the existing equipment. The inventory of agricultural machinery was largely destroyed during the civil war in the 1990's together with the related service infrastructure. Investments in agricultural machinery resumed in 2000, but at a very narrow pace and scale due to limited access to finance. By and large, the agricultural mechanization condition in Tajikistan is considered responsible for lowering crop productivity by 20% and in worst cases by 30%. Reasons behind this comprise improper and untimely land preparation and seeding planning, inadequate land operations, and low performing harvestings.

The overall framework for development in Tajikistan is guided by the Government's National Development Strategy 2016-2030 (NDS) and Medium-term Development Strategy 2016-2020 (MDS). The strategic development goals of the NDS are: (i) ensuring energy security; (ii) development of the country's communication opportunities; (iii) ensuring food security and nutrition; and (iv) enhancing productive employment. These will be achieved by the following tenets of a new model of growth: (i) improvement of public governance for sustainable development; (ii) development of a new institutional support system for the private sector and improvement of the business environment and investment climate; and (iii) improving the productivity of human capital. The Ministry of Agriculture has drafted an ambitious plan of reforms that are described in its main programmatic document (Reform Programme of the Agriculture Sector - 2012-2020). Despite the fact that the MOA has limited budgetary resources, poorly trained staff and low salaries that have contributed to weak administration, public service delivery and knowledge management, it has the potential to ensure proper management of resources.

Since 2008, the IFAD Country Programme has invested about US$49.3 million in three projects in Tajikistan, thus mobilising overall investments of US$54.9 million. IFAD interventions are directly benefitting some 80,000 households by strengthening their local institutions and grassroots organizations, and expanding their access to productive technologies and resources. IFAD's current country programme consists of the Livestock and Pasture Development Project I and II). The projects focus on income diversification and promote alternative sources of income so as to diversify household economies.

Justification and rationale

Agricultural productivity is far below its potential including for key smallholder staples such as wheat and potato; and cash crops such as apple. This severely impacts the livelihoods of the project target group. A pivotal cause is lack of access to modern technologies, notably farm equipment and machinery and their service network. Also, poor rural production and transport infrastructure (rural access roads and bridges, livestock watering points), degraded land/pastureland, and the risks of climate change limit the optimal use of the natural resource base. The theory of change (TOC) is premised on tackling these problems using a two-pronged approach: on one hand in support of the poorest smallholders in remote villages who cannot access mechanization services except on a highly concessional basis; on the other in support of private sector mechanized Service Providers and repair & maintenance services**,** on whose participation the long-term sustainable growth of the sector depends.

Project area and target groups

The Project will be implemented in selected districts of Soghd, Khatlon and RRS, which have high poverty levels, yet potential for agriculture development. It is expected that the Project will reach around 225 villages with an estimated population of 48,160 households. The Project will seek to provide benefits to the actually or potentially economically active among the following primary target groups: (i) rural poor living in extreme poverty, who are either landless or are producing a bare subsistence minimum on HH plots; (ii) subsistence and semi-subsistence farmers, in particular those willing to move to more commercial farming; (iii) the rural underemployed and self-employed; and (iv) private entrepreneurs with actual or potential strong backward linkages to poor rural communities in the capacity of service provider, input supplier or off-taker of agricultural produce. Within these groups, emphasis will be placed on reaching poor rural women, especially those who are HH heads, and poor rural youth.

Project goal, objectives, outcomes and approach

The Project goal is to stimulate inclusive economic growth and reduction of poverty in poor rural communities. The development objective of the Project is to improve access of communities to productive infrastructure and services leading to sustainable agricultural production and equitable returns. Project implementation will be guided by the Project's results management framework. The Project's investments and activities will be executed through two components in addition to Project Management: Component 1. Strengthening rural institutions; and Component 2. Improvement of agricultural productivity and business linkages.

The aim of Component 1 is two-fold: (i) to scale-up strengthening of Village Organizations (VOs) and to develop business-oriented *dehkan* farmer groups; and (ii) to build capacities of implementation service agencies (public/private) to deliver goods and services to smallholder farmers. The former will help expand benefits to a larger number of *dehkan*/individual smallholder farmers. The latter will contribute to enhancing sustainability of implementation capacity from which the GOT and other development actors can draw to expand the activities beyond the Project period to other areas. Thus, the outcome of this Component is: "*increased effectiveness and outreach of rural institutions and service agencies*". The outcome will be measured by the following indicator: 70% of beneficiaries satisfied with the services provided by rural institutions and service agencies.

The aim of Component 2 is to build communities' productive base and to stimulate adoption of modern agricultural technologies leading to improved agricultural productivity. Thus, the outcome of this Component is: "increased farm productivity resulted through adoption of improved agricultural technologies and productive infrastructure". The additional outcome of the Component is "acknowledged policy recommendations on tested mechanization improvement options". The first outcome will be measured by the following indicators: (i) at least 20% increase in agricultural productivity (by main commodities); and (ii) at least 35,000 hectares under improved environmentally sustainable management practices. The additional outcome will be accomplished by a delivered Policy paper on improved mechanization.

The approach of the Project is to improve the assets and incomes of selected rural communities, including smallholder farmers, small rural processing enterprises, input suppliers and service providers, and the rural unemployed by improving production in terms of building/renovating key

infrastructure, capacity enhancement, provision of improved services and innovative technologies. Project support will be targeted, demand-driven and participatory. Thus, the CASP will be executed through a demand-driven approach, rather than the planning and definition of annually fixed targets. The Project will be organized and managed through the same structures as previous projects that took a partnership approach in the implementation of project activities between the State, civil society, technical service providers and community organizations.

Expected results and benefits

Expected Project results include: increased farm-level agricultural production and productivity, with a higher yields (net of losses before harvest), higher quantities of agricultural outputs sold to markets, reduced costs of production and harvesting through a wider availability of mechanized services at fees affordable to the target households, expanded employment opportunities and increased incomes among the beneficiaries. The benefits of the Project would mostly concern the higher productivity and reduced costs of the agricultural activities prevailing in the target district of the Project. These comprise production of staple food (wheat and potatoes), vegetables, orchards, fodder, and indirectly livestock production. The Project's benefits would accrue primarily from: (i) increased farm productivity and reduction of production costs due to the adoption of modern technologies and mechanized operations; (ii) reduced losses during harvesting (through the use of combined harvesters, potato harvesters and mowers); (iii) a subsequent increased proportion of marketed farm produce; (iv) improved quality and safety of agricultural and food products; and (v) increased employment opportunities, either for hired or family labour, for both on-farm and off-farm activities.

Cost and financing

The total investment and incremental recurrent Project costs, including physical and price contingencies, are estimated at about US$ 39.3 million (TJS 353.9 million). The Project will be financed by an IFAD grant and an IFAD loan of each US$ 15.3 million (78 per cent of total project costs). A FAO co-financing of US$ 0.25 million through the Technical Cooperation Programme (TCP) is foreseen to contribute towards technical assistance and training costs specifically for the Capacity building of machinery service providers. The government contribution is estimated at US$ 4.9 million (12.6 per cent of the total cost) while approximately US$ 1.6 million (4.0 per cent of the total Project cost) will be provided by beneficiaries as co-financing of the Community Development Fund grants and of the Innovation grants. Finally, a contribution of about US$ 1.9 million (4.9 per cent) is expected from private service providers operating in the field of agricultural mechanization.

Assumptions and risks

Key Project implementation assumptions are that the country's economy maintains its stability, and that consistency is established between the stated government policies and agricultural reforms supporting private sector development, and the agriculture sector *vis-à-vis* the actual implementation of these policies and reforms. The main risk relates to potential failure in correctly aligning the incentives for the various players, households and *dekhan* farmers and service providers expected to participate in the Project. Mitigating measures include an in-depth, participatory analysis of production/business opportunities, resources and other constraints, and actual financial and other risks, based on formulated CAPs, sub-project proposals and business plans.

Adherence to IFAD policies and guidelines

The design is fully compliant with IFAD's policies on: Targeting, Gender Mainstreaming and Climate Change, and it is fully aware on the new Social, Environmental and Climate Assessment Procedures, and will seek their compliance in Project implementation at operational and field levels. Accordingly, the Project will promote a gender-sensitive and enabling implementation environment through its capacity building and investments components. IFAD's targeting requirements are addressed by ensuring that rural women, women heads of household, the rural unemployed and young people, do participate in the Project's activities.

Sustainability, knowledge management and scaling-up

The sustainability of the Project's results is, inter alia, based on: (i) the VOs/CIGs business and technical capacity building activities to be promoted; (ii) the demand-driven nature of the interventions; and (iii) the preparation of community development plans, sub-projects, innovation grant proposals and business plans for provision of machinery services as the basis for all investments which should lead to improved and more equitable returns. The learning and knowledge management activities will include (i) impact studies comprising a Baseline Survey, MTS and Completion Report; (ii) Thematic Studies; (iii) information dissemination campaigns about the Project; (iv) preparation of publications; (v) training of processors and other actors in the value chain, farmers and CIGs in modern farm techniques and farm management; and vi) Progress Reports. During the final year of Project implementation the M&E data collected over the Project implementation period will be used as part of a thorough assessment of Project achievements. The Project is scaling up the development of efficient and sustainable village organizations in Tajikistan, including the field testing of innovative technology and associated capacity building of supporting institutions. The experiences so derived will be scaled up/replicated in other parts of the country. This also involves major potential for scaling up and synergies in relation to subsequent donor programmes.

Results Framework

Results hierarchy		Indicator code				Means of Verification			Assumptions
Hierarchy	**Name**		**Base-line**	**Mid-term**	**End Target**	**Source**	**Frequency**	**Responsibility**	
Goal									
Contribution to inclusive economic growth and reduction of poverty in poor rural communities	Reduction in the prevalence of child malnutrition as compared to baseline		0%	0%	-10%	Baseline and impact surveys	Baseline, Mid term, Completion	PMU M&E unit	Overall political and economic situation remains stable
	% of targeted households with improvements in asset ownership		0%	40%	75%	Mid-term review Completion report			Stability of prices in agricultural commodities
Project development objective									
Improved access of communities to productive infrastructure and services leading to sustainable agricultural production and equitable returns	Farmer profit* from key crops increased by at least 15% (disaggregated by sex and age) on avg		0%	5%	15%	Project baseline study, mid-term review and implementation completion report Specialized (qualitative / quantitative) thematic studies Household income surveys	Baseline, Mid-term, Completion	PMU M&E unit	Macroeconomic conditions remains stable
Outcomes/outputs									
Component 1. Strengthening Institutions									
Outcome 1									
Increased effectiveness and outreach of rural institutions and service agencies (including governmental)	Percent of beneficiaries satisfied with the services provided by rural institutions and service agencies**		0	40%	70%	Project baseline study and mid-term review and implementation completion report Report from each participating processor/aggregator on status of access to export markets	Semi-annually	PMU M&E unit	Willingness of community members to participate in activities

Results hierarchy		Indicator code				Means of Verification			Assumptions
Hierarchy	**Name**		**Base-line**	**Mid-term**	**End Target**	**Source**	**Frequency**	**Responsibility**	
Goal									
						Project's M&E records and report Government's national, regional and local production data Targeted field studies and surveys			
Output 1.1									
Strengthened VOs and CIGs	No. of VOs' development plans approved		0	225	225	Project records	Continuously	PMU M&E unit	
	No. of rural producers' organizations supported (CIGs)	2.1.3	0	380	380	Project records	Continuously	PMU M&E unit	
Output 1.2									
Strengthened service agencies	No. of service agencies supported		0	15	30	Project records	Continuously	PMU M&E unit	
	No. of persons trained in income generating activities or business management	2.1.2		3,800	3,800				

Results hierarchy		Indicator code				Means of Verification			Assumptions
Hierarchy	**Name**		**Base-line**	**Mid-term**	**End Target**	**Source**	**Frequency**	**Responsibility**	
Goal									
Component 2. Improvement of Agricultural Productivity and Business Linkages									
Outcome 2									
Increased farm productivity resulted through adoption of improved agricultural technologies and productive infrastructure	At least 20% increase in agricultural productivity (by main commodities).		0%	5%	20%	Project baseline study and mid-term review and implementation completion report	Semi-annually	PMU M&E unit	Micro-economic conditions are supportive for doing business
						Report from each participating processor/aggregator on status of access to export markets			Beneficiaries willingness to participate
						Project M&E records and report			
						Government's national, regional and local production data			
						Targeted field studies and surveys			
	% targeted households reporting adoption of new / improved inputs, technologies or practices	2.2.1		20%	75%				
Acknowledged policy recommendations on tested mechanization improvement options	Policy paper			1	1				

Results hierarchy		Indicator code				Means of Verification			Assumptions
Hierarchy	**Name**		**Base-line**	**Mid-term**	**End Target**	**Source**	**Frequency**	**Responsibility**	
Goal									
Output 2.1									
Enhanced access by poor households to productive infrastructure and innovative technologies	No. of sub-project proposals funded by the CDF, and implemented by communities		0	100	575	Project records	Continuously	PMU M&E unit	
	No. of innovation grants implemented				30				
Output 2.2									
Improved access by poor farmers (including household plots) to machinery services	No. of machinery service stations and repair and maintenance workshops established		0	12	20	Project records	Continuously	PMU M&E unit	
	No. of hectares serviced by machinery service providers		0	12,000	20,000				
	No. of rural producers accessing improved production inputs and/or technological packages	1.2.2		3,500	3,500				

*defined as quantity produced*market price-cost

**qualitative assessment measured by the score system described in PIM

[1] All indicators will be disaggregated by sex, poverty, farm type and youth categories; [2] Baseline will be conducted during the first year of the project and the logframe will be complemented with baseline values accordingly

I. Strategic context and rationale

A. Country and rural development context

Country economic situation

1. Tajikistan is a landlocked country bordering Afghanistan in the south, China in the east, Kyrgyzstan in the north, and Uzbekistan in the west. The country's population reached 8.5 million people in 2015.[1] Tajikistan is faced with poor infrastructure, especially in rural areas, lack of machinery and other inputs, lack of access to proper education and health systems exacerbated by the rigid continental climate making agriculture highly susceptible to risks, in particular in the three regions of Soghd, Region of Republican Subordination and Khatlon. Extreme poverty and shortages of heating, power and water, combined with the poor state of the banking sector due to the regional economic crisis, pose some threats to political stability in 2017-18.

2. Tajikistan has one of the lowest per capita GDPs among the 15 former Soviet republics. Tajikistan's gross national income (GNI) per capita (Atlas method, current US$) was estimated at US$ 1,280 in 2015. The country has a narrow economic base dominated by the production of aluminium and cotton, the two main export commodities, supplemented by remittances from Tajik nationals working abroad.

3. A fall in global prices for aluminium and cotton constrained economic growth in 2015-16. This was exacerbated by the fall in the value of remittances from migrant workers caused by the recession in Russia, by 33.3% in 2015 and 12% in the first half of 2016, in nominal US dollar terms.[2] This has a significant impact on domestic demand, as remittances accounted for about 40% of GDP in 2014.

4. The EIU estimates that GDP grew only 2% in 2015, and contracted to 1% in 2016. The EIU further forecasts that the dire economic situation will improve only moderately in 2017-18. Downside risks to this outlook include a slower than expected recovery in global commodity prices and the Russian economy, as well as uneven implementation of structural reforms, weak governance, widespread unemployment, seasonal power shortages, and the external debt burden.

5. **Agriculture** is a major component of the Tajik economy. In 2015 it accounted for 25% of GDP and it plays a significant role in the rural population's livelihoods and food security. In 2015 agriculture employed 45% of the workforce, according to government statistics. Despite its critical importance, the agricultural resource base is characterized by limited arable land. Of the total land area of 141,387 km^2, 70% is mountainous and only 28% or 4.1 million hectares can be considered as agricultural land. Of this, 21% is arable, 3% is under perennial crops (orchards and vineyards) and 76% is pastures and hay meadows. The country's leading crops are wheat occupying around 35% of irrigated land (counting all seasons) and cotton (21%). Cotton is exported enabling the country to earn the hard currency very much needed by its economy. Wheat in turn contributes to country's food security, especially for the poor. Livestock is a key part of the agriculture sector and is also of critical importance in the coping strategy of poor rural households.

6. As a result of a land reform process which started in 1997, the former collective and state farms have been reorganized and the following major three types of farms emerged: (i) large state farms inherited from the Soviet system; (ii) private *dehkan* farms, comprising of individual, family and collective farms, the latter largely managed by former managers on behalf of workers with land share certificates; the former two with associated land use titles conferred with 50-year leases that can be bought and sold since 1997; and (iii) household farms. All landholders have long-term land lease entitlements often tradable and inheritable. According to a FAO assessment[3], since 2006 all arable

[1] WB; http://www.worldbank.org/en/country/tajikistan
[2] National Bank of Tajikistan, 2016
[3] The Economic effects of land reform in Tajikistan, FAO, 2008. (http://www.fao.org/3/a-aq331e.pdf)

land is considered privatised and is shared among (i) Dekhan farms (60%); enterprises (20%); and household plots (20%).

7. The individual households, despite their small size, are responsible for over 62% of country's agricultural production and in some agricultural sub-sectors their contribution goes even higher (94% for milk, 95% for meat). For vegetables it is lower, at 49%.

8. The agricultural sector is in general characterized by poor efficiency; productivity and incomes are low. Key factors that limit development include lack of access to: finance, modern agricultural machinery and equipment (see below), modern technologies and farming practices, and agro-services.

9. **Poverty**. Tajikistan was one of the poorest members of the former USSR and after independence poverty increased sharply as a result of an abrupt termination of economic support from the Soviet Union and an extended civil war after independence in 1991, derailing all economic activity. By 1997, GDP had fallen by 60% to US$175 per capita. Available data show that poverty declined from 81% in 1999 to about 32% in 2014. One fifth of the population in Tajikistan is affected by food insecurity[4]. The relatively high rate of economic growth is also reflected in human development trends. For example, life expectancy at birth increased from 64.8 years in 2000 to 67.2 in 2013. Rates of basic education also grew, including for girls (from 91.3 to 95.2 percent). Finally, the human development index value grew from 0.529 in 2000 to 0.62 in 2015. Yet, the country still remains at 129th place in the global ranking, lower than Kyrgyzstan (120th) and Uzbekistan (114th)[5]. Moreover, Tajikistan's health indicators are among the lowest in the ECA countries. Malnutrition remains an issue as one third of the total population suffers from undernourishment. Prevalence of stunting among the under-5 children is 26.8% in comparison to 19.6% in Uzbekistan.[6]

Rural development and social context

10. **Rural poverty.** Incidence of poverty is above average in rural areas (36.1%) which host over 80% of the total poor[7]. Poverty also has geographical dimensions with Khatlon, Rayons of Republican Subordination (RRS) and Gorno-Badakhshan Autonomous Oblast (GBAO) recording poverty over 37% in 2014. In absolute numbers, however, the poor in Soghd exceed those in GBAO as the former is much more populated (about 30% of the total population in the country).

11. **Gender.** Tajikistan has an adequate legal and policy framework on gender equality. The country ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1993. Adopted in 2005, the Law on State Guarantees of Equal Rights and Opportunities for Men and Women guarantees equal rights in public authorities, civil service, education, labour and family.

12. A comprehensive country gender assessment recently conducted by the ADB recognizes significant progress in mainstreaming gender into national socio-economic development strategies, including Poverty Reduction Strategies (for 2007-2009 and 2010-2012) and Living Standards Improvement Strategy for 2013-15. Gender equality is identified as one of the seven critical areas of social development under the National Development Strategy for 2016-2030. The Programme for Reforming the Agriculture Sector of the Republic of Tajikistan for 2012-2020 recognizes the important roles women play in agriculture and proposes to pay particular attention to gender equality in long-term land tenure, access to finance, capacity building and mitigating the effects of climate change on particularly vulnerable groups, including female-headed households (FHHs), according to a recent FAO report on gender[8]. Implementation of the legally guaranteed rights and strategy and policy recommendations, however, remains a challenge. The ADB report points out that 'many planned

[4] WFP, *Tajikistan: Food Security Monitoring*, Bulletin Issue 17, June 2016.
[5] UNDP, *Briefing note for countries on the 2015 Human Development Report for Tajikistan*, 2015
[6] ADB, *Country Partnership Strategy: Tajikistan, 2016–2020*, 2017.
[7] The Agency for Statistics ('TajStat') 2015 data quoted in *The World Bank-Tajikistan Partnership Program Snapshot,* World Bank Group, April 2016.
[8] FAO, *National Gender Profile of Agricultural and Rural Livelihoods: Tajikistan*, 2016.

measures are never realized due to insufficient implementation mechanisms, weak monitoring and evaluation, and lack of dedicated finances'.

13. Female-headedness is high as a large number women were widowed during the civil conflict, and absenteeism of husbands due to out-migration. The Demographic and Health Survey (DHS) in 2012 found 21% of the total families are female-headed. Analysis on the 2007 the Living Standards Measurement Survey found a higher level of extreme poverty among FHHs (22.9%) than male-headed ones (17.0%).

14. About 75% of all working women are engaged in agriculture[9], but forms of their participation are variable and complex, reflecting entitlement according to land reforms, land types, labour dynamics and other factors. Basically all rural families have their own small household plots of 0.10 – 0.15 ha (often called 'kitchen gardens') mostly for family consumption, which are particularly important for poor families. In addition some would have shares on *dehkan* farms or manage their own *dehkan* farms[10]. The number of *dehkan* farms continues to rise and is currently estimated to be around 170,000. In 2014, 13.0% of all *dehkan* farms had women as the head. Gender experts point out that, despite legally guaranteed equality, women's access to productive resources, most importantly agricultural land and livestock, is limited due to social norms and practices which favour men. Discussions with female farmers and experts suggest women are not necessarily discriminated for accessing mechanization services and there appears to be little inhibition among rural women to operating small agricultural machines although the practice is rarely observed.

15. **Agricultural mechanization.** The productivity of the agricultural sector is significantly constrained by the limited access to agricultural machinery and equipment, services for operation and maintenance for the existing equipment. The inventory of agricultural machinery was largely destroyed during the civil war in the 1990's together with the related service infrastructure. In some of the regions of the country, agricultural machinery and equipment was completely liquidated. Investments in agricultural machinery resumed in 2000, but at a very narrow pace and scale due to limited access to finance. As of 2008, the Government of Tajikistan has, with support from the Government of Japan, invested financial resources in the State Enterprise Tajagroleasing for import of agricultural machinery. Yet, according to Ministry of Agriculture estimations, supply meets demand only at 14% for high power tractors, 33% for universal tractors, 15% for seeders and at 29% for combine harvesters. By and large, the agricultural mechanization condition in Tajikistan is considered responsible for lowering crop productivity by 20% and in worst cases by 30%. Reasons behind this comprise improper and untimely land preparation and seeding planning, inadequate land operations, and low performing harvestings.

16. The **network for service and maintenance** has a very poor capacity and leaves the existing agricultural machinery inventory in neglect and disrepair. During the 1990's, the service centres built during the Soviet time practically vanished, and have not been replaced. Due to absence of qualified maintenance services in the country, a majority of the new machinery imported exhibit a shorter than optimal life span, sometimes even halved to 50% of the norm. Trained personnel are rare. The available education for agricultural engineers falls short of requirements on all three scores of curricula, study materials, and human resources. Thus the cadres capable of providing the requisite services are not sufficient to work even the existing service stations. Furthermore, the system of spare-parts supply is underdeveloped with unauthorized agents dominating the market, making deliveries of unreliable quality, further hampering the life span and performance of the machinery and equipment.

[9] M. Abdulloev, M., *Gender Aspects of Agriculture*, Agency on Statistics, 2014.
[10] After land certificates were issued to collective farm members starting in 1998, most of the farms continued to operate collectively with the former workers as shareholders. The land certificates did not give the full rights to possess the documented plots, 'leaving the management and use of the land to the farm leader' (Mukhamedova, N. and Wegerich, K., *Land Reforms and Feminization of Agricultural Labor in Sughd Province, Tajikistan*, IWMI Research Report 157, International Water Management Institute, Colombo, 2014, p. 7). It was after the 2002 Law on Dehkan Farms that dehkan farms became separate, private farm entities managed by shareholders.

17. The GOT is pursuing the establishment of Agricultural Mechanization Service Centres (AMSCs) and of Maintenance and Repair Workshops (MRWs) in the country. Currently there are 75 AMSCs, of which 48 have been established by the State Enterprise Tajikagroleasing and 27 by private companies. Service capacity of all existing AMSCs is however highly limited.

18. The **financial sector** of Tajikistan is dominated by credit organizations comprised of banks and microfinance institutions (MFI). According to the International Monetary Fund (IMF), banks account for 84% of the total financial sector assets and MFIs account for most of the remainder.[11] The country's insurance, capital markets and leasing sectors are very small and under-developed. The financial sector has been experiencing difficult times due to external economic factors as well as management issues. The share of non-performing loans of the banking sector was 54% at end-year 2016 with a volume of 131.4% in relation to the banks' regulated capital. The return on assets was minus 3.2%, and the return on equity minus 27.2%. MFI PAR over 30 days was 9.8% as of year-end 2016; high for MFIs as they mostly issue uncollateralized loans.

19. Use of formal financing instruments is limited. Only 11.5% of adults had accounts at financial institutions in 2014 as compared to 51.4% in the ECA region and 27.5% in low-income countries. Access to agricultural financing in particular is challenged, as agricultural land cannot be used as collateral – as a norm. Farmers are left with pledging the limited value of their personal belongings and savings in order to obtain loans from financial institutions. Due to risk, interest applied to the loans and other financial instruments provided vary from 26% to 36% per annum, high enough to significantly curtail investments into agricultural production.

20. **Environmental Issues.** Key environmental problems in agriculture include inefficient water use; degradation of pasture areas due to overgrazing; as well as cultivation of steep slope areas causing wind and soil erosion. Other issues include threats of soil pollution and, especially, nitrate contamination of surface water. These problems are further exacerbated by deforestation (illegal tree cutting) leading to desertification of some areas. Available estimates suggest that 82.3% of all land and 97.9% of agriculture land (including pastures) in the country suffer some level of erosion (high to medium erosion in 88.7% of this land). This contributes to landslides, which affect 36% of Tajikistan territory and 11% of its population.

21. The main causes of land degradation are: (i) poorly adapted farming practices, with intensive agriculture activity on slopes, excessive use of pesticides and fertilizers for some commercial crops, poor irrigation practices (e.g. seepage losses, siltation, 60-80% water use inefficiency, water logging) causing water erosion in 97% of farmland and salinization in 16% of irrigated lands; as well as inappropriate tillage leading to loss of soil fertility and to significant land erosion; (ii) overgrazing leading to erosion in 89% of summer pastures and 97% of winter pastures; (iii) illegal forest harvesting; (iv) population growth; (v) climate change that is already exacerbating land degradation problems; and (vi) poor national and local capacity to deal with sustainable land management issues due to limited knowledge and awareness on mitigation measures for soil degradation.

22. A great concern is the effects of climate change and global warming. According to the 2nd National Communication of Tajikistan prepared under UNFCCC (2008), average temperatures rose by about 0.5-0.8C across most parts of the country during the 65 year period studied, with the biggest increases observed in Dushanbe (1.0^{o}C) and Dangara (1.2^{o} C) districts. Average temperatures in Tajikistan are projected to rise by 1.8-2.9^{o}C by 2050. As of 2017, Tajikistan has made little investment towards climate change adaptation and for the adoption of Climate Smart Agriculture technologies.

23. Vulnerability analysis suggests that the most vulnerable areas are the eastern Region of Republican Subordination (RRS) mountains, the Southern Soghd hills, and the Khatlon hills and lowlands.

24. **Household farming.** Basically all rural families have their own small household plots of 0.10 – 0.15 ha (often called 'kitchen gardens') mostly for family consumption. Families owning such a

[11] International Monetary Fund. Republic of Tajikistan. Financial Sector Stability Assessment. February 2016 (IMF 2016).

household plot with less than 2 cattle and 5 sheep, or about 15 Livestock Units (LU[12]), are likely to be considered 'poor' although such perceptions are subject to local variations and the family's access to other income sources, such as sale of agricultural products and remittances.

25. **Agricultural household income**. Agriculture accounts in fact for less than 10% of rural household income (Table 1). This suggests that, for many rural households, the non-farm opportunities are more important than the on-farm ones[13]. These numbers also indicate that rural households are rather subsistence-oriented.

Table 1: Source of monetary income of an average rural household (per person per month)

SOURCE OF INCOME	2010		2015	
	TJS	%	TJS	%
Labour activities	56.61	32%	122.10	44%
Social packages	7.84	4%	22.41	8%
From own land plot	51.46	29%	20.85	7%
Other sources	63.58	35%	115.31	41%
Total income	**179.49**	**100%**	**280.67**	**100%**

Source: Agency for statistics under the President's Office of the Republic of Tajikistan.

Government strategy, priorities and institutions

26. The overall framework for development in Tajikistan is guided by the Government's National Development Strategy 2016-2030 (NDS) and Medium-term Development Strategy 2016-2020 (MDS). The strategic development goals of the NDS are: (i) ensuring energy security; (ii) development of country's communication opportunities; (iii) ensuring food security and nutrition; and (iv) enhancing productive employment. Those of the MDS are: (i) ensuring stable access to energy resources; (ii) overcoming the low level of food self-sustainability; (iii) integration of cross-border and national transport corridors and development of communication networks; and (iv) ensuring equal access to social services. These will be achieved by the following tenets of a new model of growth: (i) improvement of public governance for sustainable development; (ii) development of the new institutional support system for private sector and improvement of the business environment and investment climate; and (iii) improving the productivity of human capital.

27. With regards to policy trends, in 2016-17 the main policy priorities will be containing the impact of the regional economic downturn, ensuring the stability of the Somoni, preventing a collapse of the banking sector and securing external financing. Financial volatility emanating from Russia has forced the authorities to tighten currency controls, including through closing foreign-exchange bureaus, which will damage trade. Ongoing talks between the authorities and the IMF suggest that the country is facing a shortfall this year, particularly as there may be a need to bail out banks or cover deposit insurance. Pressure on the fiscal account will start to ease in 2017 as external conditions start to improve gradually. Standard monetary policy tools are ineffective in the context of Tajikistan's weak institutional capacity, underdeveloped financial system and the high level of dollarization of the economy. Since the onset of the regional crisis, the NBT has focused on exchange-rate stability as the primary means to control inflation. However, the bank's low foreign exchange reserves severely constrain its room for manoeuvre. A burdensome or vague regulatory environment, poor enforcement of existing legislation, poor infrastructure and a poor investment climate are key explanations for slow growth in the private sector.

28. The Ministry of Agriculture (MOA) has been the lead agency in the reforms initiated and supported by the IFAD country programme, such as pasture management reform in connection with the ongoing portfolio (for details see paragraphs 32-43). The MOA has drafted an ambitious plan of

[12] In Tajikistan one LU is equal to one adult sheep.
[13] Main indicators of the household budgets survey. 2016, Agency for statistics under the President's Office of the Republic of Tajikistan.

reforms that are described in its main programmatic document (Reform Programme of the Agriculture Sector - 2012-2020). Despite the fact that the MOA has limited budgetary resources, poorly trained staff and low salaries that have contributed to weak administration, public service delivery and knowledge management, it has potential to ensure proper management of resources.

29. The MOA has district level staff including a division head, an agronomist and specialists in livestock, horticulture and engineering. Limited resources and experience do not enable the district department to operate effectively as an extension service, but the staff needs to be targeted through the capacity building programme on livestock development and pasture management issues.

30. Agricultural extension services are being provided today by a range of service providers: the public sector represented by the State extension officers, who are attached to the Ministry of Agriculture or to the Rayon (district) and Jamoat (sub-district) levels of government; the private sector through private advisory services run by both international and domestic non-governmental organizations (NGOs) and input suppliers to a certain extend. There will need however to have a new cadre of field level facilitators to help facilitate common interest groups to move towards operating in a business fashion, so they can better connect with a range of needed marketing and micro-credit players. The project will train business mentors who will guide CIGs to practice farming as a business (see para 64). Extension service providers will also be critical to the successful dissemination and adoption *by dekhan* farms of new agricultural technologies which will be generated through the innovation grants (see para 88). Mobile services have been introduced in Tajikistan and they are spreading very rapidly to all parts of the country including rural areas. In order to benefit from these new ICT technologies, Agricultural Information Service of Tajikistan and SAS in northern Tajikistan are both interested in establishing an expanded market network, ICT based approaches that utilize mobile telephone platform are emerging as tool to providing advice to farmers.

31. Local district level administrations (Hukumat) are a key state stakeholder on the ground. District Hukumats are a major body responsible for land management, including allocation of communal land (mainly grazing) to legal entities such as PUUs, and individual farmers from state land fund (state land reserve) though the process of allocation of land rights has been basically completed. *Hukumats* are responsible for protecting land users' rights. *Hukumats* also have the right to withdraw land use rights if lands are not used properly. The IFAD Country Programme will continue engagement of *Hukumats* in reforms, and strengthen their ability to advance these reforms on the ground through providing support in formulation local policy and procedures, as well as for monitoring of implementation enforcing their management prescriptions.

IFAD Country Programme

32. Since 2008, the IFAD Country Programme has invested about US$49.3 million in three projects in Tajikistan, thus mobilising overall investments of US$54.9 million. IFAD interventions are directly benefitting some 80,000 households by strengthening their local institutions and grassroots organizations, and expanding their access to productive technologies and resources.

33. The ***Khatlon Livelihoods Support Project (KLSP)*** is the first IFAD-financed project in Tajikistan and closed in June 2016. A major project impact was the successful practical implementation of the Law on Public Self-Initiative Bodies, under which VOs have a legal status and cover basically all the country. The project mobilized and supported 82 Village Organizations (VOs) consisting of an average number of about 120 households (HHs) (for a total of 8,782 HHs). The VOs are tasked with the following: (i) identify constraints to livelihoods and consider options for creating viable opportunities for sustainable economic development using local and external resources; (ii) identify the agriculture sector-related infrastructure and equipment investments and decide upon making such investments in the VO general meeting of members; (iii) use community development funds – that benefit from a sizable KLSP contribution – for making such investments; and (iv) once the investments are made, ensure maintenance and equitable distribution of services.

34. The VOs are governed by a general meeting of members and the elected VO Council. The VO management consists of an elected manager and accountant, with support provided by members'

committees including a women's group and a monitoring committee. In addition to electing the VO officers, the general meeting determines the priorities for community development based on attendance of at least 80% of HH members. Members also contribute a small sum decided by the general meeting typically ranging from TJS 3-10 per household per month. In these ways, an effective VO structure has been put in place based on a community decision-making process and with accountability to its members. Women were considered to be active participants in the process of mobilisation of VOs and the prioritization of sub-projects; some 45% of the participants at general meetings were women, and 50% of the direct beneficiaries.

35. Investments made by VOs comprise equipment and infrastructure that support crop and livestock production, as well as social infrastructure. The proportion of support to HHs by the investments is distributed as follows: 72% for agricultural machinery; 7% for electricity; 18% for drinking water; and 3% for roads.

36. VO investments in machinery and equipment comprises: (i) 85 tractors; (ii) 79 ploughs; (iii) 332 harrows; (iv) 68 trailers; (v) 33 threshers; (vi) 19 forage harvesters; and (vii) a small number of other equipment such as sprayers, front loaders, seed cleaners and planters. Management of agricultural machinery and equipment by VOs has been efficient, providing 11,899 agro-services for smallholders during the last 1 year 5 months preceding project completion in June 2016. Supervision missions have witnessed the efficient use of equipment that has significantly improved farmer access to agro-services and reduced their costs. Investments in machinery and equipment were predominantly supporting crop production namely wheat and potato. Approximately a third of villages opted to invest in equipment that exclusively supports livestock husbandry as well (cattle, sheep and goats that graze common pastures).[14] Three per cent of HHs invested in conservation agriculture for wheat, and chickpea.

37. VO investments in infrastructure interventions comprise: (i) electricity supply for 7 villages covering 543 HHs; (ii) drinking water supply for 6 villages covering 1,078 HHs; (iii) water boreholes for three villages covering 211 HHs; (iv) roads covering 3 villages and 138 HHs; and (v) one bridge for one village covering 88 HHs. Benefits from the local infrastructure projects funded through the community development funds are also evident with reduced transport costs; improved access to markets including traders visiting the village to buy apples; and better access to services including medical services and agricultural input suppliers.

38. VOs are already using the profits from their activities and the machinery obtained through the project to address other community priorities such as repairing roads, supporting poor families, procurement of additional machinery, construction of drinking water supplies, river bank strengthening, etc. Overall, the KLSP intervention led to: (i) a 40% increase in index for HH assets; (ii) a 44% increase of HHs with improved food security, and (iii) an estimated IRR of 35% for investments made by VOs and an ERR of 24% on investment in the project.[15]

39. IFAD's current country programme consists of the ***Livestock and Pasture Development Project I and II*** (LPDP I and II). These projects focus on income diversification and promote alternative sources of income so as to diversify household economies. The projects explore income-generating options beyond livestock to gradually reduce grazing pressure on pastures and mitigate the impact of climate change by establishing Pasture User Unions to manage the common pastures. They also provide financing and technical assistance to encourage and nurture new economic activities through which the most vulnerable of the rural society – mainly women – can build and develop additional sources of income as a safety net against possible economic losses. This is expected to help build socio-economic resilience, enhance women's nutritional status and increase their disposable incomes.

[14] Calculated based on the investments made by 19 VOs out of 62 surveyed at the time of KLSP completion.
[15] The project was redesigned and relaunched after a suspension. The initial project costs were not considered in the analysis (which methodologically is the most correct approach).

40. Overall, the LPDP has benefited the rural communities through: (i) increased investment in productive infrastructure and equipment and better management of the endowment base; (ii) increased viability of agricultural production; (iii) improved animal health and productivity with the capacity of 30 local veterinarians improved by means of specialized training courses and the provision of motorcycles and veterinary equipment (these veterinarians provide services to 6,600 HHs in 2 districts); and (iv) improved coordination and collaboration in solving the problems of the community.

41. By way of example, in the course of the LPDP, agricultural machinery has reduced the cost of tractor services from TJS 100/ha plus 40 litres of fuel and 1 litre of oil to TJS 70-80/ha plus 30 litres of fuel and 1litre of oil. The total cost per hectare for ploughing has dropped by an estimated 20%. As witnessed during supervision, the machinery investments provide a number of benefits including: (i) more timely cultivation and harvesting; (ii) better quality seedbed preparation; (iii) shorter time needed to cultivate; (iv) the possibility of planting a greater proportion of cultivable land; and (v) ultimately, greater productivity. Moreover, improved pasture management is expected to make a major contribution to addressing issues of land degradation in the project area, reducing soil erosion, improving biodiversity, and strengthening resilience to drought. The IFAD experience in Tajikistan has clearly shown that mobilisation of the rural communities has significant potential and payoff.

42. The CASP will also build on the successful implementation, lessons learnt and good practices developed under the IFAD grant (Grant # 1-R-1411—AKF) ***Mobilising Public Private Partnerships in Support of Women-led Small Business Development*** which is implemented by the Aga Khan Foundation (AKF) in Tajikistan. The project's main focus is to support women's groups in processing luxury fibers and producing quality yarns and products, primarily for export markets. Export of high value added products generates new earning opportunities for rural women and helps increase household income and food security.

43. Within the project, 7 spinning groups in Soghd continue to make great progress in developing export-grade yarn and are now successfully exporting yarn to the USA. During Year 3, the groups exported 97 kg of yarn for $15,900. They also made progress in organizing independent businesses – selected capable leaders, communicated with buyers in English via Skype and e-mail, maintained product quality standards, opened their own bank account where they receive payments from buyers and officially registered their business.

B. Rationale

Project justification and rationale

44. Agricultural productivity is far below its potential including for key smallholder staples such as wheat and potato; and cash crops such as apple. This severely impacts the livelihoods of the project target group. A pivotal cause is lack of access to modern technologies, notably farm equipment and machinery and their service network that were obliterated during the 1990's civil war (see paragraph 15-16 for more). Also, poor rural production and transport infrastructure (rural access roads and bridges, livestock watering points), degraded land/pastureland, and the risks of climate change limit the optimal use of the natural resource base. Last, poor rural people have an unfulfilled potential for income diversification.

45. The theory of change (TOC) is premised on tackling these problems using a two-pronged approach: on one hand in support of the **poorest smallholders in remote villages** who cannot access mechanization services except on a highly concessional basis; on the other in support of **private sector mechanized Service Providers (SPs) and repair & maintenance SPs** (hereinafter refer as machinery SPs)**,** on whose participation the long-term sustainable growth of the sector depends. Such SPs could be individual farmers, entrepreneurs, cooperatives or companies with a clear incentive to provide mechanization services or repair & maintenance services that ultimate serves smallholder farmers.

46. In regard of the **poorest smallholders,** lessons learned from the tested and proven Village Organizations (VO) model (see paragraphs 33-38 and 61-63) show that disadvantaged communities

are best helped by supporting investment into equipment and infrastructure in line with community priorities. A successful intervention necessitates intensive mobilization and organisation of the communities. For sustainability of this approach, support for development of regional and central government administration is also important.

47. **Support to the development of the private sector machinery SPs** is expected to trigger a positive circle of mutual synergies: improved repair and maintenance will improve the life span and effectiveness of machinery, thus drawing in further SP investment into machinery and equipment. The increase in available machinery and equipment held by SP spills into increased supply of mechanization services to smallholders; such smallholders holding the vast majority of agricultural land and thus constituting virtually the entire market for mechanization services.

48. As a direct result of these two strands of support, smallholders will have improved access to mechanized services (on one hand from VO-maintained machinery and equipment; on the other from machinery SPs), and the repaired & maintenance network will be strengthened. This will have the following benefits: (i) increased farm productivity and reduction of production costs due to the adoption of modern technologies and mechanized operations; (ii) reduced losses during harvesting (through the use of combined harvesters, potato harvesters and mowers); (iii) a subsequent increased proportion of marketed farm produce; (iv) improved quality and safety of agricultural and food products, thus attracting higher prices as a result of the demand by processors for more reliable outputs; (v) potential decrease of import of staple cereals (wheat); (vii) increased employment opportunities, either for hired or family labour, for both on-farm and off-farm activities; and (viii) tax revenues as a result of increased volume of taxable production. The most notable production improvements will derive from increased efficiency of rainfed wheat (IRR 52%), irrigated potato (IRR 51%) and irrigated onion (IRR 36%) production. CASP operations will also provide options for adapting to climate change, in a way that supports community livelihoods and environmental sustainability.

49. Another essential aspect of the rational and TOC in general is the opportunity for Government with IFAD support to ***replicate the*** application of successful elements achieved during the just complement KLSP, albeit with slight modifications to expand the demonstrated benefits realised to a larger number of smallholders in other districts of the country. Evidence and knowledge provided through the two models above are the elements which have influenced the government to make the decision to replicate the KLSP positive investments under CASP.

Summary of Project scope

50. Since the start of operations in 2008, the IFAD Country Programme in Tajikistan has provided support to creation and capacity building of community-based institutions in poor rural areas. Through such community empowerment the IFAD Country Programme has catalyzed the adoption, financing and management of improved technologies, agricultural equipment, and productive infrastructure. This has realized good results in improved governance structures and cohesion of communities, viability of agricultural production, land/pasture management and animal health.

51. Against this background the Government of Tajikistan requested IFAD's assistance to scale up the successful experiences in community empowerment, and building on such initiatives help to strengthen the linkages between the rural communities and the market players in the private sector. The support will also add focus on achieving greater vertical aggregation, and enable the fostering of linkages with upstream public and private sector players.

52. Building on lessons from KLSP and LPDP, the proposed **Community-based Agricultural Support Project (CASP)** seeks to address the sector constraints in additional villages of Khatlon and other disticts by: (i) an integrated support in selected poor *Jamoats* and villages with development potential through formulation/enhancing of community development plans and financing of priority public investments, while due attention is to be paid to the specific needs of rural women and youth as well as taking into consideration climate change adaptation aspects; (ii) facilitating access to modern production and processing technologies, best practices and capacity building through training and

on/off-farm demonstrations and entrepreneurship mentoriship; (iii) the provision of user-beneficiary tailored agricultural mechanization services; and (iv) institutional strengthening through targeted support to governmental agencies, service providers and applied research institutes to be tailored to the specific needs of rural communities. CASP operations will also provide options for adapting to climate change, in a way that supports community livelihoods and environmental sustainability.

II. Project description

A. Project area and target group

53. The Project coverage area will be expandeded and be implemented in selected districts of Soghd, Khatlon and RRS, which have high poverty levels, yet potential for agriculture development. In consultation with the Government, donor community and NGOs, the following districts have been considered (in alphabetical order): Devashtich, Dusti, Jaihun, Norak, Rasht, Shahriston and Tajikobod. According to recent analyses of the 2009/10 data, the districts recorded higher rates of poverty than the regional averages, which were 36.8% for RRS, 48.3% for Soghd and 57.5% for Khatlon . Village selection ranking criteria will include: (i) poverty levels; (ii) agriculture potential; and (iii) willingness and underlying capacity for institutional improvement. It is expected that the Project would reach around 225 villages with an estimated population of 48,160 HHs.

54. The Project will seek to provide benefits to the actually or potentially economically active among the following primary target groups: (i) rural poor living in extreme poverty, who are producing a bare subsistence minimum on HH plots or have access to land only through common pastures; (ii) subsistence and semi-subsistence farmers, in particular those willing to move to more commercial farming; (iii) the rural underemployed and self-employed; and (iv) private entrepreneurs with actual or potential strong backward linkages to poor rural communities in the capacity of service provider, input supplier or off-taker of agricultural produce. Within these groups, emphasis will be placed on reaching poor rural women, especially those who are HH heads, and poor rural youth.

B. Development objective and impact indicators

Project development goal/objective

55. The CASP **Goal** is to stimulate inclusive economic growth and reduction of poverty in poor rural communities. The **Development Objective** of the Project is to improve access of communities to productive infrastructure and services leading to sustainable agricultural production and equitable returns.

Impact indicators

56. Project implementation will be guided by the Project's results management framework. Key performance indicators at Goal level are: (i) 36,120 rural HHs in the Project area increase their index of HH assets ownership by 10% (75% of Project population of about 48,160 HHs, disaggregated by sex, poverty, farm type and youth categories); and (ii) at least 10% reduction in the prevalence of child malnutrition, as compared to baseline[16]. A key performance indicator at the development objective level is 70% of farmers (including HH plots) benefit from an increase in net annual profit by at least 10%.

C. Outcomes/Components

57. The Project's investments and activities will be executed through two components in addition to Project Management: Component 1. Strengthening rural institutions; and Component 2. Improvement of agricultural productivity and business linkages.

[16] Results Framework hierarchy indicators

Component 1: Strengthening rural institutions

58. The aim of Component 1 is two-fold: (i) to scale-up strengthening of Village Organizations (VOs) and to develop business-oriented *dehkan* farmer groups; and (ii) to build capacities of implementation service agencies (public/private) to deliver goods and services to smallholder farmers. The former will help expand benefits to a larger number of *dehkan*/individual smallholder farmers. The latter will contribute to enhancing sustainability of implementation capacity from which the GOT and other development actors can draw to expand the activities beyond the Project period to other areas. Thus, the **outcome** of this Component is: "*increased effectiveness and outreach of rural institutions and service agencies*". The outcome will be measured by the following indicator: 70% of beneficiaries satisfied with the services provided by rural institutions and service agencies.

59. The Component will be comprised of two Sub-components:

60. **Sub-component 1.1. Strengthening community organizations.** The activities under this Sub-component will ensure that smallholder farmers participate in village development planning and improve access to public and private services. There will be two sets of activities: (a) scaling up the Village Organizations (VO) model which was successfully tested and proven under the Khatlon Livelihoods Support Project (KLSP); and (b) support Common Interest Groups (CIGs) to become more business-oriented.

61. The VOs model under the KLSP: Aided by the National Law[17] on VOs, the model consists of the following three steps: (i) first, VOs are mobilised, strengthened to attain visionary leadership, realise participatory, transparent and accountable governance processes in their operations; become resilient and autonomous in financially sustaining their functions; (ii) second, once the cohesiveness is achieved they are assisted in the elaboration of Community Action Plans (CAPs) to define their own medium and long-term priorities - including identifying agricultural and non-agricultural needs which shape the project's provision of training activities around priority topics as well as to facilitate service provision and investments; and (iii) with this prioritization and taking advantage of the Community Development Funds (CDF), VOs are facilitated to design sub-projects for public goods and services for community development including physical infrastructures, agricultural machineries and equipment among the most popular investments. VOs then foster transformation of traditional structures, overcoming the initial distrust of local farmers and enabling them to maximize the benefits of acting together. Further, the project supports Common Interest Groups (CIG) which are self-initiated to access project resources within the framework of CAPs or those created around commodities (for example crops, fruit, vegetable, milk etc.) or common natural resources (such as irrigation water) (refer to paragraphs 33-38 for the achievements accomplished under the KLSP).

62. In expanding the VO model to new villages in the targeted regions, the Project will aim to work with about 225 VOs. The activities will include the following: (a) public information, mobilisation and sensitization at district, *Jamoat* and village level; (b) selection of *Jamoats* and villages using specific criteria; (c) identification of exiting VOs and assessment of their development status and capacity needs; (d) VOs capacity building to address the identified needs using modules in areas such as leadership and group dynamics, visioning, governance, gender, participatory planning, basic financial record keeping and savings mobilisation; and (e) preparation of a prioritised and focused community-level development plan with specific sub-project proposals for delivery of priority public goods and services – such as mechanization services, last-mile access roads, drinking water, etc.

63. Mobilisation and VOs' skills development and coaching would be undertaken by Community Facilitators (CFs). There are a number of organizations, Firms and NGOs in Tajikistan who have gained significant experience and have accumulated a good track record in the last five years in provision of group development and market –oriented services [18]. Therefore, where required, at

[17] Republic of Tajikistan, Law №347 On public self-initiative bodies, January 5, 2008.

[18] - **Major Institutions Providing Extension/advisory Services:** Public Extension Institutions - Ministry of Agriculture, Public Agricultural Offices at the Rayon (district) and Jamoat (sub-district) Levels, Agricultural Information Service of Tajikistan; Center of Information and Press; Agricultural Research Institutions under the Academy of Sciences, National Agricultural Training Center (NATC) and Tajik Agrarian University.

Project start-up, Master Trainers will be recruited to train/upgrade local CFs in the new villages. For specialised services such as preparation of sub-projects, CFs will work closely with *Hukumat* (district)/*Jamoat* technical staff (agronomists, engineers etc.). These sub-project proposals will also provide the demand base for entry points for activities under Component 2.

64. Capacity building of CIGs will include: (i) specialised entrepreneurship training, market identification and development, and farm business planning; (ii) assistance to develop simple business plans for implementing farm enterprises; (iii) facilitation of linkages with regional mechanization service centres, input (seeds, fertilizer, pesticides) and transport service providers and traders; (iv) technical training on post-harvest management, including piloting and demonstrating new technologies and approaches; and, where necessary (v) selected capacity building for implementing service providers and supervising agencies. About 350 business-oriented *dehkan* and/or household CIGs (including those involved in fruit, vegetable and milk production) will be mobilised and capacitated to take advantage of market-flows they will choose to pursue. The poorest that have limited access to land will be provided with preferential opportunity to participate in the CIGs e.g. by making sure that they are specifically targeted in the mobilization process.

65. For both VOs and CIGs organizational development, flexibility will be exercised as an overarching principle to provide a diversified response to differentiated needs at the same time in consideration that the exiting VOs/CIGs and those to be established would be at different stages in their development process or would learn at different paces. In view of this, a modular approach will be employed for different categories of VOs/CIGs (by type of farm-enterprise) that would accommodate their specific knowledge demands. The CFs with facilitation and close support from the PMU will be responsible for training of VOs and CIGs using the modular approach developed under the KLSP and adapted for the CASP. At MTR the opportunity for formal or informal consolidation along common themes to allow for better access to goods and services would be explored.

66. **Sub-component 1.2: Strengthening service agencies.** Activities under this Sub-component will include: (a) training of *Hukumat*/*Jamoat* agricultural staff, community facilitators and local private business mentors; and (b) building the capacity of participating agricultural machinery service providers.

67. Training of *Hukumat* government agricultural staff. The technical capacity of district government agricultural staff will be strengthened to enable them to assist in activity planning, supervision and quality assurance of VOs and CIGs strengthening activities. Main activity will be to train about 80 *Hukumat* and *Jamoat* agricultural staff on management, quality assurance of service provision in advisory services and of contracts/MoUs with selected implementation partners.

68. Training of community facilitators and business mentors. The Project will make extensive use of CFs trained under the KLSP as Master Trainers to scale up VOs/CIGs strengthening in the Khatlon region for training of additional CFs in the other new Project areas. This will not only to expose them to new ideas and insights but also to ensure that quality capacity strengthening activities are provided. The key activity will be to train about 30 CFs on 4-8 simple modules on community organizational development at local level and about 30 business mentors who will facilitate CIGs to become business-oriented.

- **Private Sector Firms:** Tajikistan Agricultural Finance Framework (TAFF), Rural Growth Project – AFC Consultants International, Local Market Development (LMD), Sugd AgroServe Consulting; Agency for Support Development Process (ASDP); Association of Dehkan farms (NADF)
- **Non-Governmental Organizations:** Agricultural Training and Advisory Center (ATAC); EHIO implemented by Institute of Cultural Affairs; Advisory Information Network (AIN); Zarzamin; Jovid; Mehrangesh NGO; Ghamkhori NGO; CARE International; Agrodonish , Association of Extension Organizations in Tajikistan and the Agha Khan Foundation
- **Farmer Based Organizations and Cooperatives;** The National Associations of Dehkahn Farms (NADF), present in most areas, are often actively engaged in assisting farmers who want to farm independently. Unfortunately this group is weakened by their lack of financial support. Most members volunteer to assist other farmers because of their commitment to private farming.

69. Training plan for district staff, community facilitators and business mentors. The PMU jointly with the *Hukumat/Jamoat* agricultural officers will in the first three months of the start-up year carry out a needs assessment for training activities demanded for *Hukumat/Jamoat* agricultural staff, CFs and business mentors in new Project areas and the needs of the VOs/CIGs as well. Training and coaching methods will include but not be limited to: formal sessions in the villages, and continuous coaching and regional study tours for selected local government staff, CIGs and committee members of VOs on topics relative to production and marketing in crop/livestock enterprises. As mentioned above, there exists a service provider base to draw from in the provision of capacity building activities for CFs and business mentors and other topics related to farming as a business.

70. Capacity building of machinery service providers. Selected machinery service providers (SPs) will be assisted with specialised expertise to: (i) enhance their capacity in providing agricultural machinery services to the farming community; and as relevant (ii) strengthen their institutional capacity by improving operational structure and procedures to ensure an efficient and sustainable operations' system. Selection will be undertaken against the criteria clearly specified under Component 2 and in the Project Implementation Manual (PIM).

71. *a) Agricultural machinery services*. The Project will place special emphasis on increasing technical capacity of the engineering staff of participating machinery SPs in performing maintenance and repair of agricultural machinery. In this respect, the Project will bring highly qualified technical expertise that would perform the following activities: (i) develop basic training programmes on repair and maintenance of agricultural machinery; (ii) train the core engineering staff in repair and maintenance of agricultural machinery; (iii) train the trainers from the core engineering staff of the central office in maintenance and repair of agricultural machinery; (iv) develop basic training programmes for machinery operators on maintenance and operation of machinery; and (v) assist agricultural machinery service centers in organizing regular training courses for farmers in the regions on machinery operation and basic maintenance procedures.

72. The Project also envisages procuring and endowing with modern maintenance and service equipment (see Component 2), some selected regional maintenance and repair workshops (MRWs) located in the Project area the exact location of which will be decided based on applications received from potential agencies. The strengthening of these MRWs will allow farmers from the region to obtain access to quality maintenance services, which are currently lacking and causing shorter-than-optimal life spans of the machinery. It is envisaged that about 15 engineers from the regional service workshops will be trained in maintenance and service of agricultural machinery. Deployment of technical experts for theoretical and practical training will take place after the service workshop equipment is procured and installed.

73. *b) Institutional capacity*. Technical expertise will be provided to the participating machinery SPs to improve operational structure and procedures to ensure an efficient use of agricultural machinery and equipment. Technical expertise will also be provided to relevant SPs to revise legal documentation, including documentation related to import transactions as well as that related to the leasing mechanism (as relevant). Operational procedures of the companies will be revised in order to ensure that a transparent and efficient operation mechanism is in place. On-the-job training and coaching will be organized for selected staff of the central offices in different fields during the first and second years of Project implementation in order to make sure that the companies will be able to properly and efficiently handle a potentially increased volume of transactions. Assistance will also be provided to the PMU and companies on development of demand-based technical specifications for machinery and equipment to be procured (and possibly leased) to farmers. Based on the developed technical specifications, multi-annual procurement plans for machinery and equipment will be established in order to ensure a proper planning mechanism and a more sustainable operation. At the initial stage, the companies will be assisted in international procurements to ensure transparent and competitive procurement processes are in place.

Component 2: Improvement of agricultural productivity and business linkages

74. The aim of this Component is to build communities' productive base and to stimulate adoption of modern agricultural technologies leading to improved agricultural productivity. Thus, the **outcome** of this Component is: "*increased farm productivity resulted through adoption of improved agricultural technologies and productive infrastructure*". The additional outcome of the Component is *"acknowledged policy recommendations on tested mechanization improvement options"*. The first outcome will be measured by the following indicators: (i) at least 20% increase in agricultural productivity (by main commodities); and (ii) at least 35,000 hectares under improved environmentally sustainable management practices. The additional outcome will be accomplished by a delivered Policy paper on improved mechanization.

75. The Component will be comprised of three sub-components:

76. **Sub-component 2.1: Community Development Funds (CDF)** will support VOs in implementation of community-based development plans (i.e. Community Action Plans (CAPs)) that would also integrate climate change adaptation and disaster risk-reduction. A bottom-up approach would allow the VOs to decide on the detailed investment needs demonstrating that the targets and management principles in the CAPs will be achieved. Community participation and leadership in the decision-making process are vital, and hence there is a strong need for community mobilisation which would be undertaken through Sub-component 1.1 with support from the CFs. To support the initial implementation of the CAPs the Project will provide investment grants. The grants would be channelled through VOs and their pattern (i.e. type, phasing and implementation) will be determined by the respective CAPs. The VOs would be expected to commit to the implementation and the achievement of the targets by signed agreements, which would envisage a phased financing of the CAPs against the clearly identifiable milestone indicators. Subject to the VOs agreement and priorities, funds will be allocated to each VO for implementation of their plans, for which procurement and payments will be managed by the PMU. The total funding provided to finance the CAP investment sub-projects is about US$ 22 million, comprising of 95% as grant and 5% as community contribution in cash (10% in case of machinery and income-generating activities). The exact amount of each grant would be linked to the VO population and its implementation performance.

77. The Sub-component will support selected investment sub-projects falling within the first three years of implementation of each eligible CAP. The community investments financed by the Project will be limited to a maximum of US$ 400 per household, with an average of about US$ 80,000 available for a community of average size. Included in this cost will be the financing of consultant services for sub-project design and supervision to assure the good quality of goods and works.

78. Investments will focus on public goods, although assets that will directly support private sector production, processing and marketing could also be financed if providing benefits to a large number of villagers and if the CAP identifies the investment as a priority. Proposals initiated by VOs/CIGs for income-generating sub-projects, such as farm machinery or milk collection centres, should clearly show that at least 30% of the community would benefit. The farm machinery would be encouraged to be provided to villagers with the rent covering the full costs of the facility to the community, i.e. including depreciation and not just the marginal costs of operation. The CF will ensure that rental/leasing arrangements are explained to the community. Each investment proposal will include the outputs, required labour inputs, materials required, investment and recurrent costs, and expected cash flows, phased over the prescribed time-frame.

79. Activities likely to qualify for support under the CDF include: (i) rehabilitation of access and feeder roads, pedestrian bridges and footpaths; (ii) rehabilitating and/or constructing viable small-scale public irrigation systems (those linking main canals with farmers' fields); (iii) provision of electricity through small scale hydro-generation, wind generation or rehabilitation of key transformers that would enable the creation of "cottage" processing activities and other income-generating activities; (iv) provision of water supplies primarily by rehabilitating existing systems, both for domestic use and for livestock; (v) communal agricultural machinery; (vi) improvement of rainfed arable land

management on sloping land (i.e. soil and moisture conservation structures such as “mini-terracing” using trees and natural hedges, basins and contour drainage channels); (vii) planting of perennial forage crops and cover crops; (viii) planting of alternate higher-value crops such as fruit trees and bushes for berries where feasible; and (ix) improvement of pasture management and pasture resources, which could include a number of possibilities such as providing water points, access roads, fencing, stables, feed storage facilities, re-seeding and fertilization in appropriate areas, and introduction of improved grazing management (including pasture rotation). Of these activities numbers (i), (iv), (v), (vii), (ix) will specifically support livestock related activities. In the experience of KLSP, approximately one third of villages opted for investments that supported livestock. In the category of agricultural machinery (v), extrapolating from KLSP, it is expected that communities opt to support livestock through investments in equipment such as tractors, trailers, and forage harvesters.

80. Links will be established with the other Sub-components under Component 2 of the Project such as “Provision of improved machinery services” and “Innovation grants”, to ensure that Project interventions are complementary.

81. The Project will not directly support investments in the rehabilitation or construction of social infrastructure, such as schools, health centres, or other community buildings.

82. **Sub-component 2.2: Provision of improved machinery services.** This component will apply the ***agro-service mechanization*** **model** used successfully under KLSP albeit with modifications to ensure longterm sustainability. The model will incorporate key elements of theproposal for provision of improved machinery services developed by the FAO Country Office in Tajikistan jointly with the MOA under a Technical Cooperation Programme. In general terms the FAO proposal foresees the strengthening and expansion of the Agricultural Machinery Services Centres (AMSCs) and Maintenance and Repair Workshops (MRWs) network in the country as a valid means to enable equitable and broad access to mechanization services by the *dekhan* farmers. This approach will be adapted to the context of the CASP. The activities under this Sub-component will ensure that smallholder farmers have better access to improved agricultural machinery services and technologies, resulting in increased productivity level and households’ income. Considering the lack of access for farmers to mechanization services, the Project intends to contribute to the efforts of the GOT for the development of agricultural mechanization service infrastructure.

83. The Project confirms the validity of the AMSC approach as a means to improve agriculture mechanization and to allow a more equal and cost-effective access to mechanized service for the farming population in Tajikistan. It intends piloting diverse operational models of the AMSC during the first three years of its life. To this end the Project will strengthen or establish up to 9 AMSCs located in the target districts with modern agricultural machinery and equipment and repairing facilities. An open competition will allow the selection of suitable machinery SPs among those who: (i) have capacity and are specialized in providing agricultural mechanization services to the farmer community; (ii) are large *dekhan* farmers; and (iii) are associated small scale *dekhan* farmers that prove to be capable of abiding to the Project approach.

84. The contribution for the AMSC agricultural machinery provision will be equal to a minimum of 50% for the specialised machinery SPs and for the large scale *dekhan* farmers. Associated smaller scale *dekhan* farmers will need to contribute a minimum of 25%. The remainder of the investment required for the procurement of machinery and equipment will be granted by the Project. At Midterm the Project will take stock of the experiences and will decide on the way forward. The AMSCs to be included in the Project will be provided with agricultural machinery and equipment based on the production systems of typical *dekhan* farmers of the target districts. Largely, the spectrum of machinery supplied to the service centers will include agricultural tractors, combine harvesters, cultivators, seeders, potato planters, potato harvesters, etc. Specifically, all the supported AMSCs will serve the major needs of grain and fodder crops but will also include machinery and equipment required for potato cultivation and orchards. In addition, special equipment for the promotion of Conservation Agriculture (CA) technology among the farming population of the Project area will be included at higher concessional rates. To stimulate such a promotion, CA special equipment will be

provided on an 80% grant basis by the Project. The AMSC are expected to service each an area between 1000-1400 hectares (those operated by associated small scale *dekhan* farmers) and about 1300-1650 hectares (those operated by specialised service providers and large *dekhan* farmers).

85. Each of the AMSCs will be either adjacent to or nearby one of the MRWs. The Project will rehabilitate and equip up to three MRWs. This will ensure that the service centres have access to qualified maintenance and repair services of high standard and, in turn, enable a longer life span of the machinery and equipment for a more sustainable intervention. The procurement and installation of the maintenance equipment in the workshops is planned to take place at the beginning the second year of implementation when the assessment of the needs and detailed technical specifications for the equipment are developed. Similarly, the operators of the MRWs will be selected among specialized agriculture machinery service providers and/or among private entrepreneurs who are willing to contribute financially at least 50% of the value of the investment required to equip the MRWs.

86. The service centres will provide mechanization services on a fee basis to all types of agricultural producers, including individual and collective *dehkan* farms, and to VOs. It will ensure access to better machinery services to all potential beneficiaries in the respective regions. Service agreements will regulate the relationships and rules between the AMSCs and the MRWs and the farming clientele.

87. The piloting of the AMSCs and MRWs will be funded by IFAD with US$ 2.5 million. At Project midterm the experience will be evaluated and recommendations on the way forward will be provided in a Policy Paper based on the lessons learned from the 9 AMSCs and 3 MRWs established by the Project.

88. **Sub-component 2.3: Innovation Grants** will support the development of innovative, demand-driven production and processing technologies through participatory on-farm/enterprise applied research and technology demonstrations, delivered by national academic/research institutions, private companies or NGOs. Based on the priority needs identification process carried at Project start-up, the PMU will establish a competitive applied research support programme to identify bottlenecks in the country's promising value chain development and environmental sustainability. The Project would fund, *inter alia*, national and international TA, on-farm/enterprise technology testing and demonstrations, farmer and scientist capacity building and experiential study tours, participating institutions' operational costs and field and laboratory equipment requirements, and, where appropriate, scholarships for post-graduate student coordinators of participatory technology testing and demonstration activities. Technology testing and innovation needs would be identified annually over the first three Project years. Depending on the identified needs, technology testing and innovation programme agreements could be awarded for proposals up to US$100,000 and a maximum duration of 2 years.

89. Once technology needs have been identified and prioritised by the Project (through a needs assessment survey at Project start-up), the PMU will prepare an invitation for public and private technical specialists, faculties and institutions to submit brief *pro-forma*-based proposals for their implementation. These will be evaluated by a panel of independent experts, PMU staff and international/national advisers against a set of criteria that will include: (i) an assessment of the applicants' understanding of the constraint and their capacity to address it; (ii) the extent of smallholder farmer and private enterprise engagement in the development of solutions; (iii) the likely financial benefit of the proposed solution(s); and (iv) the expected environmental and social impact and, for negative ones if any, associated mitigation measures (further elaborated in the PIM). Proposals with positive impacts on women and youth will be considered favourably. Successful applicants will then be invited to submit a detailed proposal, which will be negotiated with the PMU and form the basis of a contractual agreement. Payments for the delivery of technology innovation programmes will be based on a set of agreed, time- and output-based milestones that will be specified in the contract. All final research reports will be peer reviewed by national and regional specialists and final payments will only be made upon the receipt of a satisfactory review.

D. Lessons learned and adherence to IFAD policies

Lessons learned

90. Appendix 3 provides a comprehensive overview of the lessons learned from past and ongoing IFAD and other donors' operations in the country. Pertinent *lessons learned* from previous interventions and cooperation with other donors include the following: (i) the participation of beneficiaries in all phases is a key ingredient in the successes of community development initiatives and in ensuring that there would be ownership, commitment and long-term impact; ii) targeting the poor can be best achieved through geographical targeting by selecting the poorest regions and poorest villages, in combination with village-level targeting using both self-assessments and village level wealth rankings; (iii) to ensure women's involvement in project activities, it is very useful to clearly identify actions and targets from the outset, and clearly define responsibilities with regards to gender mainstreaming in the TORs of relevant staff and consultants; (iv) the linking of community development with technology demonstrations is a good approach for disseminating best practices; (iv) linking community development to training and strengthening of local project partners is a good approach with potential to engender future sustainability; (v) field level workers need adequate time and resources to be able to effectively undertake a proper social mobilisation; and (vi) export of high value-added products generates new earning opportunities for rural women and helps increase household income and food security. The experience of engaging service providers that support the project in the community mobilisation, all with different approaches, and working in different districts has taught that sufficient time allocation for preparation and training of service providers is needed to achieve the necessary standards of service delivery. Accordingly, community facilitators will be recruited during the first quarter of the Project.

91. Lessons learned from the operations of other donors in the country suggest that the following are needed for successful implementation: (i) capable local management staff; (ii) international consulting assistance to provide knowledge on international practice in technical fields and aspects; (iii) an effectively functioning procurement and financial management system; (iv) flexibility in implementation to accommodate lessons as they emerge; (v) close supervision of and implementation support to project management to ensure that project implementation capabilities are aligned with the objectives; (vi) recognition that the central and local government administrations have very weak capacity and are under-resourced, and can therefore provide only limited support; and (vii) recognition of the vulnerability of project implementation to top-down approaches - the need to involve all stakeholders, particularly beneficiaries, in implementation is understood inadequately or resisted.

Alignment and harmonization

92. The Project is closely aligned with and in support of the Government's key priorities for ensuring food security and nutrition, as well as development of the new institutional support system for the private sector and improvement of the business environment and investment climate, as expressed in the National Development Strategy 2016-2030 (NDS), Medium-term Development Strategy 2016-2020 (MDS) and the Programme for Reforming the Agriculture Sector of the Republic of Tajikistan for 2012-2020.

93. Seeking to avoid duplication of efforts, foster complementarities, while taking advantage of community development and agriculture-related best practices and technological innovation, the overall intervention strategy will be based on: (i) partnership building with the country's sectoral stakeholders, non-governmental organizations, and local research institutions and universities, particularly for expanding technical assistance services, agricultural mechanization and market channels; (ii) harmonization with initiatives from development partners present in the country, such as FAO, the World Bank, EBRD, the German Agency for International Cooperation (GIZ), Aga Khan Foundation and UNDP. The latter two have been involved in community development interventions, while EBRD and GIZ have been engaged in provision of machinery services on which the design team has drawn some lessons for this proposal; and (iii) overall adherence to the principles of the Paris Declaration on aid effectiveness.

Adherence to IFAD policies and guidelines

94. The design of the CASP is fully compliant with IFAD's policies on: **Targeting**, **Gender Mainstreaming** and **Climate Change**, and it is fully aware on the new **Social, Environmental and Climate Assessment Procedures**, and will seek their compliance in Project implementation at operational and field levels (see Appendices 2, 3, 4, 5 and 12 for details).

95. Accordingly, the Project, which is based on key training, technical assistance, knowledge and technological development and dissemination activities and investments, will promote a gender-sensitive and enabling implementation environment through its capacity building and investments components. IFAD's targeting requirements are addressed by ensuring that rural women, women heads of household, the rural unemployed and young people, do participate in the Project's activities.

96. The Project will finance investment in physical infrastructure and income-generating activities that supports the process of developing small-scale commercial agriculture, involving farmers, their groups/associations and small and medium-scale rural enterprises, such as agro-processors, machinery service providers, marketing organizations and input suppliers (e.g. improvements to roads, water supplies for irrigation, drinking and commercial use, electricity supplies, storage and marketing infrastructure, seed capital for farm and off-farm operations). Such investments would help farmers to increase their productivity and to access markets, while also providing an environment that would encourage economic development within the community and/or attract investment from outside the community (e.g. the establishment of new marketing and processing enterprises). Moreover, the Project will foster innovation and best practices based on the results of the applied research and pilots, including those of the ongoing projects.

97. The Project will assist private businesses willing to invest in agricultural machinery services to build sustainable and efficient businesses, and be able to provide agricultural machinery services to the smaller and underdeveloped farmers and individuals. As the market of machinery services is underdeveloped, there is a great potential for further replication and spreading such models through the whole territory of the country. The experience gained during the implementation of the Project will provide the chance to scale-up this model throughout the country, if proved successful.

98. The financial sector of the country registered a decline during the last few years and it is not stable. Through its investments, the Project will be creating the clientele for future rural finance activities by providing support to rural communities and individuals, helping them develop sustainable income-generating activities. The financial market situation would be monitored by the Project and the situation reviewed at mid-term to assess further action with regard to inclusion of additional rural finance activities.

99. Thus, activities under the Project will be in line with IFAD's approach to scaling up results[19]. Besides, investments in innovative technologies will also contribute to the scaling up approach: a small investment of IFAD's funding of US$ 2.0 million for the Innovation Grants is expected to leverage much larger resources from local community and development funding institutions.

100. Therefore, the scaling up approach will be applied in three of IFAD's main lines of business: rural services, innovations and KM, and pro-poor community development.

Environmental and social safeguards

101. The Project will invest in the priorities identified by VOs and CIGs and development of machinery services that will have site-specific environmental and social impacts. To mitigate this impact, environmental assessments and compliance with national legislation will be built into the Project's formal operational procedures governing investment decision-making. The Project is expected to reduce pressure on natural resources by providing the financial incentives for primary producers and service providers to enforce more environmentally-sound natural resource management practices through CAPs, sub-projects and business plans.

[19] See: IFAD's operational framework for scaling up results, December 2015.

102. Moreover, the Innovation Grants are expected to address environmental issues while creating opportunities for additional income.

103. The Project will promote the adoption of Climate Smart Agriculture practices, and specifically Conservation Agriculture technologies by providing the AMSCs with special equipment on an 80% grant basis.

104. To address possible environmental impacts, each CAP, sub-project proposal, Innovation Grant proposal and business plan for provision of machinery services will include a section on environmental issues/protection comprising of adequate mitigation measures and climate-smart agriculture practices and adaptation to climate change activities, whilst seeking a sustainable management of natural resources in the targeted regions.

105. **Environmental classification.** The Project is classified as a Category B operation. This rating results from the few, identified potentially negative environmental impacts that might be expected from the Project's field activities. Investments in climate smart agriculture and green, more resource efficient agricultural practices are expected to result in positive outcomes. These developments will also enhance the resilience of rural households to climate change and reduce their vulnerability to extreme weather events.

III. Project implementation

A. Approach

106. The CASP seeks to improve the assets and incomes of selected rural communities, including smallholder farmers, small rural processing enterprises, input suppliers and service providers, and the rural unemployed by improving production in terms of building/renovating key infrastructure, capacity enhancement, provision of improved services and innovative technologies. Project support would be targeted, demand-driven and participatory. Thus, the CASP will be executed through a demand-driven approach, rather than the planning and definition of annually fixed targets.

107. All selected villages and service providers would be eligible to participate in the Project. Participation and the allocation of resources will be demand driven. To qualify for Project support each VO/CIG and service providers will be required to demonstrate commitment to the Project aimed at the interest of the community at large, by strengthening their institutional capabilities and improving the assets of the communal economy. The Project will provide the means to stimulate the participating institutions to define and implement a long-term vision of their sustainable economy. The vision would point to all the areas that will be required to successfully address sustainable development including in particular integrated measures regarding institutional development and capacity building, organizational management, improvement of resources and assets, efficient use of the existing resources, diversification of income and employment opportunities. Information campaigns and intensive technical assistance will be used to familiarize participating villages and service providers with the Project objectives and approach, thereby creating an effective demand, and fostering competition for Project support among Project participants.

108. The Project will incorporate a strategy to ensure women's inclusion in community development and equitable access to opportunities. Such gender strategy would include: making Women's Groups an integral part of VO structure; identification of income-generating activities which will primarily benefit female producers; promotion of women's employment (processing, retailing, etc.); and active communication campaigns on potential, new roles of women in the provision of machinery services.

109. The project will capitalise on the existing central PMU to expand activities to additional seven districts including the remaining villages in Jhatlon district. At the same time, the mobilization of service agencies from the NGOs and private sector firms as potential supliers of services and replicating the VOs model, supporting business-oriented groups and expanding the machinery services market will open up the ***institutional space*** for a larger number of smallholder Dhekan farmers to profitably benefit from economies of scale to link up with service providers and produce off-

takers in the long-term. This main driver for the roll-out of CASP is the solid commitment of GoT to modernise and improve market–oriented agricultural/livestock production.The CASP is expected to use the Project Implementation Manual (PIM) applied for implementation of the KLSP, including procurement and financial management. The manual will be modified at Project start-up to the extent entailed by the Project activities finally agreed upon.

B. Organizational framework

110. The Project will largely be organized and managed through the same structures as it was with the KLSP, which took a partnership approach in the implementation of project activities between the State, civil society, technical service providers and community organizations.

111. The Ministry of Agriculture (MOA) will have the overall responsibility for management of the Project on behalf of the Government of Tajikistan.

112. A Project Steering Committee (PSC) would be constituted at the central level. The Deputy Minister for Agriculture of the Republic of Tajikistan will chair the PSC. The PSC will have the overall responsibility for providing strategic and policy guidance to ensure that the Project objectives are achieved. The PSC will identify opportunities for support and interaction with government agencies, financial institutions, private sector and other development programmes and facilitate this interaction to ensure that the Project can capitalize on any areas of synergy. The PSC will ensure that any potential bottlenecks and constraints that the Project faces during implementation are removed expeditiously. Specifically, the PSC will: (i) endorse the annual work plans of the Project; (ii) receive notification of the selected villages; and (iii) receive reports and analyses of Project performance; iv) act as the final arbiter of any disputes between the PMU and communities, if consensus cannot be reached through other means. However, it will not have any direct management responsibility. Its members will include: the representatives of the various departments of the MOA; Investment Department of the State Committee on Investments and State Property Management; Investment Division of the Ministry of Finance; State Committee for Women's Affairs and Families; State Agency of Land Reclamation and Irrigation; and State Committee on Land Management and Geodesy.

113. The Project Management Unit (PMU) will be responsible for overall management of the Project. The Livestock and Pasture Development Project (LPDP) PMU will expand its scope and will specifically be responsible for collating work plans and budgets based on district submissions, prepare the Project's annual work plan and budget (AWPB) following receipt of no-objection from IFAD, manage technical assistance, manage all staff and agencies implementing Project activities and promote linkages with other programme and agencies relevant to achieve Project objectives. It will undertake the accounting and financial management, and the procurement of goods and services. The PMU will provide regular six monthly and annual reports on the progress of the Project, liaise with other agencies involved with the Project and facilitate supervision by IFAD missions. The PMU will also coordinate preparation of consolidated progress reports, financial reports and audit reports. The PMU, with IFAD's no-objection, will recruit a Project Coordinator, District Project Officers (DPOs), Project Engineer/s, Community and Institutional Development Specialist; Gender Specialist, Business Development Specialist, Monitoring & Evaluation Specialist; Financial Management Specialist, Procurement Specialist and support staff. The job descriptions of the key Project staff are provided in Appendix 5. In addition, the PMU will contract Community Facilitators and international/national TA to implement the Strengthening Community Organizations and Strengthening Service Agencies Sub-components respectively. The PMU will also hire outside agencies for undertaking the baseline, mid-term, completion and other surveys.

114. District Administrations (*Hukumat*). The role of District Administration (DAs) is to assist self-government institutions of settlements and villages in performing their functions as well as to provide them financial and economic support according to the regulations of the Republic of Tajikistan. DAs can assign some powers to settlements and VOs. In line with the decentralised approach of the Government and the Project, the responsibility for selection of the participating communities and endorsement of the sub-project proposals for financing under the CDFs would be delegated to District

Development Committees (DDC) established within each participating DA (or already existing such committees). Endorsement of the sub-project proposals will be made in line with clearly established procedures as identified in the PIM. The Chairperson (Governor) of the District would chair this committee. Its other members would include heads of participating *Jamoats*, representatives of VOs, representatives of the farming community, including women's groups, agri-business enterprises operating in the district and local NGOs.

115. Community Facilitators (CFs). The PMU will contract NGOs with experience in community-based developmental approach to act as Community Facilitators undertaking the social mobilisation, establishment and support of VOs and CIGs, and provision of technical assistance. The CF forms the key element in assisting communities where they lack capacity or knowledge. They are a resource for VOs/CIGs to draw upon, as it is expected that the capacity of many VOs/CIGs will need to be developed from a low base. The CF will support and assist the VOs/CIGs in the development of their plans and sub-projects; it will train, mentor, advise and assist the VOs/CIGs to draft plans and specifications. The assistance will include capacity building activities that would enable the VOs/CIGs to: (i) design rules and regulations for running the VOs/CIGs; (ii) prepare CAPs, sub-projects and associated budgets, calculate the community contributions and manage their funds; and (iii) manage and monitor operations, maintain and operate investments and identify market linkages.

116. *Jamoat* Council. The main role of *Jamoat* Councils in the Project will be to: review the CAPs prepared by VOs/CIGs; consolidate these plans into a *Jamoat* Development Plan; and help in the screening and prioritisation of sub-project proposals as they are identified in the context of the overall *Jamoat* Development Plan as well as for any possible conflict resolution between villages in terms of shared resources and assets. This will be conducted in line with the procedures established in the PIM. *Jamoat* Councils would also help in monitoring progress of the approved sub-projects during implementation. The PMU will sign a Memorandum of Understanding (MoU) with each *Jamoat* Council stating that the *Jamoat* Council would create all required conditions for proper operation and maintenance of all assets provided by the Project for implementation of grant sub-projects.

117. VO Councils. The Project will assist in the strengthening of Village Organizations (VO) in each participating community by adopting the KLSP approach (described in Appendix 5). Each participating community will elect its VO Council in a democratic manner at a general village meeting. The VO Councils will decide upon the objectives, approaches and specific activities for developing the communities' economic base. They will set their own rules and regulations for managing, implementing, monitoring sub-projects and especially the operation and maintenance of physical infrastructures for which the community itself will have direct responsibility. The PMU will sign a Community Grant Agreement (CGA) with each VO Council to reflect (i) maximum amount of funding for the participating village; (ii) financial and procurement arrangements; (iii) requirements for community contributions; (iv) responsibilities; (v) monitoring; and (vi) post-project ownership and maintenance. The VO Councils will prepare the formal CAPs in a format established in the PIM.

118. Common Interest Groups (CIG(s)), either existing or formed by the Project, may also assist the VO Councils in preparation of CAPs. The CIGs are self-initiative bodies based either on existing *Mohallas* or around commodities (for example crops, fruit, vegetable, milk etc.) or common natural resources (such as irrigation water). The Project will provide support to CIGs if they meet minimum requirements: i) it consists of minimum 10 members; and ii) a sub-project proposal is within CAPs' priorities and follows all the Project modalities for sub-project financing (for example, the key ones are that the proposals initiated by VOs/CIGs for income-generating sub-projects should clearly show that at least 30% of the community would benefit and that at least 10% of the sub-project costs should be covered by CIG). The CAPs will identify the priority investments, then the VOs/CIGs will prepare sub-project proposals in line with the CAP and with the assistance of the CF. Sub-project proposals will be approved by a referendum to be held by at least 80% of representatives of village households. More than 50% positive votes would be required for submission of sub-project proposals to the PMU and DA/DDC. Sub-project proposals will be prepared in accordance with a format described in the PIM. The VOs/CIGs will also be responsible for mobilising the community's financial contributions,

procurement (if relevant), supervising contractors, operation and maintenance of the completed infrastructure and/or renting of facilities to CIGs or other rural enterprises, as well as for monitoring and evaluation of sub-projects. CIGs and other rural enterprises will operate rented facilities in accordance with an appropriate signed lease. The CF, with the assistance of other service providers where needed, will assist with the planning process and implementation of the priority investments and for monitoring their implementation.

119. Participating machinery service providers will be supported and assisted with specialised expertise to: (i) enhance their capacity in providing services to the farming community; and (ii) strengthen their institutional capacity by improving operational structure and procedures to ensure an efficient and sustainable operations system. Selection will be undertaken against the criteria clearly specified in the PIM. These would include, among others, the experience, transparent financial management and willingness to contribute financially as specified below towards the establishment/expansion of Agricultural Mechanization Service Centres (AMSC) and Maintenance and Repair Workshops (MRWs).

120. For details of the Project organizational structure see organigram in Appendix 5. In the course of implementation, the possibility of improving the representation of project beneficiaries at all levels of implementation will be continuously sought for and capitalized on where opportune.

Implementation strategy

121. The Project's implementation aims at achieving the following two outcomes, through their corresponding components: **Outcome 1***. Increased effectiveness and outreach of rural institutions and service agencies; and* **Outcome 2***. Increased farm productivity resulted through adoption of improved agricultural technologies and productive infrastructure.*

Component 1. Strengthening rural institutions

122. **Sub-component 1.1 Strengthening community organizations.** Implementation of this Sub-component will involve two key stages: (i) community mobilisation; and (ii) capacity building of VOs, CIGs and preparation of Community Action Plans (CAPs), sub-projects and business plans for CIGs.

123. Community mobilisation. Within three months of the Project start-up, the PMU will recruit Community Facilitators (CFs) for each of the participating regions based on the TORs developed during the KLSP. Within the same period, international Community and Institutional Development (CID) and Business Development (BD) Advisers and national CID and BD Specialists will be hired by the PMU to strengthen skills of CFs and other interested NGOs involved in community development through mentoring, as well as to prepare a detailed training programme including the identification of potential trainers (Master Trainers). The Community Facilitator (CF) with support from the PMU's District Project Officers (DPOs), *Hukumat* and *Jamoat* agricultural staff will hold several types of public meetings with the aim to explain the Project, the sub-components, the planning process, and the establishment of VO Councils, if absent. The CASP would maintain a dialogue on the local government level to seek their support for the obtaining of long term land leases and certificates for the targeted communities whose livelihoods are dependent on access to pasture land.

124. Capacity building of VOs and CIGs. Training will be carried out by CFs to increase the capacity of VOs Councils, CIGs and communities and promote the operational linkages between farmers, suppliers of agricultural inputs and services, processors of agricultural products and traders. Two types of training will be carried out for farmers: (i) training relating to the CAP and sub-project (identification, preparation and implementation) which is primarily of interest to the VO Council; and (ii) training in areas of interest to farmers and entrepreneurs from the community including CIGs. Training for the VO Councils and CIGs will be mandatory, while for community members it is optional based on need. VO Councils/CIGs will receive training to help them meet their sub-project/business plan preparation and implementation responsibilities, including business and negotiation skills.

125. Preparation and approval of the Community Action Plan (CAP). Before the sub-projects are identified and designed, the community will consider its overall socio-economic development potential

and clearly delineate which are key public investment priorities and those that are of private nature. The participatory Village Development Planning Process (VDPP), applied during implementation of the KLSP and detailed in the PIM, will clearly bring out which priority areas warrant support from the Project. This VDPP will be facilitated by the CFs jointly with the VO Councils/CIGs. A simple CAP will be prepared which will describe how the community wishes to see its economic situation change in the medium to long-term. The CF will screen the CAP before it is submitted to the DPOs/PMU for no-objection to ensure that all the relevant eligibility criteria are met. The DDC/DA will approve the CAP, thus providing a base for identification and preparation of two or more specific sub-projects/business plans, which may be financed from the Community Development Funds (CDF)/Innovation Grants under Component 2.

126. Identification and preparation of sub-projects and business plans. Priority sub-projects/business plans will be identified from the assessment done and be included in the CAP. The CF, DPOs, *Hukumat/Jamoat* and/or technical service staff with the required skills (engineer, agricultural specialist or service provider on agribusiness/entrepreneurship) will facilitate the VO Councils/CIGs to design preliminary technical specifications and cost estimates of sub-projects/business plans. A brief description of the sub-project/business plans, including their components with estimates of costs will be made based on the format established under the KLSP. Once the VO Councils and CIGs have reached a consensus on what sub-project(s)/business plans to propose and the brief review has shown their technical and economic viability, the proposals will be submitted for vetting and approval. To ensure transparency, the community will vote on whether or not to submit, for approval vetting. The community will decide the voting procedure.

127. **Sub-component 1.2. Strengthening service agencies.** Implementation of this Sub-component will involve training and skills enhancement of service agencies including government staff, business advisers, input suppliers, agricultural machinery service providers, etc.

128. Within three months of Project start-up, the PMU will recruit a Community and Institutional Development (CID) Specialist for coordination of CID activities to be implemented under Component 1. At the same time the PMU will hire a Business Development (BD) Specialist for coordination of business related activities. They will be initially supported by an international CID Adviser and a BD Adviser, respectively, who would be contracted within the same period and who would help the PMU to detail the PIM (outlined in the Project Design Report), including TORs for all service providers and other consultants. TORs for CID and BD Specialists and International Advisers are presented in Appendix 5.

129. Based on a rapid training needs assessment in the first months of Project start-up, a training plan will be developed containing three parts: (i) training of *Hukumat/Jamoat staff*; (ii) training of service providers (business advice, input suppliers, wholesalers, etc.); and (iiI) capacity building of machinery service providers. This training plan will incorporate both appropriate modules and training methodologies.

130. Implementation of the training plan. Different training methods will be applied based on need such as group discussion, brainstorming, question-answer, card writing, demonstration, role play, simulation game, field visit, practical exercise, as appropriate. Based on the training plan, a training calendar will be prepared to deliver the training sessions to the different participants. Training programmes will include existing national and regional training products that have been evaluated and accepted as appropriate for the target audience and new training products developed by contracted individuals, faculties and institutes based on their respective competencies. Training material may be in the form of infographics, videos, and concise manuals available to training beneficiaries in digital form. Identified trainers will receive competency-based ToT training from the international TA. Knowledge retention of trained trainers will be tested 6 months after the completion of ToT courses, with low knowledge retention rates leading to replacement or retraining.

131. Training for machinery operators. Training courses for machinery operators from AMSCs (that may extended to operators from VOs) will be performed by qualified engineers who will be hired by

the Project as Trainers for Machinery Operators (TMO). The TMOs will be hired locally and will be proficiency tested and certified by the international experts recruited by the Project (see below). The TMOs will be responsible for training of machinery operators as well as for testing of those operators at the completion of the training courses. The courses will be mandatory for all selected machinery operators despite the availability of a driving licence for operation of agricultural machinery. During the whole period of implementation, the Project will assist the participating AMSCs in organizing regular training courses for farmers in the regions and machinery operators from VOs on machinery operation and basic maintenance procedures. The machinery from the Project will be released to the AMSC or VOs only after assurance that a trained person could operate it. For this purpose, special certification procedures will be established by the Project.

132. Technical assistance for mechanization. Within three months from Project start-up, the Project will begin to mobilize international experts to assist the PMU in implementation of Sub-components 1.2 and 2.2, linked with capacity building activities and provision of improved machinery services. The following international experts will be recruited: (i) one Maintenance and Repair Expert (RME), (ii) one Agricultural Machinery and Leasing Expert (AMLE); (iii) one Legal and Trade Logistics Expert (LTLE); (iv) one Maintenance and Service Expert (MSE), and (v) three Repair and Maintenance Experts ToT (RME ToT).

133. All engineering staff to be accepted for the training will be obliged to pass a basic proficiency test on the knowledge on maintenance and repair of machinery and equipment. The testing procedure will be organized and performed by the RME ToT prior to launching the training programs. This procedure will be mandatory for all engineering staff of the participating machinery service providers in order to ensure a sustainable and efficient process of knowledge transfer to the local engineering staff, resulting in an efficient and sustainable operation of the MRWs following Project closure.

Component 2. Improvement of agricultural productivity and business linkages

134. **Sub-component 2.1. Community Development Funds.** Implementation arrangements for this Sub-component include implementation of individual sub-projects, supervision of works and goods delivery, and monitoring of sub-projects and CAPs.

135. Implementation plan. For the agreed upon sub-project/business plan, an implementation plan will be prepared defining the steps needed to implement them. While the VO Councils will implement the sub-projects and/or supervise them if contracted out, the CIGs will be responsible for implementing the business plans with support from CF/*Jamoat* staff and business mentors as and when needed. The *Hukumat/Jamoat* staff will provide overall implementation/supervision support. The implementation plan will take into account the implementation period, expected results, those responsible and services it can use to help implementation.

136. Once the sub-project proposal has been approved the following activities take place: (i) delivery of community contribution; (ii) open tender, held in the capital/district centre; (iii) technical review of bids; and (vi) contracting of tender winner. VO Council/CIGs representatives participate in various phases of procurement together with the PMU.

137. **Sub-component 2.2. Provision of improved machinery services.** The PMU will be primarily responsible for the implementation of all activities under this Sub-component, including the process of selection of service providers, procurement of specialized equipment and trainings for Project beneficiaries.

138. Selection of agricultural machinery service providers. Selection process applying for AMSCs and MRWs will be demand-driven and based on open competition. The detailed mechanism for screening of the applications, eligibility criteria and business plan assessment will be set in the PIM.

139. The minimum requirements for the private and/or public companies including larger *dekhan* farmers willing to participate in establishing AMSCs and MRWs will consist of - but not be limited to - the following: (i) availability of financial resources and willingness to invest at least 50% of the funds required for the initiation of the business; (ii) at least 3 year experience in the business, or related

businesses, linked with engineering and machinery or equipment service; (iii) positive balance sheets and credit history for at least a 3 year period; (iv) availability of physical assets and premises required for establishment of the business; (v) availability of qualified engineering staff, able to benefit from technical assistance and professional training provided by the technical experts of the Project; (vi) availability of technical staff, required for a sustainable operation; and (vii) willingness to follow the Project targeting of women and youth. In the case of associated small *dekhan* farmers applying to invest for AMSCs, the main evaluation criteria will include: (i) registration of the association and availability of bank accounts; (ii) willingness to provide contribution for a value of at least 25% of that of the machinery and equipment to be procured; (iii) adherence to the Project approach; and (iv) commitment to extend service provision (min 20% of the machinery services) to non-members of the association specifically among the vulnerable target groups of the Project. A detailed list of criteria is provided in Appendixes 4, 5 and in the PIM.

140. The eligible entities qualifying for participation in the Project as MRWs and AMSCs will be asked to submit a business plan to be assessed by the PMU Selection Committee. Additionally, an *ex-ante* evaluation of the eligible entities will be performed by the International Maintenance and Service Expert. The evaluation of applicants willing to operate MRWs and who are specialized machinery services' providers or are entrepreneurs, will consider the following aspects: (i) assessment of technical capacities on maintenance and service of agricultural machinery and equipment, including availability of physical assets; (ii) assessment of the capacities of the technical staff (engineers); and (iii) assessment of institutional capacities on service delivery.

141. The evaluation reports will be submitted to the PMU Selection Committee for consideration during the final evaluation of the business plan and decision on eligibility to participate in the Project.

142. Thorough screening of enquiries will make the process of approving an application efficient. After a review of application documentation for completeness, the applicant's business plan will be appraised. The appraisal aims to verify all aspects of the plan including marketing, management and costs and returns. As a result of the appraisal, a recommendation is made to approve or decline an application for participation in the Project. If the recommendation is positive, the terms and conditions are specified.

143. Following the decision on participation in the Project, selected service providers will be assisted by the Maintenance and Service Expert (MSE) in designing and finalizing the procurement list for specific maintenance and repair equipment required for the MRWs activity. The expert will also provide advice to the service agents on the technical requirements for facilities and logistics to be built for such type of services. Recommendations on improvement of the existing facilities will also be provided.

144. The list of the equipment for MRWs will be approved by the PMU and will be included in the Procurement Plan of the Project. The procurement of the equipment for MRWs will be performed by the PMU and will be assisted by the International Legal and Trade Logistics Expert (ToRs attached in Appendix 4). The Legal and Trade Logistics Expert will organize a series of trainings for PMU staff and the Procurement Officer on procurement and logistics linked to transactions with agricultural machinery and equipment. The expert will also backstop the PMU in the procurement process. The list of machinery and equipment for the AMSCs will be approved by the PMU. An indicative list of typical machinery and equipment endowment of the AMSCs for the different potential categories of machinery service providers is given in Appendix 4.

145. The service centres will provide mechanization services on a fee basis to all types of agricultural producers, including individual and collective *dehkan* farms, and to VOs. Service agreements will regulate the relationships and rules between the AMSCs and the MRWs and the farming clientele. The templates of such agreements will be included in the PIM.

146. **Sub-component 2.3. Innovation Grants.** The PMU will select potential applicants (research institutes, NGOs, advisory services' providers) interested in developing/applying innovative agricultural technologies/products and solutions and committed to disseminating lessons learnt as a

result of this process. The indicative eligibility criteria for participation can include (but not limited to): (i) extensive experience in agricultural applied research; (ii) commitment to Project targeting, approach and modalities; (iii) availability of necessary staff, knowledge, physical and other resources to implement the innovation development work under the Project; (iv) sound business proposal and appropriate budgeting and budget control procedures; and (v) willingness to share and publicize lessons learnt as a result of the innovation product development (both positive and negative).

147. The applicants meeting the eligibility criteria should be issued a "Request for Proposal" and should submit their Innovation Grant proposals to the PMU. A clear dissemination plan should be part of such a proposal. To facilitate the Innovation Grants selection, the PMU will form a Council of experts, which may consist of both local as well as international specialists. The Council may include experts of IFAD and FAO to ensure technical competence as well as objective third party assessment of the quality of the proposals. Together with the Council, the PMU will develop a scoring methodology to help guide the selection process as well as the weighing methodology for the criteria to facilitate assessment of the proposals. The main selection criteria for the Innovation Grants will be the *establishment/enhancement of the partnerships between primary producers and scientists/researchers*. The participants will benefit from the Project on a competitive basis. The other selection criteria will be the commercial potential and impact potential.

148. The PMU should establish a threshold budget per one proposal (e.g. US$ 100,000) and limit the number of proposals per one grant recipient (e.g. up to 2) and duration (e.g. up to 2 years). All of the Innovation Grants selection stages and conditions should be part of the PIM. Respective agreements will be signed with selected grant recipients following IFAD's procurement procedures. The priority will be given to Innovation Grant proposals targeting women and youth participation.

C. Planning, M&E, learning and knowledge management

Planning, M&E and learning

149. The PMU is the main responsible unit for planning of the AWPB. The PMU will send the AWPB to IFAD 60 days prior to the end of each Project Year for no-objection.

150. The PMU will consolidate the Project's quantitative financial and physical output data in the Planner, which is an Excel-based Management Information System. The Planner organizes inserted Project planned and actual data by financing source, category of expenditure, gender, status and timing of all activities on (i) financial expenditure; (ii) physical outputs and outreach; (iii) procurement and contracts; and (iv) indicators for the Results and Impact Management System (RIMS).

151. **Performance monitoring** will concentrate on the financial and physical outputs and the outcomes of Project activities and be based upon semi-annual and annual progress reports. The PMU would submit progress reports in Tajik to the Government (MOA and MOF) and in English to IFAD.

152. **Outcome monitoring** will assess the use of outputs and measure their benefits at beneficiary level. The monitoring will focus on the accessibility of Project outputs and the extent to which they provide benefits to the target groups in terms of access to finance, services and markets. It will also include the Project's achievements in terms of returns, profits, direct and indirect job creation and prospects for sustainability. Towards this, the Project will conduct periodical standardized **Field Surveys** with Project beneficiaries. The questionnaires for the Field Surveys would be drafted by the M&E staff of the Project with technical support as applicable, and be standardized for each type of Project activity. The Project may make use of an information collection platform such as iformbuilder[20] or similar, for conducting the survey and maintaining the database.

153. The objective of the Field Surveys on the outcome level would be to: (i) provide management with information on quality and usefulness of Project activities for planning and taking corrective action

[20] See www.iformbuilder.com.

to remedy emerging issues; and (ii) collect qualitative data on Project activities to identify success stories and models for replication.

154. **Impact evaluation.** The main instruments for the impact evaluation are the Project's Baseline Survey, Mid-Term Survey, and Project Completion Report. The Baseline Survey shall be conducted in the first Project year, procured by the PMU. The objective of the baseline survey will be to establish benchmarks for time-series comparisons between Project beneficiaries and non-beneficiary 'control' populations. The Mid-Term Survey (MTS) shall be completed one month prior to the IFAD Mid-Term Review, and its objective is to provide CASP management and the MTR team evidence for possible revisions the CASP design and targets. The Project Completion Report shall be conducted in the six months preceding Project closing.

155. The Field Surveys would be used to collect relevant quantitative data for the MTS and Completion Report. Such quantitative data would cover incomes and assets and increase in employment in the various value chains, thus providing the Project with a dataset for quantitative impact evaluation. This would, through extrapolation from relevant beneficiary strata, allow evaluation of impact for all relevant value chains on at least the following levels: (i) incremental increase in farmer income and assets measured by IRR and NPV; (ii) employment creation; (iii) incremental increase in regional economic activity; and (iv) incremental increase in tax revenue to the government. The data collected in the course of the Field Surveys can be complemented in the last Project year by additional **Thematic Studies** to be procured by the PMU necessary to measure the full impact of the Project's interventions.

156. **Learning and knowledge management.** The learning and knowledge management activities will include (i) impact studies comprising a Baseline Survey, MTS and Completion Report; (ii) Thematic Studies; (iii) information dissemination campaigns about the Project; (iv) preparation of publications; (v) training of processors and other actors in the value chain, farmers and CIGs in modern farm techniques and farm management; and vi) Progress Reports.

157. During the final year of Project implementation, as part of the preparation of the IFAD-required **Project Completion Report/Impact Assessment (PCR)**, the M&E data collected over the Project implementation period will be used as part of a thorough assessment of Project achievements. In particular, this shall compare changes in the livelihoods of beneficiaries that relate to the implemented Project activities against the situation documented in the **Baseline Study**. The Project Completion Report shall share lessons learned and development experience. The Project will also finance **Thematic Studies** that will feed into the Project completion process. Such studies will, making use of the data collected in the course of the monitoring activities of the M&E staff as well as through complementing surveys, document the impact of Project interventions and will provide insights into the achieved targeting, and the efficiency and efficacy of such investments.

158. The Project would prepare **publications** to complement trainings and for enhanced and more widespread learning. These would comprise practical 'user's manuals' for the enhancement of agricultural production considering best husbandry practices, inputs, prices, expected yields etc. on the identified activity types. Films that document the establishment of Project demonstrations and co-financed investments should complement these publications. A thorough due diligence would be done to identify whether existing materials can be used for this purpose, and whether permission can be obtained for further dissemination. The publications would be made available both in 'hard' and electronic formats among project stakeholders. The PMU M&E staff would set up and maintain a GIS in which data is inputted to illustrate Project interventions. The PMU would maintain a Project webpage to provide information to beneficiaries and other stakeholders about the Project's benefits and modalities for participation, and for dissemination of the knowledge products produced by the Project.

D. Financial management, procurement and governance

159. **Governance and financial management risks**. The country risk is rated as **high risk**. Transparency International's Corruption Perception Index ranked Tajikistan 151st of 176 countries in 2016 (136th of 168 in 2015), with a score of 25/100 in 2016 (26/100 in 2015). The PEFA report (2012) concluded that some progress had been made since the previous report in 2007, however the report identified several weaknesses in the areas of: (i) institutional capacity of the PFM sector including an unreliable fiscal framework for budget planning; (ii) insufficient linkages between the budget and policies; (iii) a limited role for line ministries in sector policy formulation; (iv) weak payroll control and audit; (v) absence of auditing of budget execution reports; and (vi) poor financial reporting and accounting.

160. **Financial management**. To determine Project-specific control risks, a Financial Management (FM) risk assessment of the proposed Project and its fiduciary arrangements has been completed. A detailed FM assessment of the PMU has been performed. The FM assessment concluded that the Project FM arrangements and internal control system would satisfy IFAD's minimum requirements to provide accurate and timely information on the progress of Project implementation and guarantee the separation of functions through several levels of independent controls.

161. Overall, the FM risk is rated as medium and residual FM risk is medium too, after the conditions for disbursement and proposed mitigation measures have been met. A summary of actions needed to mitigate FM risks is shown in Appendix 7.

162. The PMU, which is managing the on-going IFAD's projects, established well-functioning financial accountability systems and procedures. The PMU Finance Unit will be in charge of ensuring that the eligibility criteria are respected before every payment. To ensure workload balance and segregation of duties an additional finance consultant will be competitively recruited to help on FM of this Project.

163. **Accounting and financial reporting arrangements.** The Project will adopt accounting procedures and policies consistent with international accounting standards (cash basis). The PMU will prepare and submit to IFAD Interim Financial Reports (IFRs), semi-annual and annual financial statements. The will PMU also prepare statements of commitments and expenditures by component, sub-components, category, financier and monthly bank reconciliation statements for all the bank accounts. The financial reports will be in formats acceptable to IFAD and samples of the same will be available within the Financial Management Manual. It is expected that the financial reports will provide information to management, financiers and related parties to facilitate decision-making processes. Minimum financial report includes sources and uses of funds, commitments and payments by financing sources, by component, sub-component and by category, and a comparison against approved budgets. The financial reports will be submitted to IFAD within four months of the end of the fiscal year.

164. The Project will use 1-C Accounting System. Before disbursement begins, the PMU will configure the current accounting systems to include the new Project.

165. **Budgeting.** IFAD Loan/Grant is viewed by the Government as part of the national budget. All Project activities will be included in an Annual Work Plan and Budget (AWPB). It will indicate what activities and expenditures will be implemented and the extent to which budgeted expenditures are intended to be financed from each financing source. PMU staff has experience in preparing AWPB to meet IFAD needs.

166. Before the end of each fiscal year, all key staff participates in the preparation process of the Annual Work Plan Budget (AWPB) for the following year, including all activities from the grant and Government proceeds, and submit it to the Project Steering Committee (PSC) for examination and approval. It is then submitted to IFAD for its no-objection no later than 60 days before the beginning of the relevant Project year. The AWPB is subsequently submitted to the Ministry of Agriculture, the Ministry of Finance and to the Parliament for its final approval by December 31 each year.

167. **Disbursement arrangements and flow of funds.** The Project will use available disbursement methods of replenishment, reimbursement and direct payments. Two US$ denominated Designated Accounts (DA) will be opened for the Project in a commercial Bank acceptable to IFAD and will be managed by PMU, according to the IFAD disbursement guidelines. These are one Designated Account in US$ to receive funds from the IFAD loan and one to receive funds from the IFAD grant. The authorized allocation for the DA, as well as detailed disbursement modalities will be defined in the Letter to the Borrower/Recipient (LTB/R).

168. The PMU will open and manage three separate operating bank accounts, in TJS, in a commercial bank acceptable to IFAD. The first one of these accounts will receive funds from loan Designated Account, to pay eligible expenditure of the project on loan proceeds, the second one will receive funds from grant Designated Account, to pay eligible expenditure of the project on grant proceeds, and the third one to receive beneficiaries and other leasing companies contribution.

169. “Smart” Statements of Expenditure (SOE) with comprehensive audit trails will be utilised to justify advances given. The accounting software in use at the PMU is already able to generate both Withdrawal Applications and Statements of Expenditures electronically.

170. **Counterpart contributions** will be essentially in the form of exemption from indirect taxes (VAT and Customs duty) on project transactions. Tax exemption amounts for individual transactions will be recorded in the accounting system, in line with current practice.

171. **Internal control and internal audit.** The internal control system in place within the PMU conforms to the Government system and has been deemed acceptable by the IFAD. Indeed, it guarantees the separation of the functions through several levels of independent controls. There is no internal audit Unit at PMU level. However, all project financial statements are subject to *ex-post* review by the Accounts Chamber of the Republic of Tajikistan, and by the Agency for State Financial Control and Fight with Corruption of the Republic of Tajikistan.

172. As the majority of the Project funds will go towards community driven activities, the PMU will hire an internal auditor consultant to implement quarterly internal audit reviews of operational controls, in particular over community activities. The scope of this audit will also include record keeping and internal controls of the NGOs and Community Facilitators, who are key Project parties and ensure that procedures set in the FM manual are enforced. IFAD’s no-objection for the Project Implementation Manual is a disbursement conditionality.

173. **Audit Arrangements**. Annual Project financial statements will be audited by private auditor/s in accordance with the International Standards on Auditing (ISA) under TORs cleared annually by IFAD.

174. **Flow of Funds.** A chart of the anticipated flow of funds under the Project is provided in Appendix 7.

175. **Procurement**. The Public Procurement Law (PPL) of 2006, as amended on April 16, 2012 (PPL Amendment), is the major legal instrument that regulates public procurement in Tajikistan. The PPL spells out the major principles of the public procurement process. It covers all public procurement of goods, works and services conducted in the Republic of Tajikistan except for public procurement aimed at ensuring national defense, national security, State secrets, and precious metals and stones. The Government is in the process of developing a new PPL in close consultancy with, among others, the EBRD and World Bank, which is expected to address the shortcomings that currently exist in the PPL. It is expected however that the final law will not be approved before 2018. An assessment of the law and its application over a sustained period will be required prior to determining whether it is substantially compliant with IFAD Procurement Guidelines. In view of the above, the CASP will adopt the IFAD Procurement Guidelines.

176. As part of the initial design of the CASP, IFAD undertook a procurement capacity assessment of the PMU using the IFAD tool for Assessment of Agency Capacity to Implement Procurement. The PMU has a good track record with implementation of IFAD procurement; the procurement function is separate from financial management, and the procurement unit is staffed with capable personnel.

Overall, the procurement capacity and procedures are assessed as satisfactory in all aspects of advertisement, drafting of bidding documentation, evaluation and contract management. Further details, including the first 18-month Procurement Plan, are provided in Appendix 8.

177. **Governance.** The Project design incorporates various measures to assure good governance as indicated by: overall operational accountability and transparency; financial management; procurement of goods and services; environmental governance; gender equality and mechanisms for complaints and remedies. These include: (i) the terms and conditions of MOU with all implementing partners; (ii) consistent stakeholder representation in the Project's planning, M&E/KM and impact assessment cycle, affording mechanisms for complaints and remedies; (iii) fair participation of women beneficiaries in all activities and levels of the Project; (iv) social, environmental and climate change safeguards and guidelines detailed in the PIM; (v) application of guidelines and procedures for procurement consistent with the current IFAD Procurement Guidelines; (vi) selection of machinery service providers and innovation grants by selection committees established by the Project and consisting of representative of key stakeholders; (vii) close supervision and implementation support by IFAD, including risk-based financial management supervision and operational reviews; and (vii) provision for regular external audit.

E. Supervision

178. **Supervision and implementation support.** A supervision plan covering the period up until MTR will be agreed at Project start-up. The CASP will be supervised directly by IFAD. IFAD supervision would include **risk-based financial management supervisions**, and also **Operational Reviews** covering a random sample of Project activities, to be carried out in Project Years (PYs) 2 and 4 by independent auditors and under TORs acceptable to IFAD. Details of the financial management supervision are provided in Appendix 7. The timely completion of: (i) a baseline survey according with the Project's outcome/ output indicators; and (ii) the RIMS study on child malnutrition (IFAD's Results and Impact Monitoring System) and household living standards are fundamental to effective Project supervision.

F. Risk identification and mitigation

179. Key Project implementation **assumptions** are that the country's economy maintains its stability, and that consistency is established between the stated government policies and agricultural reforms supporting private sector development, and the agriculture sector *vis-à-vis* the actual implementation of these policies and reforms.

180. **Participation.** The main risk relates to potential failure in correctly aligning the incentives for the various player, household and *dekhan* farmers and service providers expected to participate in the Project. Mitigating measures include an in-depth, participatory analysis of production/business opportunities, resources and other constraints, and actual financial and other risks, based on formulated CAPs, sub-project proposals and business plans. Mitigation in this regard also involves a widespread informational campaign to reach out to all participating communities and potential service providers and formulate inclusive CAPs and business plans, meaning that farmers – and in particular farming households – receive better profits from their investments. Community Facilitators' mobilisation and mentoring, and capacity building of service providers will be critical.

181. **Market linkages**. Another risk relates to potential failure in linking the communities profitably with the markets, thus allowing only limited benefits for improved production. Mitigating measures include a careful analysis of opportunities and constraints of the private entrepreneurs, and careful selection of such partners and building in elements of competition that prevent local monopolies from forming.

182. **Potential bias against the poor households, including FHHs, in relation to accessing farm mechanization services by AMSCs.** Due to smaller sizes of their agricultural land and commercial rates of service provision, the poor families' access to mechanization services by AMSCs

may be constrained. This will be mitigated, however, by including agricultural machineries as an eligible investment under CDF and relying on community-managed rules and conditions of service delivery, which would allow poor households, including FHHs, to be included as recipients.

IV. Project costs, financing, benefits and sustainability

A. Project costs

183. The main assumptions underlying the derivation of Project costs, estimated Project costs and financing plan are:

- The Project costs are based on May 2017 prices.
- The proposed Project will be financed over a six-year period.
- Inflation. The latest available Economist Intelligence Unit's (EIU) Country Report (1st quarter 2017) forecasts the Tajikistan's inflation rate at around 10% for 2017 and 9% for the following year. For CASP's cost analysis, a constant rate of 9% of inflation per year was considered a sufficiently conservative option as a base for the project period 2018-2023. The international inflation rate is set at 2% per year, in line with medium to long term projections of EIU and the World Bank group (Commodity Market Outlook, Jan 2017) for the US$.
- Exchange Rate. The Base Exchange rate for this analysis has been set at TJS 9.0 to US$1 according to the EIU forecast.
- The Project costs are presented in both TJS and US$. Conversions from current US$ values into TJS use constant purchasing power exchange rates.
- Taxes and Duties. Overall, the items to be imported for the Project do not attract any import and excise duties. However, there is VAT of 18% levied on all imported and locally procured goods and services. For directly recruited local staff, international and national technical assistance, the Project would cover the employer's tax of 25% (Social Insurance). The Government would finance the cost of all taxes on goods and services procured under the Project.

184. The total investment and incremental recurrent Project costs, including physical and price contingencies, are estimated at about US$ 39.3 million (TJS 353.9 million). Physical and price contingencies are low at 1% of the total Project costs. This is mostly due to the fact that investments associated with the Community Development Funds, Innovation Grants and Provision of Improved Machinery Services represent around 85% of the total Project costs (expressed as a lump sum, no contingencies). The summary and detailed cost tables are presented in Working Paper 1.

Table 2: Project Costs by Components

Components Project Cost Summary	(Somoni Million)			(USD '000)			ForEx	Base Cost
	Local	Foreign	Total	Local	Foreign	Total	%	%
A. Strengthening Rural Institutions								
Strengthening community organizations	17.3	0.4	17.7	1,920.7	44.0	1,964.7	2	5
Strengthening services agencies	6.9	2.7	9.6	765.3	296.8	1,062.0	28	3
Subtotal Strengthening Rural Institutions	**24.2**	**3.1**	**27.2**	**2,685.9**	**340.8**	**3,026.7**	**11**	**8**
B. Improvement of agricultural productivity and business linkages								
Community Development Funds	123.5	110.0	233.5	13,724.5	12,224.5	25,949.0	47	67
Provision of Improved Machinery Services	28.4	28.3	56.7	3,160.0	3,140.0	6,300.0	50	16
Innovation Grants	18.0	0.0	18.0	2,000.0	0.0	2,000.0	-	5
Subtotal Improvement of agricultural productivity and business linkages	**170.0**	**138.3**	**308.2**	**18,884.5**	**15,364.5**	**34,249.0**	**45**	**89**
C. Project Management								
Project Management	11.6	2.7	14.3	1,283.6	301.6	1,585.2	19	4
Monitoring and Evaluation	0.7	0.6	1.3	81.2	66.8	148.0	45	0
Subtotal Project Management	**12.3**	**3.3**	**15.6**	**1,364.8**	**368.4**	**1,733.2**	**21**	**4**
Total BASELINE COSTS	206.4	144.7	351.1	22,935.2	16,073.7	39,008.9	**42**	**100**
Physical Contingencies	0.3	0.1	0.5	35.3	16.1	51.4	31	0
Price Contingencies	12.5	1.9	14.4	229.6	32.3	261.9	12	1
Total PROJECT COSTS	**219.3**	**146.7**	**366.0**	**23,200.1**	**16,122.0**	**39,322.1**	**42**	**101**

B. Project financing

185. An IFAD Grant of US$ 15.3 million (39 per cent of total project costs) will finance 92 per cent of the Strengthening Rural Institution component (which amounts US$ 3.2 million); 32 per cent of the Improvement of agricultural productivity and business linkages component (US$ 34.3 million); and 82 per cent of the project management (US$ 1.9 million). An IFAD Loan of an equal amount of US$ 15.3 million will finance: 44 per cent of the Improvement of agricultural productivity and business linkages component; and 10 per cent of the project management component. A FAO co-financing of US$ 0.25 million through the Technical Cooperation Programme (TCP) is foreseen to contribute towards technical assistance and training costs specifically for the Capacity building of machinery service providers under Sub-component 1.2 Strengthening of service agencies.

186. The government contribution is estimated at US$ 4.9 million (12.6 per cent of the total cost) and includes contributions from its budget mostly to cover taxes (see next paragraph) including those related to the procurement for the Community Development Fund grants. Approximately US$ 1.6 million (4.0 per cent of the total Project cost) will be provided by beneficiaries as co-financing of the Community Development Fund grants and of the Innovation grants. Finally, a contribution of about US$ 1.9 million (4.9 per cent) is expected from private service providers operating in the field of agricultural mechanization. This contribution will match CASP's allocation for machineries and equipment for mechanization under Component 2, plus related operation and maintenance costs.

187. Table 3 provides a summary by the Project financing plan by components. Table 4 shows the financing plan by expenditure categories.

Table 3: Financing Plan by Components – including contingencies ('000 US$)

	IFAD GRANT		FAO		IFAD Loan		Ben Contribution		Provider		GOVT: Taxes		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Strengthening Rural Institutions														
Strengthening community organizations	2,039	100.0	-	-	-	-	-	-	-	-	-	-	2,039	5.2
Strengthening services agencies	866	77.6	250	22.4	-	-	-	-	-	-	-0	-0.0	1,116	2.8
Subtotal Strengthening Rural Institutions	2,904	92.1	250	7.9	-	-	-	-	-	-	-0	-0.0	3,154	8.0
B. Improvement of agricultural productivity and business linkages														
Community Development Funds	8,993	34.7	-	-	11,770	45.4	1,456	5.6	-	-	3,730	14.4	25,949	66.0
Provision of Improved Machinery Services	-	-	-	-	3,375	53.1	-	-	1,920	30.2	1,063	16.7	6,357	16.2
Innovation Grants	1,900	95.0	-	-	-	-	100	5.0	-	-	-	-	2,000	5.1
Subtotal Improvement of agricultural productivity and business linkages	10,893	31.8	-	-	15,145	44.1	1,556	4.5	1,920	5.6	4,792	14.0	34,306	87.2
C. Project Management														
Project Management	1,382	81.1	-	-	179	10.5	-	-	-	-	143	8.4	1,704	4.3
Monitoring and Evaluation	150	95.6	-	-	5	3.3	-	-	-	-	2	1.1	157	0.4
Subtotal Project Management	1,533	82.3	-	-	184	9.9	-	-	-	-	145	7.8	1,862	4.7
Total PROJECT COST	15,330	39.0	250	0.6	15,330	39.0	1,556	4.0	1,920	4.9	4,937	12.6	39,322	100.0

Table 4: Expenditure Accounts by financier ('000 US$)

	IFAD GRANT		FAO		IFAD Loan		Ben Contribution		Provider		GOVT: Taxes		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs														
A. Goods, Equipment and Materials														
Goods, Equipment and Materials	-	-	-	-	1,907	44.4	-	-	1,313	30.6	1,073	25.0	4,292	10.9
B. Vehicles														
Vehicles	-	-	-	-	153	72.0	-	-	-	-	59	28.0	212	0.5
C. Technical Assistance and Studies														
International TA	212	64.9	115	35.1	-	-	-	-	-	-	-0	-0.0	327	0.8
National TA	3,013	96.3	116	3.7	-	-	-	-	-	-	-0	-0.0	3,129	8.0
Studies	164	90.1	18	9.9	-	-	-	-	-	-	-0	-0.0	182	0.5
Subtotal Technical Assistance and Studies	3,390	93.2	249	6.8	-	-	-	-	-	-	-0	-0.0	3,638	9.3
D. Training and Workshops														
Training and workshops	337	99.6	1	0.4	-	-	-	-	-	-	-0	-0.0	338	0.9
E. CDF Grants	8,243	33.7	-	-	11,020	45.1	1,456	6.0	-	-	3,730	15.3	24,449	62.2
F. Innovation Grants	1,900	95.0	-	-	-	-	100	5.0	-	-	-	-	2,000	5.1
G. Unallocated	750	25.0	-	-	2,250	75.0	-	-	-	-	-	-	3,000	7.6
Total Investment Costs	14,619	38.5	250	0.7	15,330	40.4	1,556	4.1	1,313	3.5	4,862	12.8	37,930	96.5
II. Recurrent Costs														
A. Salaries and Allowances	245	100.0	-	-	-	-	-	-	-	-	-	-	245	0.6
B. Social Fund	50	100.0	-	-	-	-	-	-	-	-	-	-	50	0.1
C. Operating Expenses														
Vehicles	238	26.8	-	-	-	-	-	-	607	68.4	43	4.8	888	2.3
Office	177	84.8	-	-	-	-	-	-	-	-	32	15.3	209	0.5
Subtotal Operating Expenses	415	37.8	-	-	-	-	-	-	607	55.4	75	6.8	1,097	2.8
Total Recurrent Costs	711	51.0	-	-	-	-	-	-	607	43.6	75	5.4	1,392	3.5
Total PROJECT COSTS	15,330	39.0	250	0.6	15,330	39.0	1,556	4.0	1,920	4.9	4,937	12.6	39,322	100.0

C. Summary benefits and economic analysis

Expected results and benefits

188. Expected Project results include: increased farm-level agricultural production and productivity, with a higher yields (net of losses before harvest), higher quantities of agricultural outputs sold to markets, reduced costs of production and harvesting through a wider availability of mechanized services at fees affordable to the target households, expanded employment opportunities and increased incomes among the beneficiaries. It is expected that the Project would reach around 225 villages with an estimated population of 48,160 households. Among those, the Project will include specific support for about 350 business-oriented *dehkan* and/or household CIGs, including at least 100 for women CIGs. In addition, as part of its pilot intervention, the Project will target other *dehkan* farmer entrepreneurs willing to engage in agricultural mechanization services. In its first three years, the Project will facilitate the strengthening and or establishment of 9 AMSCs and 3 MRW, operated by large entrepreneurs and *dehkan* farmers as well as by groups of small *dehkan* farmers. At their full capacity, the mechanization centres can be expected to serve a total area of about 12,000 ha, and an estimated additional 2,000 *dehkan* farmers as indirect beneficiaries serviced by the agricultural mechanization service centres supported by the Project. The benefits of the Project would mostly concern the higher productivity and reduced costs of the agricultural activities prevailing in the target district of the Project. These comprise mostly production of staple food (wheat and potatoes), vegetables, orchards, fodder, and indirectly livestock production. The Project's benefits would accrue from: (i) increased farm productivity and reduction of production costs due to the adoption of modern technologies and mechanized operations; (ii) reduced losses during harvesting (through the use of combined harvesters, potato harvesters and mowers); (iii) a subsequent increased proportion of marketed farm produce; (iv) improved quality and safety of agricultural and food products, thus attracting higher prices as a result of the demand by processors for more reliable outputs; (v) potential decrease of import of staple cereals (wheat); (vii) increased employment opportunities, either for hired or family labour, for both on-farm and off-farm activities; and (viii) tax revenues as a result of increased volume of taxable production.

189. Principal increases in incomes would be largely dependent on farmers/household/rural entrepreneurs adopting proposed activities, which the Project will promote directly through the community development funds, including technical assistance, through co-funding the establishment and strengthening of AMSCs, and by disseminating innovative technologies tested within innovation grants, thus generally contributing to create a favourable economic environment that encourages farmers/rural entrepreneurs to produce more competitive products. An estimate of the incremental income for farmers based on current income sources and the expected net incremental benefits generated by the Project's interventions shows an increase by 10% thanks to a more than doubling share of agricultural income.

Economic justification

190. The economic analysis of the overall Project indicates that the gains of the total investments, under the CASP, are significant and robust in economic terms. The analysis results in an internal economic rate of return (ERR) of 18.7 per cent and a NPV of US$28.0 million taken over 20 years with the benefit stream based on the quantifiable benefits that relate directly to the activities undertaken by the Project.

191. **Sensitivity Analysis.** Sensitivity analysis assessed the effect of variations in benefits and costs and for various lags in the realisation of benefits. A fall in total Project benefits by 20% or an increase in total project costs by the same proportion would reduce the base ERR to about 15.8%. The switching value for total Project benefits is about 33%; while for Project costs it is approximately 49%. A one-year delay in project benefits reduces the ERR to 15.9%. The Project is profitable even in case of a one-year delay of the benefit stream and 20% increase of costs (ERR at 13.4%), but it is not if the delay is prolonged for two years (EIRR at 11.4%) – see Table 228 in Appendix 10.

192. **Risk Analysis.** Among the main risk of the Project is associated with the delayed adoption of improved agricultural technologies (mechanization, and other productive infrastructures) funded through the Community Development Funds. Such delay or failure in the use of investment would limit the capacity of the targeted HHs to enhance their productivity. However, for the success of the CDF, the Project and its implementation unit can largely build on the experience of the recently closed KLSP. An additional risk factor is on the operationalization of the pilot AMSC and MRW. Appropriate technical assistance to the entrepreneurs and *dehkan* farmer beneficiaries, and awareness and marketing campaigns to stimulate the demand for agricultural mechanization services are extremely important for the success of the intervention. Sensitivity to the fees of AMSC's services for the financial viability of the centres is significant, as well as for the farmers' capacity to afford those services. Nevertheless, the demand for mechanized services is substantial and relatively high fees seem not to reduce the demand. Drought and climate variability are also a factor of risk. Several options to stimulate resilience and to cope with climate variability have been analysed. Market risks associated with the Project may lead to the reduced economic returns. Lack of capacity in implementing agencies and beneficiaries to effectively participate in Project may result in the delay of realization of benefits. Despite various benefits were not accounted for in the analysis (including: the pilot AMSCs and MRWs benefits, the improved productivity of the farms served by the AMSC and MRW, or other social benefits such as improvement of nutritional levels or environmental benefits), the Project shows solid economic and financial profitability indicators. Nevertheless, the innovative component of the Project has a tiny margin of error and requires an attentive implementation, especially for the policy implication of the pilot centres experience.

D. Sustainability

Sustainability

193. The sustainability of the Project's results is, inter alia, based on: (i) the VOs/CIGs business and technical capacity building activities to be promoted; (ii) the demand-driven nature of the interventions; and (iii) the preparation of community development plans, sub-projects, innovation grant proposals and business plans for provision of machinery services as the basis for all investments which should lead to improved and more equitable returns.

194. The Project will ensure that all actions at the community level will be led by VOs, but under continuous facilitation and efforts to link them with external resources, which will result in strengthening the VOs' internal capacities for organizational management (including financial management) and for identifying and accessing other resources during and after CASP implementation. Sustainability of CIGs and service providers would largely depend on economic viability of their income generating activities. The Project will critically assess economic viability, paying particular attention to marketing opportunities and sustainable supply of required inputs, during the sub-project/business plan appraisal and approval procedures and only finance those proposals which meet the conditions. The Project would also require beneficiaries' contributions through which they demonstrate their willingness and commitment to the investment.

Exit strategy

195. The Project's sustainability is also based on: an exit strategy that comprises: (i) ensuring the ownership by users-beneficiaries of the financed activities; (ii) the participatory development of demand-driven technology; (iii) integration along value chains including input suppliers and service providers; and (iv) limited Project operational, staff, and recurrent costs.

Scaling-up

196. The Project is scaling up the development of efficient and sustainable village organizations in Tajikistan, including the field testing of innovative technology and associated capacity building of supporting institutions. The experiences so derived will be scaled up/replicated in other parts of the

country. This also involves major potential for scaling up and synergies in relation to subsequent donor programmes.

197. The Project will capitalise on the existing central PMU to expand activities to seven new districts. At the same time, increasing capacities of delivery agencies and scaling up the VOs model as well as supporting business-oriented groups will open up the ***institutional space*** for a larger number of smallholder *dehkan* farmers to benefit from economies of scale to link up with service providers and produce off-takers in the market place for the long-term profitable sustainability of smallholder agriculture in Tajikistan. The Project will pursue the expansion of ***fiscal space*** by exploring the possibilities for collaboration with GIZ and cooperation with the EBRD on measures in support of the agricultural machinery services. The CASP is highly consistent with the Government's key priorities as expressed in the NDS and MDS. The ***main drivers*** for scaling up these elements under the CASP are: (a) high import substitution opportunities which provide smallholders an opportunity to compete in (the country currently imports about 50% of food); (b) an eagerness of smallholder *dekhan* farmers to profitably engage in crop/livestock enterprises; and (c) a solid commitment of the GoT to modernise and improve market–oriented agricultural/livestock production.

198. Within the Project, publications will be commissioned to inform the Project stakeholders, Government and donor community of the Project's successes that can be used for further forging of partnerships and resource mobilization.

Appendix 1: Country and rural context background

A. General

1. Tajikistan is a landlocked country, bordering Afghanistan in the south, China in the east, Kyrgyzstan in the north, and Uzbekistan in the west. Country's population has reached 8.5 million people in 2015.[21] The country is faced with poor infrastructure, especially in rural areas, lack of machinery and other inputs, lack of access to proper education and health systems exacerbated by the rigid continental climate making agriculture highly susceptible to risks, in particular in three regions of Soghd, Region of Republican Subordination and Khatlon. Extreme poverty and shortages of heating, power and water, combined with the poor state of the banking sector due to the regional economic crisis, pose some threats to political stability in 2017-18.

B. Country Economic Background

2. Tajikistan has one of the lowest per capita GDPs among the 15 former Soviet republics. Tajikistan's gross national income (GNI) per capita (Atlas method, current US$) was estimated at US$ 1,280 in 2015. The country has a narrow economic base dominated by the production of aluminium and cotton, the two main export commodities, supplemented by remittances from Tajik nationals working abroad.

3. A fall in global prices for aluminium and cotton constrained economic growth in 2015-16. This was exacerbated by the fall in the value of remittances from migrant workers caused by the recession in Russia. According to the National Bank of Tajikistan (the Central Bank), the value of remittances in nominal US dollar terms fell by 33.3% in 2015 and 12% in the first half of 2016. This has a significant impact on domestic demand, as remittances accounted for about 40% of GDP in 2014.

4. The EIU estimates that GDP grew only 2% in 2015, and contracted 1% in 2016. The official figures on real GDP growth (4.2% in 2015 and 6.5% in the first three quarters of 2016) seem improbable. The EIU further forecasts that the dire economic situation will improve only moderately in 2017-18. Downside risks to this outlook include a slower than expected recovery in global commodity prices and the Russian economy, as well as uneven implementation of structural reforms, weak governance, widespread unemployment, seasonal power shortages, and the external debt burden.

5. Tajikistan is negotiating accession to the Eurasian Economic Union (EAEU), but only at a measured pace. Tajikistan has weak transport links to the dominant economic centres of other EAEU members and would not be comparatively competitive in the single market. Membership could also damage economic ties with China, Tajikistan's second-largest trade partner. By way of comparison, in 2015 Chinese exports to the Kyrgyz Republic fell by almost one-third compared with 2014, possibly owing in part to tariffs introduced when it joined the EAEU. Nevertheless, membership could bring some benefits too. Russia, the largest economy in the EAEU, is Tajikistan's largest trade partner and has more than 7,000 troops stationed in the country. Russia offered the Kyrgyz Republic US$1bn in development assistance as an incentive to join. With Tajikistan's banking sector in crisis, a large cash injection is badly needed. Accession would also reduce restrictions on the 1m Tajik migrants working in Russia.

C. Agriculture

6. Agriculture is a major component of the Tajik economy. In 2015 it accounted for 25% of GDP and it plays a significant role in the rural population's livelihoods and food security. In 2015 it employed 45% of the workforce according to government statistics. According WB data it absorbs approximately 41% of male and up to 68% of female employment.[22] Despite its critical importance, the agricultural resource base is characterized by limited arable land. Of the total land area of 141,387 km^2, 70% is mountainous and only 28% or 4.1 million hectares can be considered as agricultural land.

[21] WB; http://www.worldbank.org/en/country/tajikistan
[22] WB Databank; 2009.

Of this total, 21% is arable, 3% is under perennial crops (orchards and vineyards) and 76% is pastures and hay meadows.

7. As a result of a land reform process which started in 1997, the former collective and state farms have been reorganized and the following major three types of farms emerged: (i) large state farms inherited from the Soviet system; (ii) private *dehkan* farms, comprising of individual, family and collective farms, the latter managed by former managers on behalf of workers with land share certificates; the former two with associated land use titles conferred with 50-year leases that can be bought and sold since 1997; and (iii) household farms. All land holders have long-term land lease entitlements often tradable and inheritable. According to a FAO assessment[23], since 2006 all arable land is considered privatised and is shared among (i) *dekhan* farms (60%); enterprises (20%); and household plots (20%).

8. The individual households, despite their small size, are responsible for over 62% of country's agricultural production and in some agricultural sub-sectors their contribution goes even higher (94% for milk, 95% for meat). For vegetables it is lower, 49%.

9. The country's leading crop is wheat occupying around 35% of irrigated land (counting all seasons) and cotton (21%). Cotton is exported enabling the country to earn the hard currency very much needed by its economy. Wheat in turn ensures country's food security, especially for the poor. Livestock is a key part of the agriculture sector and is also of critical importance in the coping strategy of poor rural households.

10. The agricultural sector is in general characterized by poor efficiency; productivity and incomes are low. Key factors that limit development include lack of access to: finance, modern agricultural machinery and equipment (see below), modern technologies and farming practices, and agro-services.

D. Rural Poverty

11. Tajikistan was one of the poorest members of the former USSR and after independence poverty increased sharply as a result of an abrupt termination of economic support from the Soviet Union and an extended civil war after independence in 1991 that derailed all economic activity. By 1997, GDP had fallen by 60% to US$175 per capita. Improved political and economic stability since 1999 have, however, provided a base for a recovery.

12. Available data show that poverty declined from 81% in 1999 to about 32% in 2014. Between 1999-2012 extreme poverty measured by a food poverty line dropped from 73% to 14%[24]. The relatively high rate of economic growth is also reflected in human development trends. For example, life expectancy at birth increased from 64.8 years in 2000 to 67.2 in 2013. Rates of basic education also grew, including for girls (from 91.3 to 95.2%). Finally, the human development index value grew from 0.529 in 2000 to 0.62 in 2015. Yet, the country still remains on 129th place in the global ranking, lower than Kyrgyzstan (120th) and Uzbekistan (114th)[25]. Moreover, Tajikistan's health indicators are among the lowest in the ECA countries.

13. The economic difficulties of the country have stalled poverty reduction as of late. The fall in remittances (33% in 2015 and 12% in the first half of 2016 in nominal US dollar terms[26]) has a particular effect on the rural poor; remittances stood for 24% of total income poverty reduction in rural areas (in contrast to 18% in urban areas)[27]. This considerably heightens the importance of the agricultural sector as a source for income. Yet, with its fast-growing population, Tajikistan has a comparatively and increasingly low per capita cropland, and the low level of productivity combines to

[23] The Economic effects of land reform in Tajikistan, FAO, 2008. (http://www.fao.org/3/a-aq331e.pdf)
[24] World Bank, *Country Partnership Strategy (CPS) for Tajikistan for the period FY15-18*, May 2014. The two figures are not fully comparable as data come from two surveys with different poverty measurements (Living Standard Measurement Surveys between 1999-2009 and Tajikistan's Household Budget Survey (HBS) for 2012).
[25] UNDP, *Briefing note for countries on the 2015 Human Development Report for Tajikistan*, 2015
[26] National Bank of Tajikistan data quoted in *Country Report: Tajikistan*, Economist Intelligence Report, February 2017.
[27] Azevedo, J.P. et al, *Poverty Reduction and Shared Prosperity in Tajikistan: A Diagnostic*, World Bank, June 2014.

a shortfall in supply. Tajikistan imports over 50% of its food, most of which are staples such as wheat, wheat flour and oil, and poor people even in rural areas typically need cash to satisfy their basic needs. Malnutrition remains an issue as one third of the total population suffer from undernourishment. Prevalence of stunting among the under-5 children is 26.8% in comparison to 19.6% in Uzbekistan.[28]

14. Incidence of poverty is above average in rural areas (36.1%) which host over 80% of the total poor[29]. Poverty also has geographical dimensions with Khatlon, Rayons of Republican Subordination (RRS) and Gorno-Badakhshan Autonomous Oblast (GBAO) recording poverty over 37% in 2014. In absolute numbers, however, the poor in Soghd exceed those in GBAO as the former is much more populated (about 30% of the total population in the country). One fifth of the population in Tajikistan is affected by food insecurity[30].

E. Mechanization, maintenance services, and finance

15. The productivity of the agricultural sector is significantly constrained by the limited access to agricultural machinery and equipment, services for operation and maintenance for the existing equipment, and finally finance. The agricultural mechanization condition in Tajikistan is considered responsible for lowering crop productivity by 20% and in extreme cases by 30%. Reasons behind this comprise improper and untimely land preparation and seeding planning, inadequate land operations, and low performing harvesting. The residual (post FSU) inventory of **agricultural machinery** was largely destroyed during the civil war in the 90's together with the related service infrastructure. In some of the regions of the country, agricultural machinery and equipment was completely liquidated. Investments into agricultural machinery resumed in 2000, but at a very cautious pace and scale due to limited access to finance. As of 2008, the Government of Tajikistan has, together with the Government of Japan, invested financial resources in the State Enterprise "Tajikagrolizing" for import of agricultural machinery. Yet, according to MOA's estimations, supply meets demand only at 14% for high power tractors, 33% for universal tractors, by 15% with seeders and at 29% for combine harvesters. The total estimated cost of the machinery required in the country is close to US$ 500 million. In an attempt to address the issue, the GOT is establishing Agricultural Mechanization Service Centres (AMSCs) throughout the country. Currently in the 4 regions of the country there are 75 AMSCs, of which 48 have been established by the State Enterprise Tajikagroleasing and 27 by private companies. Out of the 48 AMSCs established by Tajagroleasing, 10 AMSCs have no equipment. The remaining 38 AMSCs are equipped with 218 tractors, 7 combine harvesters and 993 pieces of equipment and implements. Otherwise, the 27 AMSCs established by private companies are equipped with 720 tractors, 26 combine harvesters and 1715 pieces of equipment and implements. Service capacity of all existing AMSCs is however highly limited [31], leaving room for other service providers to enter the market.

16. In the 7 districts covered by the CASP there are 8 AMSCs, as follows:

- Dusti district – 1 Tajikagroleasing AMSC equipped with 13 tractors and 39 implements, and 1 private AMSC equipped with 3 tractors and 6 implements;
- Jaihun district – 2 private AMSC, one equipped with 160 tractors, 4 combine harvesters and 306 implements (specialized in cotton growing) and the second - equipped with 5 tractors and 7 implements;
- Devashtich - 1 Tajikagroleasing AMSC equipped with 5 tractors and 23 implements;
- Rasht - 1 Tajikagroleasing AMSC equipped with 17 tractors and 80 implements;

[28] ADB, *Country Partnership Strategy: Tajikistan, 2016–2020*, 2017.
[29] The Agency for Statistics ('TajStat') 2015 data quoted in *The World Bank-Tajikistan Partnership Program Snapshot,* World Bank Group, April 2016.
[30] WFP, *Tajikistan: Food Security Monitoring*, Bulletin Issue 17, June 2016.
[31] A proposal for provision of improved agricultural mechanization in Tajikistan has been developed by the FAO Country Office jointly with the MOA under a Technical Cooperation Programme. The FAO proposal has been considered in the design of this component and has been adapted to the specific context of the CASP.

- Shahriston - 1 Tajikagroleasing AMSC equipped with 27 implements;
- Tajikobod - 1 Tajikagroleasing AMSC equipped with 7 tractors and 42 implements; and
- Norak – no AMSCs.

17. The available data on distribution and size of *dehkan* farms shows that in the seven Project districts the percentage of the arable land farmed by *dehkan* farmers with the size ranging from 0.5 to 10 ha is between 63 % to 90% (depending on district) of the total area, except Shakriston and Norak, were coverage is 27% and 48% respectively. Accordingly, it can be expected that the services that will be provided by the AMSCs would address the needs of the Project target group.

18. The **network for service and maintenance** has a very poor capacity and leaves the existing machinery inventory in neglect and disrepair. During the 90's, the service centres built during the Soviet time practically vanished, and have not been replaced. Due to absence of qualified maintenance services in the country, a majority of the new machinery imported exhibit a shorter than optimal life span, sometimes even halved to 50% of the norm. Trained personnel are rare. The available education for agricultural engineers falls short of requirements on all three scores of curricula, study materials, and human resources. Thus the cadres capable to provide the requisite services are not sufficient to man even the existing service stations. Furthermore, the system of spare-parts supply is underdeveloped with unauthorized agents dominating the market, making deliveries of unreliable quality, further hampering the life span and performance of the machinery and equipment.

19. The **financial sector** of Tajikistan is dominated by credit organizations comprised of banks and microfinance institutions (MFI). According to the International Monetary Fund (IMF), banks account for 84% of the total financial sector assets and MFIs account for most of the remainder.[32] The country's insurance, capital markets and leasing sectors are very small and under-developed.

20. The financial sector has been going through difficult times due to external economic factors as well as management issues. The share of non-performing loans of the banking sector was 54% at end-year 2016 with a volume of 131.4% in relation to the banks' regulated capital. The return on assets was minus 3.2%, and the return on equity minus 27.2%. MFI PAR over 30 days was 9.8% as of year-end 2016; high for MFIs as they mostly issue uncollateralized loans.

21. Use of formal financing instruments is limited. Only 11.5 percent of adults had accounts at financial institutions in 2014 as compared to 51.4 percent in the ECA region and 27.5 percent in low-income countries. Access to agricultural financing in particular is challenged, as agricultural land cannot be used as collateral – as a norm. Farmers are left with pledging the limited value of their personal belongings and savings in order to get loans from financial institutions. Due to risk, interest applied to the loans and other financial instruments provided very from 26% to 36% per annum, high enough to significantly curtail investments into agricultural production. More details on the financial sector and leasing could be found in Working Paper 3.

F. Environmental Issues

22. Key environmental problems in agriculture include inefficient water use; degradation of pasture areas due to over grazing; as well as cultivation of steep slope areas causing wind and soil erosion. Other issues include threats of soil pollution and, especially, nitrate contamination of surface water. These problems are further exacerbated by deforestation (illegal tree cutting) leading to desertification of some areas. Available estimates suggest that 82.3% of all land and 97.9% of agriculture land (including pastures) in the country suffer some level of erosion (high to medium erosion in 88.7% of this land). This contributes to landslides, which affect 36% of Tajikistan territory and 11% of its population.

[32] International Monetary Fund. Republic of Tajikistan. Financial Sector Stability Assessment. February 2016 (IMF 2016).

23. The main causes of land degradation are: (i) poorly adapted farming practices, with intensive agriculture activity on slopes, excessive use of pesticides and fertilizers for some commercial crops, poor irrigation practices (e.g. seepage losses, siltation, 60-80% water use inefficiency, water logging) causing water erosion in 97% of farmland and salinization in 16% of irrigated lands; (ii) inappropriate tillage operations leading to soil fertility loss and land erosion; (iii) overgrazing leading to erosion in 89% of summer pastures and 97% of winter pastures; (iv) illegal forest harvesting; (v) population growth; (vi) climate change that is already exacerbating land degradation problems; and (vii) poor national and local capacity to deal with sustainable land management issues due to limited knowledge and awareness on mitigation measures for soil degradation.

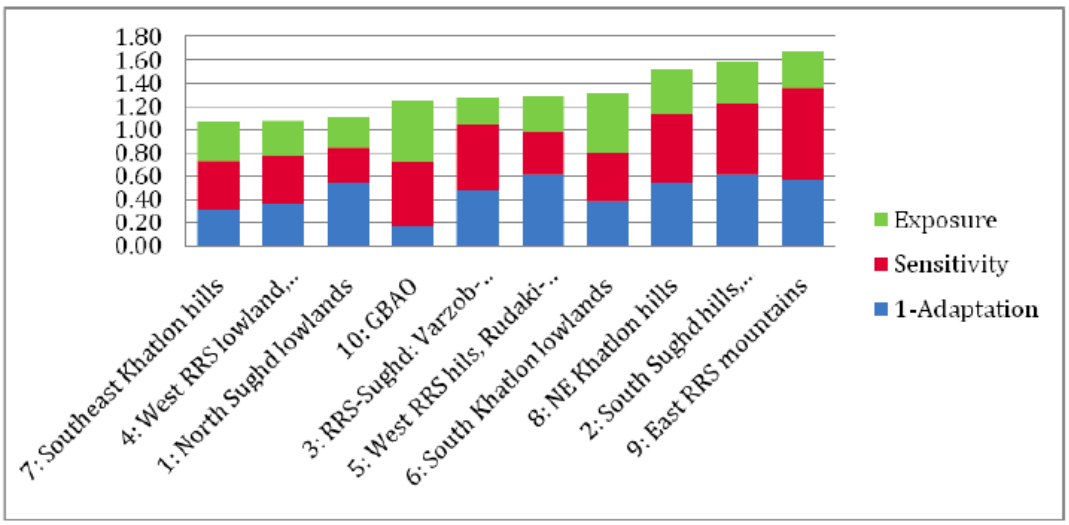
24. A great concern is the effects of climate change and global warming. According to the 2nd National Communication of Tajikistan prepared under UNFCCC (2008), average temperatures rose by about 0.5-0.8C across most parts of the country during the 65 year period studied, with the biggest increases observed in Dushanbe (1.0C) and Dangara (1.2C) districts. Average temperatures in Tajikistan are projected to rise by 1.8-2.9C by 2050.

25. While natural pastures and hayfields play an important role in protecting soil from erosion and increasing its fertility, their productivity is dependent in turn on climate change and its spatial distribution during the vegetation period. For instance, rising temperatures between 2-4C in February and March can lead to 20 percent decrease in winter-spring pasture productivity.[33]

26. There are serious implications also for glaciers and water resources. Since 1930, total area of glaciers declined by one-third, and is expected to fall a further 15-20 percent over the next 30-40 years, with many small glaciers disappearing altogether. Due to intensive melting of mountain glaciers, water inflow into major rivers will initially increase, but then will drastically decrease in the longer-term.

27. Vulnerability analysis suggests that the most vulnerable areas are the eastern Region of Republican Subordination (RRS) mountains, Southern Soghd hills, and Khatlon hills and lowlands (see Figure 1 below).[34]

Figure 1: Vulnerability map for Tajikistan (10 agro ecological zones)



[33] WB Sustainable Development Network: Tajikistan key priorities for climate change, 2010.
[34] WB Sustainable Development Network: Mapping Vulnerability to Climate Change, 2011.

28. These are areas of varying elevation and population density. The combined population of the three most vulnerable zones exceeds 500,000 (9% of the total) while that of the four most vulnerable zones—that is, including Khatlon lowlands' population of more than 1 million—exceeds 1.6 million (27% of the country's total). Although the zones are vulnerable for somewhat different reasons, they share a high degree of sensitivity to climate change, particular food insecurity, disaster sensitivity, and reliance on agriculture. They also have weak adaptive capacity, in part stemming from low levels of income and education. Their exposure is only moderate but their high sensitivity and fairly moderate adaptive capacity render these areas vulnerable to climate change. [35]As of 2017, Tajikistan has made little investment towards climate change adaptation and for the adoption of Climate Smart Agriculture technologies.

[35] WB Sustainable Development Network: Mapping Vulnerability to Climate Change, 2011.

Appendix: COUNTRY DATA

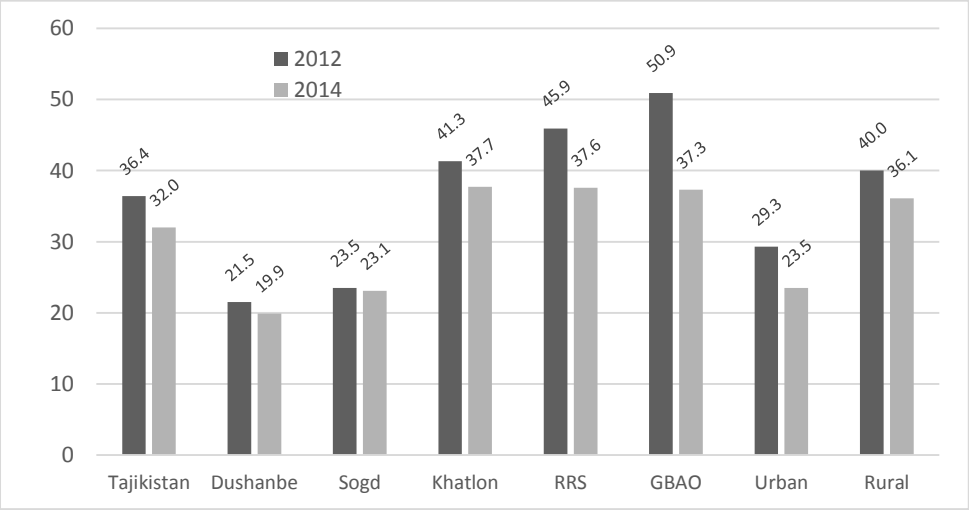
Republic of Tajikistan (Sources: World Bank, FAOSTAT, Agency for Statistics)

Appendix 2: Poverty, targeting and gender

A. National Context of Poverty

1. Tajikistan made a considerable achievement in reducing poverty in the last 15 years. Poverty declined from 81% in 1999 to about 36% in 2012; during the same period, extreme poverty, measured by a food poverty line, sharply dropped from 73% to 14%36. Poverty further declined since then and in 2014 is estimated to be 32% (see Table 1 below). While labour earnings and remittances were the main driving forces behind income poverty reduction during the period 2003 – 2009, the importance of these factors differed between rural and urban areas: employment did not play any role for reducing rural poverty but it did for urban poverty; and remittances were responsible for 24% of total income poverty reduction in rural areas in contrast to 18% in urban areas 37.

Table 1: Poverty Headcount (%) – 2012 and 2014



Source: The Agency for Statistics

2. Despite the impressive track record, Tajikistan remains one of the poorest countries in the Europe and Central Asia (ECA) region with GDP per capita of about $US1, 114 in 2014[38]. Some view that economic growth is contracting, exacerbated by a significant reduction of values of remittances (33% reduction in 2015 and 12% in the first half of 2016 in nominal US dollar terms[39]). Incidence of poverty is higher in rural areas (36.1%) which host over 80% of the total poor[40]. Limited cropland, low yields due to underdeveloped agricultural technologies and poor connectivity to markets are among the factors of low income levels of the farming households. Poverty also has geographical dimensions as Khatlon, Rayons of Republican Subordination (RRS) and Gorno-Badakhshan Autonomous Oblast (GBAO) recording poverty over 37% in 2014. In absolute numbers, however, the poor in Soghd exceed those in GBAO as the former is much more populated (about 30% of the total population in the country).

3. Tajikistan continues to face challenges in relation to non-income aspects of poverty where the progress so far has not been as significant as income poverty. The country lags behind other countries in human development: Tajikistan's Human Development Index (HDI) for 2015 was 0.624,

[36] World Bank, *Country Partnership Strategy (CPS) for Tajikistan for the period FY15-18*, May 2014. The two figures are not fully comparable as data come from two surveys with different poverty measurements (Living Standard Measurement Surveys between 1999-2009 and Tajikistan's Household Budget Survey (HBS) for 2012).
[37] Azevedo, J.P. et al, *Poverty Reduction and Shared Prosperity in Tajikistan: A Diagnostic*, World Bank, June 2014.
[38] Current $US, according to UN Data (http://data.un.org/CountryProfile.aspx?crName=TAJIKISTAN).
[39] National Bank of Tajikistan data quoted in *Country Report: Tajikistan*, Economist Intelligence Report, February 2017.
[40] The Agency for Statistics ('TajStat') 2015 data quoted in *The World Bank-Tajikistan Partnership Program Snapshot,* World Bank Group, April 2016.

putting the country at the 129th in global ranking, lower than Kyrgyzstan (120th) and Uzbekistan (114th)[41]. Tajikistan's health indicators are among the lowest in the ECA countries (see Table 2 below).

Table 2: Key Social Indicators of Selected ECA Countries

	Life expectancy at birth	Infant mortality rate	Under-5 mortality rate	HDI Value		
				total	female	male
Tajikistan	69.4	40.9	47.7	0.624	0.600	0.648
Uzbekistan	68.4	36.7	42.5	0.675	0.640	0.678
Kyrgyzstan	70.6	21.6	24.2	0.655	0.638	0.664
ECA	**72.3**	**20.9**	**23.8**	**0.748**	**0.719**	**0.760**

Source: Human Development Report 2015, UNDP

4. **Food insecurity and malnutrition.** One fifth of the population in Tajikistan is affected by food insecurity[42]. Malnutrition remains an issue as one third of the total population suffer from undernourishment. Prevalence of stunting among the under-5 children is 26.8% in comparison to 19.6% in Uzbekistan. Recent reduction in remittances is believed to have serious negative impacts on household food security as 80% of remittances are used to purchase food. It is also argued that the country's food insecurity will increase in the long run because of limited capacity to respond to climate-induced shocks which would adversely affect agricultural production[43].

B. Gender Issues

5. Tajikistan has an adequate legal and policy framework on gender equality. The Constitution of Tajikistan guarantees equal rights of women and men and principles of non-discrimination are incorporated in the basic legislature, including the Family Code. The country ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1993. Adopted in 2005, the Law on State Guarantees of Equal Rights and Opportunities for Men and Women guarantees equal rights in public authorities, civil service, education, labour and family.

6. A comprehensive country gender assessment recently conducted by the ADB recognizes significant progress in mainstreaming gender into national socio-economic development strategies, including Poverty Reduction Strategies (for 2007-2009 and 2010-2012) and Living Standards Improvement Strategy for 2013-15. Gender equality is identified as one of the seven critical areas of social development under the National Development Strategy for 2015. The Programme for Reforming the Agriculture Sector of the Republic of Tajikistan for 2012-2020 recognizes the important roles women play in agriculture and proposes to pay particular attention to gender equality in long-term land tenure, access to finance, capacity building and mitigating the effects of climate change on particularly vulnerable groups, including female-headed households (FHHs), according to a recent FAO report on gender[44]. Implementation of the legally guaranteed rights and strategy and policy recommendations, however, remains a challenge. The ADB report points out that 'many planned measures are never realized due to insufficient implementation mechanisms, weak monitoring and evaluation, and lack of dedicated finances'. As indicated by the difference between female and male HDI values (Table 1), Tajikistan's efforts for gender equality need to continue.

7. Female-headedness is high as a large number women were widowed during the civil conflict, and absenteeism of husbands due to out-migration. The Demographic and Health Survey (DHS) in 2012 found 21% of the total families are female-headed. Analysis on the 2007 the Living Standards Measurement Survey found a higher level extreme poverty among FHHs (22.9%) than male-headed ones (17.0%). Studies found that male-migrants most frequently send their remittances to the parents, which limits the wives' control over the money. The issue of 'abandoned' wives, who are considered abandoned by their migrant husbands therefore not the recipients of remittances, has been

[41] UNDP, *Briefing note for countries on the 2015 Human Development Report for Tajikistan*, 2015
[42] WFP, *Tajikistan: Food Security Monitoring*, Bulletin Issue 17, June 2016.
[43] ADB, *Country Partnership Strategy: Tajikistan, 2016–2020*, 2017.
[44] FAO, *National Gender Profile of Agricultural and Rural Livelihoods: Tajikistan*, 2016.

importantly growing. Such women and their children experience poverty and some face social exclusion. A recently completed project by UN Women in promotion of income generation activities for abandoned women found women's groups are efficient tool not only for income generation but also for social capital formation, which is conducive to mutual support, access to new skills and credit[45].

8. About 75% of all working women are engaged in agriculture[46], but forms of their participation are variable and complex, reflecting entitlement according to land reforms, land types, labour dynamics and other factors. Basically all rural families have their own small household plots of 0.10 – 0.15 ha (often called 'kitchen gardens') mostly for family consumption, which are particularly important for poor families. In addition some would have shares on *dehkan* farms or manage their own *dehkan* farms[47]. The number of *dehkan* farms continues to rise and is currently estimated to be around 170,000. In 2014, 13.0% of all *dehkan* farms had women as the head. Among the 6,911 members of the National Association of Dehkan Farms, 24% have women as the manager. The number of female-managed *dehkan* farms is reported to be increasing[48]. Gender experts point out that, despite legally guaranteed equality, women's access to productive resources, most importantly agricultural land and livestock, is limited due to social norms and practices which favour men. Discussions with female farmers and experts suggest women are not necessarily discriminated for accessing mechanization services and there appears to be little inhibition among rural women to operating small agricultural machines although the practice is rarely observed.

9. Outside their own farms, women work as casual labourers on other farms, including *dehkan* farms. Rural women are also engaged in off-farm income generating activities. Such activities are particularly important to the poorer women who have limited access to productive assets, such as land and livestock. Both KLSP and LPDP promoted income generating activities by women, such as wool processing, with positive results. The aforementioned UN Women's project report notes that economic activities targeting abandoned women (livestock farming, greenhouse, turkey breeding, milk processing, fruit and vegetable processing, canning, and processing of wool) have relatively good profitability.

C. Target Groups and Targeting Strategy

10. **Target Groups.** The Project will provide benefits to the economically active smallholder agricultural households, actually or potentially, among the following primary target groups:

(a) the rural poor living in extreme poverty – households in this category are either landless families or producing a bare subsistence minimum on very small household plots; they possess only a small number of animals; FHHs are likely to be in this category;

(b) subsistence and semi-subsistence farmers – they would have access to slightly larger crop land and some to orchards and pasture lands but mostly in rainfed area; some family *dehkan* farms with limited productive land may belong to this category; in some households, members may be working as agricultural labourers on others' farms; and

(c) unemployed and underemployed rural youth – this category would include unemployed rural youth and former migrants who came back as a result of the recent economic downturn.

11. In addition, the Project will work with private entrepreneurs with actual or potential strong backward linkages to poor rural communities in the capacity of service providers, input suppliers or

[45] UN Women, *Empowering Abandoned Women from Migrants' Families in Tajikistan: Final Report*, 2016.
[46] M. Abdulloev, M., *Gender Aspects of Agriculture*, Agency on Statistics, 2014.
[47] After land certificates were issued to collective farm members starting in 1998, most of the farms continued to operate collectively with the former workers as shareholders. The land certificates did not give the full rights to possess the documented plots, 'leaving the management and use of the land to the farm leader' (Mukhamedova, N. and Wegerich, K., *Land Reforms and Feminization of Agricultural Labor in Sughd Province, Tajikistan*, IWMI Research Report 157, International Water Management Institute, Colombo, 2014, p. 7). It was after the 2002 Law on Dehkan Farms that dehkan farms became separate, private farm entities managed by shareholders.
[48] In Muminobod district of Khatlon 43% of the total dehkan farms are headed by women, according to the information from the district administration.

off-takers of agricultural produce. The table below summarises challenges and opportunities of the target groups.

Table 3: CASP Target Groups

Target Group	Key Characteristics	Major Challenges	Opportunities under CASP
HHs in extreme poverty	• Subsistence farmers with household plots ('kitchen gardens' of about 0.15 ha) and a small number of animals (1-2 cattle, 5-10 small ruminants) • Work as labourers on others' farm • FHHs, including those headed by 'abandoned wives'	• Food insecurity and malnutrition • Decrease of income due to a drop of remittance	• Empowerment through participation in VO and its CAP process • Improved well-being through access to community infrastructure • Opportunities for cash income through income generation activities, particularly for FHHs through participation in WGs
Poor HHs	• Smallholder farmers with access to land beyond household plots through leasing arrangements (about 1 ha) • In possession of about 5 cattle and 15-20 small ruminants, that graze on community pasture land • Family *dekhan* farms with similar size of productive resources (land and livestock) • Work as labourers on others' farm	• Low farm productivity due to lack of access to mechanized power, irrigation, seeds and other inputs and marketing opportunities • Vulnerable to climate and price shocks • Decrease of income due to a drop of remittances	In addition to the above: • Increased productivity and farm efficiency from productive infrastructure and farm mechanization • Higher cash income through participation in CIGs
Unemployed and underemployed rural youth	• No agricultural land or livestock • Assist parents' or relatives' farming • Some with relatively good level of education	• Difficult entry to farming due to lack of access to land • Sharp decrease in migration opportunities	• Income opportunities through participation in CIGs • Empowerment and learning of leadership and organizational management through participation in VO and its CAP process • Access to vocational training opportunities, including training for mechanics

12. **Targeting Strategy.** The CASP will be implemented in selected districts of Soghd, Khatlon and RRS. A tentative list of seven districts has been proposed (see Table 4 below). The selection took into consideration prioritization by the Government in light of poverty and agricultural potential, as well as consultation with the donor community and NGOs. According to recent analysis of the 2009/10 data,

the districts recorded higher rates of poverty than the regional averages which were 36.8% for RRS, 48.3% for Soghd and 57.5% for Khatlon[49].

Table 4: Tentative List of CASP Beneficiary Districts

	Region	District	Number of *Jamoats*	Number of villages	Population ('000 people)	Number of households	Poverty rate (%)
1	RRS	Rasht	12	133	117	17,611	44.1
2	RRS	Tojikobod	5	45	42	6,001	45.5
3	Soghd	Devashtich (Gonchi)	7	54	158	21,901	62.5
4	Soghd	Shahriston	2	19	40	5,160	62.3
5	Khatlon	Dusti (Qumsangir)	5	56	104	13,015	54.1
6	Khatlon	Norak	2	28	28	2,984	67.4
7	Khatlon	Jaihun (Jilikul)	5	45	127	14,705	62.3
		Total	**38**	**380**	**615**	**81,377**	

Source: District data compiled by the PMU of LPDP in February 2017 except for poverty rates, which are based on Living Standard Measurement Survey 2009 and the 2010 Census and presented in World Bank, *Poverty Mapping in Tajikistan*, 2016.

13. It is proposed that about 225 villages will receive CASP support for strengthening community organizations (Sub-Component 1.1) and Community Development Fund (Sub-Component 2.1). A total number of beneficiary households is estimated to be around 48,160 (approximately 337,120 persons). Village selection will build on the successful approach of the KLSP and take into consideration both poverty and agricultural potential. Objective parameters are used as much as possible for consistency and transparency, and to provide the basis of village ranking in each district. The parameters will include village population, agricultural land, distance to the nearest market and percentage of FFHs. Willingness of the village community to participate in the project will be also taken into consideration.

14. At the community level, CASP will follow the participatory approach of KLSP which was proven successful. The approach builds on strong social cohesion, knowledge of each other and the tradition of extending assistance to the poor at the village level – key elements of social capital developed under the spirit of *mahalla,* which VOs are expected to continue to uphold. The targeting method at the village level will be integrated in the community mobilization process, led by qualified Community Facilitators[50], starting with awareness building on the project and its target groups. Participatory wealth ranking exercise will identify the poor households on the basis of the shared knowledge of each household's socio-economic situations and in light of local perceptions of poverty and vulnerability – instead of pre-determined and externally imposed criteria which may not always reflect local conditions. It is envisaged that CIG members are predominantly poor, therefore CDF-financed income generating sub-projects will focus to support pro-poor livelihood activities. Appendix 5 outlines the village selection and community mobilization process and a Project Implementation Manual (PIM) to be developed on the basis of the KLSP PIM will provide details of community selection criteria, and assessment and approval procedures.

D. Gender Mainstreaming

15. The Village Organization (VO) model, which has been mainstreamed nationwide and was successfully tested under an IFAD operation with the KLSP, incorporates the principles of inclusive participation of all village community members, including the poor, FFHs, and other socially disadvantaged groups. The Project will specifically target women by facilitating the formation of a Women Group (WG) as an integral part of each VO. The Project will encourage that each Community Action Plan (CAP) would include at least one sub-project (more likely income generating activity) specifically proposed by the WG, while ensuring that women participate in and benefit from other sub-projects, including infrastructure sub-projects. Special attention will be paid to help VOs and WGs identify sub-projects which will economically empower the poorest and most vulnerable women, such as heads of families and abandoned wives, through creation of economically viable businesses and

[49] World Bank, *Poverty Mapping in Tajikistan*, 2016.
[50] In the villages with Uzbek population, qualification of CFs includes good command of the Uzbek language.

training their capacity both for technical skills and organizational management. For the Project activities related to farm mechanization (Sub-Components 1.2 and 2.2), gender mainstreaming actions would include: preparation of a gender action plan as part of proposals to be submitted by AMSC service providers; and inclusion of willing and qualifying females for machine operator training.

16. The Project will address the importance of gender mainstreaming and advocate the need to particularly respond to the challenges of poorer and vulnerable women through various, well-defined actions. All relevant trainings will include an action-oriented gender module[51], and the Project's awareness building and communication actions will incorporate strong messages on gender mainstreaming and highlight success stories. Capacity building for VOs and CIGs will include female leadership training.

17. The Project will support a study on topical gender issues which add practical values to the Project's gender mainstreaming effort as well as have a scope for broader policy consideration, such as economic empowerment of women with possible focus on selected value chains or potentially suitable business models, facilitation of women's access to farm mechanization and impacts of decreased male migration and remittances. Selection criteria of innovation grants will include a gender assessment and the final proposal will articulate impacts on women. The CASP will actively seek partnership with key stakeholders on gender mainstreaming, such as UN Women, through dialogues and potential collaboration.

18. It is proposed that at least 40% of all beneficiaries are women, and that at least 100 income generation sub-projects are those of WGs. All the beneficiary data in the Project M&E will be sex-disaggregated, and baseline and end-line studies of impact evaluation will include a representative sample of FHHs. The PMU will have a full-time gender and social development specialist who will be responsible for gender mainstreaming in the Project. The following table summarises key features of a Gender Action Plan (GAP) which will be further elaborated by the Gender and Social Development Specialist of the PMU at the onset of the project implementation. Key project stakeholders will be consulted before the GAP is finalized.

Table 5: Outline of CASP Gender Action Plan

Component/Sub-Component	Gender Action	Responsibility
1. Strengthening Rural Institutions		
1.1 Strengthening Community Organizations	• TORs of CFs include responsibilities related to gender mainstreaming, women's empowerment and support to female leadership • Regional and district workshops on the Project introduce the principals of gender mainstreaming and equality as well as the GAP • CFs facilitate VOs to pay attention to gender in the situation analysis, preparation of CAP and formation of CIGs and selection of sub-projects, and ensure the target be met (see Subcomponent 2.1) • Each VO will have a Women Group (WG), which will serve as CIG for women-led activities	• PMU Gender and Social Development Specialist • CFs

[51] Each gender module will be designed to address constraints and opportunities of women in the specific context for which the training is organized rather.

1.2 Strengthening service agencies	• training of *Hukumat/Jamoat* agricultural staff, CFs and local private business mentors will include a gender module • Interested mechanization service providers will be asked to include a plan to reach out to the poor households in their proposal (20% of the total area served)	• PMU Gender and Social Development Specialist • Agricultural machinery service providers
2. Improvement of Agricultural Productivity and Business Linkages		
2.1 Community Development Funds (CDF)	• A minimum 40 % of the total beneficiaries will be women • At least 100 income generating subprojects will be those proposed by WGs	• PMU Gender and Social Development Specialist • CFs
2.2 Provision of improved machinery services	• 20% of the area covered by selected service providers will belong to the poor households, including FFHs • Assessment of the service provision models at MDR will include the service providers performance on the outreach to the poor and women	• Service providers • PMU Gender and Social Development Specialist
2.3 Innovation grants	• Selection criteria of innovation grants will include a gender assessment and the final proposal will articulate impacts on women	• PMU Gender and Social Development Specialist
3. Project management	• PMU includes a full time Gender and Social Development Specialist • A policy study on economic empowerment of women with specific focus on selected CASP relevant topics (to be decided during the GAP finalization), such as women's access to agricultural mechanization • M&E data is sex-disaggregated • Baseline, mid-term and end line surveys include a representative sample of women	• PMU director • PMU Gender and Social Development Specialist • PMU M&E Specialist

E. Support to the Youth

19. CASP will support unemployed youth in the project area to obtain marketable job skills through facilitating their access vocational trainings. It is proposed that each VO will nominate two willing youth (one male and one female) who will be trained in a vocational training institute in the region for the skills that will have a high demand (construction, trading, IT, etc.). In addition, CASP will support agricultural mechanization service providers to train capable and willing youth in view of an expected rise of demand for professional mechanics. Service providers who are interested to participate in CASP will be requested to include a plan on youth training in their application for the project support, and strength of the youth training plan will be taken into consideration when assessing the proposals.

Annex 1. Gender Checklist

Key Issue	Design Response
1. The project 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.	Gender-informed aspects of rural poverty were analyzed, and good practices and lessons learned from similar interventions were assessed. These provided the basis for removing barriers to women's participation in project activities and incorporating in design specific enabling measures, such as those to facilitate the participation of FHHs and other vulnerable women.
2. The project design report articulates – or the programme implements – actions with aim to: a. Expand women's economic empowerment through access to and control over productive and household assets;	The CASP supports sub-projects specifically designed to empower women as well as facilitate women's benefitting from other sub-projects.
b. Strengthen women's decision-making role in the household and community, and their representation in membership and leadership of local institutions;	The project facilitates the formation of Women Group in each Village Organization, and training for VOs will include female leadership training. Women targeted sub-projects will specifically nurture the members' managerial and decision making skills.
c. Achieve a reduced workload and an equitable workload balance between women and men.	Productive community-based infrastructure sub-projects to be financed by the CASP would include irrigation, drinking water supply, and agricultural machineries, which will reduce women's workload in the farm.
3. The project design report includes one paragraph in the targeting section that explains what the programme will deliver from a gender perspective.	The main text of the PDR incorporates a summary of Appendix 2 and articulates the CASP's gender mainstreaming actions.
4. The project design report describes the key elements for operationalizing the gender strategy, with respect to the relevant programme components.	The design report outlines key elements for gender strategy, which will be elaborated further during the final design stage.
5. The design document describes - and the project implements - operational measures to ensure gender- equitable participation in, and benefit from, project activities. These will generally include**:**	
5.1 Allocating adequate human and financial resources to implement the gender strategy	The project cost includes items related to gender actions, including gender and social development specialist position in the PMU and a gender policy study.
5.2 Ensuring and supporting women's active participation in project-related activities, decision-making bodies and committees, including setting specific	Women's active participation in project-related activities and decision making bodies is ensured through various measures during community mobilisation, preparation of Community Action Plans (CAPs), subproject preparation

Key Issue	Design Response
targets for participation	and implementation and trainings, which will be detailed in the Project Implementation Manual. It is envisaged that at least 40% of CDF sub-project beneficiaries are women, and 100 income generating sub-projects target women.
5.3 Ensuring that project/project management arrangements (composition of the programme management unit/programme coordination unit, programme terms of reference for staff and implementing partners, etc.) reflect attention to gender equality and women's empowerment concerns	The PMU includes a gender and social development specialist who will be responsible for all gender mainstreaming actions in the project. In addition, training for other PMU staff, as well as local government representatives will incorporate gender aspects.
5.4 Ensuring direct project/project outreach to women (for example through appropriate numbers and qualification of field staff), especially where women's mobility is limited	Implementation of village-based sub-projects would not pose mobility challenges for women. Operations of income generation sub-projects will be undertaken at a location accessible and convenient for the members as discussed and agreed by themselves.
5.5 Identifying opportunities to support strategic partnerships with government and others development organizations for networking and policy dialogue	The project will actively seek partnership with government and development partners active on gender mainstreaming in rural livelihood activities through knowledge sharing events.
6. The project'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 CASP will incorporate a gender-sensitive M&E system, which tracks gender-disaggregated data and information. TORs of baseline, mid-term and end line studies will ensure inclusion of gender-related information and data.

Annex 2. 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)?	CASP's primary target group are extremely poor and poor smallholder households who rely on agricultural livelihoods.
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? (matrix on target group characteristics completed?)	Sub-groups within the broader target group are defined and their socio-economic and livelihood characteristics are presented. Special attention is paid to poor women, including the heads of families, and unemployed youth.
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 project components and activities by principal beneficiary groups completed?)	Completion review of the KLSP found the successful uptake of proposed activities by the target group, including women.
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:	
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*	The CASP will target seven districts in three regions, which were selected on the basis of poverty and agricultural potential. In each district, village selection will follow a pre-determined criteria, which also combines poverty, potential and community capacities.
4.2 Direct targeting *- when services or resources are to be channelled to specific individuals or households*	The project encourages income generating subprojects for women under Community Development Fund in view of their common interest and preferred arrangements for work. At least 100 subprojects will exclusively benefit women.
4.3 Self targeting *– when goods and services respond to the priority needs, resource endowments and livelihood strategies of target groups*	The CASP follows demand-driven approach and finances sub-projects, which are democratically identified and selected in each village in reflection of analysis of constraints and opportunities of agricultural livelihoods in the location. The CASP will follow the Wealth Ranking procedure established under the KLSP, whereby each VO would need to group all households by wealth criteria identified by VO itself and propose actions in CAPs on how to support the poorest.

Key issue	Design response
4.4 Empowering measures *- including information and communication, focused capacity- and confidence-building measures, organizational 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*	Community mobilisation in support of VO's formation, preparation of CAP and identification of CASP-financed sub-projects will be facilitated by experienced Community Facilitators and synchronized with various trainings. This approach has proven effective for building the communities' capacities to analyse the situation, prioritise actions and plan and implement activities in a transparent and inclusive manner.
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*	IFAD has established strong collaboration and communications with the Ministry of Agriculture on approach to rural poverty reduction and gender mainstreaming through the KLSP and the LPDP. The CASP will build on this asset and continue to guide and engage the Ministry of Agriculture.
4.6 Attention to procedural measures *- that could militate against participation by the intended target groups*	No procedural constraints for poor households, women, youth and poor's access to project opportunities is envisaged. Community Facilitators will be requested to report any issues as they emerge to the PMU for their review and remedial actions.

Appendix 3: Country performance and lessons learned

A. Overview of the Country Programme

1. IFAD's overarching objective of the country programme in Tajikistan is to improve the livelihoods of poor rural people by strengthening their organizations and enabling them to access productive technologies and resources. It comprises two Strategic Objectives: (1) to support the capacity of central and local institutions to improve governance of poor rural communities, and strengthen their access to agricultural technologies, veterinary and other agro-services, infrastructure and markets; and (2) to enhance climate changes resilience and natural disaster risks of rural communities, reflected in improved management of the resource base and sustainability of returns to farmers[52].

2. In alignment with the objectives IFAD provides strategic support for improving natural resource management, strengthening local institutions and grass-roots organizations, and improvements of the livelihoods of poor smallholder farmers. Since 2008 the IFAD country programme has invested about US$49.3 million in three projects and mobilised overall investments of US$54.9 million. IFAD interventions have directly benefitted some 80,000 rural households by strengthening their local institutions and expanding their access to productive technologies and resources[53].

B. Project Performance

3. IFAD's first investment project in the country - Khatlon Livelihoods Support Project (KLSP) – was approved by the Executive Board in December 2008. Its development goal was to reduce poverty for 18,750 households in three districts in the Khatlon Region. The KLSP suffered slow implementation progress, project management issues and procurement concerns, which resulted in suspension in February 2012. The project restarted in 2013 after restructuring, which involved scaling down of activities. KLSP's performance in the remaining years was satisfactory and it closed in June 2016 with positive results on the ground, including: (i) 40% increase in index for household assets; (ii) 44% increase of households with improved food security; (iii) an estimated IRR of 35% for investments made by Village Organizations (VOs). The Project Completion Report notes that the community driven development approach of KLSP was 'a very effective way to identify priorities in rural communities' which enabled the project to provide much needed investments that improved rural livelihoods.

4. The Livestock and Pasture Development Project (LPDP) became effective on August 5, 2011. The total project costs are US$15.8 million (92% of which is grant from IFAD). With the objective to 'increase the nutritional status and incomes of some 22,400 poor households by sustainably enhancing livestock productivity', the LPDP supports the strengthening of Pasture Users Unions (PUUs), and their preparation and implementation of pasture management plans in selected districts in the Khatlon Region. Support for livestock productivity increases through pasture rotation, improvements of fodder production and animal health services is also strongly featured in the LPDP. The project performance to date has been satisfactory for all components[54]. A follow-on project, LPDP-II (with the total cost of US$24.2 million, 64% of which is grant from IFAD), was approved in December 2015, and targets new communities in the Khatlon Region. All the three projects are well aligned with the Strategic Objectives.

5. IFAD also provided a grant for a project called Mobilising Public Private Partnerships in Support of Women-led Small Business Development which is implemented by the Aga Khan Foundation (AKF)

[52] IFAD, Country Strategy Note, November 2016.
[53] The RB-COSOP process in Tajikistan is scheduled to start in 2018 with a view to making the next phase based on experience gained from the earlier interventions and drawing on lessons from the Government's National Development Strategy 2016-2030 and medium-term Development Strategy 2016-2020 (Tajikistan: Country strategy note: Main report and appendices, November 2016).
[54] IFAD, LPDP Supervision Report, November 2016.

in Tajikistan. The project's main focus is to support women's groups in processing luxury fibers and producing quality yarns and products, primarily for export markets.

C. Lessons Learned

6. Implementation experience so far has been positive, and suggests effectiveness of the overall approach promoted under the past interventions. Key elements of the approach are: (i) capacity building of the community level organizations (VOs and PUUs) to identify, prioritize and manage livelihood activities of the entire community; (ii) provision of financial resources to the community organizations for the implementation of prioritized actions which lead to tangible results on the ground; (iii) effectively linking the financial support with technical assistance in order to maximize benefits; (iv) engagement of service providers (NGOs) tasked to support community mobilisation and empowerment, but with clear understandings of the needs to build sustainable social capital at the community; and (v) continuity of core staff of the project management team.

7. **Lessons from KLSP.** The CASP scales up the KLSP's key models: (i) Village Organizations (VOs) model; and (ii) an agricultural mechanization model through the VOs. Positive lessons from KSLP experience, including the following, underscore the CASP's scaling up of these models:

i) The VOs are well positioned to plan and manage livelihood-related public goods and services at the community level (community infrastructure and agricultural machinery services), and can also provide an effective mechanism to identify and support viable investments of the poor households;

ii) As a democratically constituted and legally endorsed entity, VOs are effective partners for community-based public actions, including those related to poverty alleviation, agriculture-based livelihood development and gender mainstreaming; and

iii) Management of agricultural machinery and equipment by VOs has been efficient, and the use of equipment has significantly improved farmer access to agro-services and reduced their costs.

8. Although the implementation of LPDP1 is still in progress, the mid-term review mission in October-November in 2015 highlighted the soundness of the design with almost all aspects of implementation performance rated as satisfactory. LPDP and KLSP combined informed the design of CASP through the additional lessons from implementation experience:

i) The participation of the beneficiaries in all phases is a key ingredient in the successes of the community development initiatives and in ensuring that there would be ownership, commitment and long-term impact. Past implementation experience suggests that where the community was informed about the project, participated in planning and implementation and contributed to the costs, the investments were more sustainable than where they were not;

ii) Targeting the poor can be best achieved through geographical targeting by selecting the poorest regions and poorest villages in combination with village level targeting using both self-assessments and village level wealth rankings. Targeting strategy needs to be clearly defined to outline criteria and processes for participatory and transparent actions;

iii) Allocation of financial resources on the basis of a clear criteria (i.e. a fixed amount per household) ensures transparency and avoids potential conflicts between communities;

iv) In order to ensure women's involvement in project activities, it is very useful to identify clearly the actions and targets from the outset, and define the responsibilities with regard to gender mainstreaming clearly in the TOR of relevant staff and consultants in line with a well-defined set of gender mainstreaming actions;

v) Linking of community development with technology demonstrations is a good approach to disseminate best practices;

vi) Linking community development to training and strengthening of local project partners is a good approach with potential to engender future sustainability;

vii) Field-level staff ('Community Facilitators') of service providers need adequate time and resources to be able to effectively undertake a proper social mobilisation. The experience of engaging service providers for community mobilisation indicates that sufficient time allocation for preparation and training of service providers is needed to achieve the satisfactory standards of service delivery;

viii) High value added products can generate new earning opportunities for rural women and help increase household income and food security. Support for market linkages and corresponding capacity building is crucial in this regard;

ix) Project management staff with good understanding of IFAD procedures and requirements are perquisite to smooth and timely implementation of project activities; and

x) Roles of regional offices for administrative functions, as well as coordination with local governments and implementation partners are important.

9. IFAD design mission consulted with a wide range of donors operating in the country and drew other broader lessons learned from them for incorporation in CASP:

a) Capable local management staff to complement the existing capacities of the government;

b) International consulting assistance where necessary to provide international best practice in technical fields and aspects;

c) Effectively functioning procurement and financial management system with trained capacities and strong monitoring tools at both central and regional levels;

d) Flexibility in implementation to accommodate lessons as they emerge and in response to possible, unexpected implementation constraints;

e) Close supervision of and implementation support to project management to ensure that project implementation capabilities are aligned with the objectives;

f) Recognition that the central and local government administrations have very weak capacity and are under-resourced, and can therefore provide only limited support;

g) Need to continue to emphasize the importance and effectiveness of participatory and inclusive approach to planning and implementation of community level investments as there is a risk of top-down approaches to gain a momentum; and

h) Clearly defined ownership of the project-supported infrastructures and assets for responsible operation and management by the users on a sustainable basis.

Appendix 4: Detailed project description

Project description

Project area and target group

1. The Project adopts a demand-driven approach. It will be implemented in selected districts of Soghd, Khatlon and Rayons of Republican Subordination (RRS), which have high poverty levels. In consultation with the Government, donor community and NGOs, the following districts have been considered (in alphabetical order): Devashtich, Dusti, Jaihun, Norak, Rasht, Shahriston and Tajikobod. Community selection ranking criteria will include i) poverty levels; ii) agriculture potential; and ii) willingness and underlying capacity for institutional improvement. It is expected that the project would reach around 225 villages with an estimated population of 48,160 households.

2. The Project will seek to provide benefits to the actually or potentially economically active among the following primary target groups: (i) rural poor living in extreme poverty, who are either landless or are producing a bare subsistence minimum on household plots; (ii) subsistence and semi-subsistence farmers, in particular those willing to move to more commercial farming; (iii) the rural underemployed and self-employed; and iv) private entrepreneurs with actual or potential strong backward linkages to poor rural communities in the capacity of service provider, input supplier or off taker of agricultural produce. Within these groups, emphasis will be placed on reaching poor rural women, especially those who are household heads, and poor rural youth.

3. CASP's targeting strategy will incorporate the principles of smallholders' inclusiveness. Building on the positive experience of the KLSP, LPDPs I and II, selected Community Facilitators will play an active role in mobilising and strengthening communities and farmers in a transparent and participatory manner, and will ensure to avoid the elite capture of the Project opportunities and benefits.

Development objective and impact indicators

Project development goal/objective

4. The CASP **Goal** is to stimulate inclusive economic growth and reduction of poverty in poor rural communities. The **Development Objective** of the Project is to improve access of communities to productive infrastructure and services leading to sustainable agricultural production and equitable returns.

Impact indicators

5. Project implementation will be guided by the Project's results management framework. Key performance indicators at Goal level are: (i) 36,120 rural households (75% of 48,160 Project population) in the Project area increase their index of household assets ownership by 10% (disaggregated by gender, poverty, farm type and youth categories); and (ii) At least 10% reduction in the prevalence of child malnutrition, as compared to baseline[55]. A key performance indicator at the development objective level is: 70% of farmers (including household plots) benefit from an increase in net annual profit by at least 10%.

Components/Outcomes

6. The Project's investments and activities will be executed through two components in addition to Project Management: **Component 1. Strengthening rural institutions**; and
Component 2. Improvement of agricultural productivity and business linkages.

Component 1: Strengthening rural institutions

Component's Rationale, Approach, Outcome and Outputs

[55] Result Framework indicators

7. The aim of the Component is two-fold: (a) to scale-up development of village organizations (VOs) and to strengthen business-oriented *dehkan* farmer groups; and (b) to build capacities of implementation service agencies (government/private) to deliver goods and services to smallholder farmers. The former will help expand benefits to a larger number of *dehkan*/individual smallholder farmers. The latter will contribute to enhancing sustainability of implementation capacity from which the GOT and other development actors can draw to expand the activities beyond the project period to other areas. Support services are an integral part of the successful project implementation. Besides, communities and farmers depend on the services that keep them functioning, from agricultural inputs and cold storage or collection facility to transportation systems, electricity, sewage and communications.

8. Thus, the **outcome** of this Component is: "*increased effectiveness and outreach of rural institutions and service agencies*". The outcome will be measured by the following indicator: 70 per cent of beneficiaries satisfied with the services provided by rural institutions and service agencies.

9. The **outputs** of the Component together with the accompanying indicators are outlined below:

Output 1.1 Strengthened VOs and CIGs	▪ At least 225 Community Action Plans (CAP) approved; ▪ At least 350 Common Interest Group's (CIG) investment proposals approved; ▪ At least 10,000 beneficiary smallholder farmers trained in improved agricultural practices, nutrition and food safety (at least 30% women and 30% youth); ▪ At least 3,500 CIG members and production managers trained in business, processing technology and marketing; ▪ All Project's management and participating service agencies' staff trained in gender and poverty awareness.
Output 1.2 Strengthened services agencies	▪ At least 30 service agencies supported.

10. The Project will help participating communities prioritise their needs for investments that would assist their economic development and will help those communities to plan, finance, and manage the implementation of supporting investments and their subsequent operation and maintenance. The Project will also support mobilisation of farmers' associations and groups within communities and build their capacity to initiate and sustain a locally led development process and help establish linkages between farmers, on the one hand, and service providers, agro-processors, and marketing agents on the other hand. Thus, the Project would assist with development of Common Interest Groups (CIGs) of rural poor people that are self-initiated to access Project resources within CAPs and could be either based on existing *Mohallas* or be created around commodities (for example crops, fruit, vegetable, milk etc.) or common natural resources (such as irrigation water). However, existing informal groups (*Mohallas*) would be used wherever possible to ensure community acceptance of the project approach. The Project would provide training and capacity building support to the CIGs, in particular for self-organization and planning as well as to assist them uptake new agricultural technologies (see Sub-component 2.3) and to enable them to understand how to develop business operations and access credit resources and machinery services.

11. The CASP adopts a comprehensive approach to *food security, climate change adaptation* and *gender mainstreaming* along the community based agriculture development.

12. The basis for participation by VO/CIGs will be the Community Action Plan (CAP) and the priority investment proposals that would support the CAP. The CAP will be prepared based on the KLSP approach, in particular in line with the Aga Khan Foundation MSDSP's procedures for Village Development Planning Process (VDPP)). The details of sub-project proposals will include the description/design of the proposed interventions and expected outputs/benefits, the implementation arrangements, the organizational and institutional support needed, and a financing and procurement plan consistent with the Project rules for cost sharing. Both the CAP and sub-project proposals will be

prepared in accordance with formats presented in the Project Implementation Manual (PIM). CAPs will pay particular attention to climate change adaptation, food security and nutrition aspects.

13. The Project will use the Community Handbook, which was prepared under the KLSP, and update it to the CASP context. The Community Handbook simplifies all procedures and requirements for participation described in the PIM. The Community Handbooks will be distributed to all selected communities. The Project would also promote equal opportunities for women and men, greater awareness of marketing concepts, access to credit and machinery services among members of the existing farmer associations and other interest groups and support the formation of new groups or associations by providing guidance in appropriate institutional structures. The Project will encourage federation of VOs and other farmers' associations at *Jamoat* level with the view of a long-term sustainability.

14. The Project will specifically target women by forming a Women Group as an integral part of each VO in line with the KLSP's strategy for VO establishment as well as procedures for VDPP. The Project will encourage that each CAP would consist of at least one sub-project (more likely income generating activity) specifically for the Women Group.

15. An indispensable factor for development of a sustainable agricultural machinery supply system is the availability of proper machinery service infrastructure, dealerships and spare parts supply system. The Project adopts a comprehensive approach, addressing the most urgent and basic problems that seriously impede the development of the agricultural sector, negatively affecting rural population in consequence. Building the basis for development of services in the field of maintenance of agricultural machinery will help to increase the efficiency of machinery use, resulting in better revenues and increased incomes in rural area.

16. There are a number of service providers on the market, including Nahusleasing, Orionleasing, Tajikagrolizing, Agrotehservice and Madadi Tursunzoda, which are oriented to bigger agricultural producers, but having limited knowledge and capacities to address the needs of the small producers and individual farmers for both: agricultural machinery services and maintenance services.

17. About 70% of the grants provided to the VOs during the KLSP consisted of agricultural machinery and implements, and there was limited access to qualified maintenance and repair services, coupled with lack of culture to use those types of services. In this respect, the Project will increase the capacities of service providers for these types of services, providing access to such services including those who benefited from equipment through the KLSP.

18. The Project will play an important role in the process of "inoculation" of the culture to private farmers, *dehkan* farmers and individuals for use and efficient maintenance of modern agricultural machinery and equipment.

19. The Project will promote the Agriculture Machinery Services Centres' approach as one that most effectively and in a more cost-efficient manner is able to allow or expand small-scale *dekhan* farmers' access to agriculture mechanization[56]. These centres may be conveniently operated by specialised service providers (as those mentioned above), who are interested and willing to adopt the Project approach; by larger scale *dekhan* farmers who intend diversifying their business by including also service provision to neighbouring farmers; as well as by associations of smaller scale *dekhan* farmers, who would in such a manner service their membership but also non-members of the association. The Project would thus pilot this approach, and based on the experience acquired during the first three years of the CASP lifetime, the Project will be in position to decide at mid-term the way forward.

[56] An evolution of this approach is that of the Machinery Service Rings that is popular in the UK. This is a grouping of farmers and others involved in agriculture who have come together to pool their resources as a means of controlling costs and making the best use of specialized equipment and expertise (see website www.machineryrings.org.uk and www.scottishmachineryrings.co.uk). Actually, of the three models being piloted that of the AMSCs operated by associated small scale *dekhan* farmers is the one, which most resembles the Machinery Service Rings approach.

20. The Project also aims to build the basis and capacities for maintenance and repair services in selected areas as well as build the confidence of private farmers in service providers and in efficiency and effectiveness of maintenance service in general. To this end the Project will strengthen Maintenance and Repair Workshops (MRWs) in its area of intervention,

21. Through highly specialized technical expertise and trainings, the Project will ensure efficient knowledge transfer to local companies and build capacities of private businesses in dealing with innovative techniques in maintenance and service of agricultural equipment, building the basis for a modern system of agricultural mechanization.

22. The Project will orient its capacity building to businesses that are willing open to invest into the agricultural machinery services and maintenance and repair services in order to boost the development of such services in the country and increase access to private farmers to higher quality maintenance services. This shall finally lead to a higher life span of the agricultural machinery owned by farmers, thus increasing the productivity and the efficiency in the use of agricultural machinery and equipment.

23. ***Provision for scaling-up.*** The Project will accumulate knowledge during implementation in order to guide future decisions on scaling up. The stronger the community and service provider is, the greater the likelihood that the key drivers of the scaling-up process will be able to lead and sustain the efforts beyond the Project. The Project will also accumulate the experience in boosting the development of new services in the rural area, building the grounds for replication of this experience throughout the country, thus contributing to the development of communities and mechanization in the country as a whole. The economic and financial benefits must be sufficiently attractive to drive expansion and sustain the initiative in the long term.

Description of Component Activities

24. The component will be comprised of two sub-components:

25. **Sub-Component 1.1: Strengthening community organizations.** The activities under this Sub-component will ensure that smallholder farmers participate in village development planning and improve access to public and private services. There will be two sets of activities: (a) scaling up the village organizations (VO) model which was successfully tested and proven under the Khatlon Livelihoods Support Project (KLSP); and (b) support Common Interest Groups (CIGs) to become more business-oriented.

26. The VOs model under the KLSP: Aided by the National Law on Self-Initiative Bodies, the model consists of the following three steps: (i) first, VOs are mobilised, strengthened to attain visionary leadership, realise participatory, transparent and accountable governance processes in their operations; become resilient and autonomous in financially sustaining their functions: (ii) second, once the cohesiveness is achieved they are assisted in the elaboration of Community Action Plans (CAPs) to define their own medium and long-term priorities - including identifying agricultural and non-agricultural needs which shape the Project's provision of training activities around these topics as well as to facilitate service provision and investments; and (iii) with this prioritization and taking advantage of the Community Development Funds (CDF), VOs are facilitated to design sub-projects for public goods and services for community development including physical infrastructures, agricultural machineries and equipment among the most popular investments. VOs will have fostered transformation of traditional structures, overcoming the initial distrust of local farmers and enabling them to maximize the benefits of acting together[57].

[57] Under KLSP 82 VOs were established representing 9,787 households, comprising 78,298 people. Between August 2014 and June 2016, VOs investments in and management of agricultural machinery and equipment provided efficient agro-services to 16,419 smallholders. A sample of the surveyed villages indicates the following benefits: (i) benefits from village infrastructure include 5.56 km last-mile roads for 8 villages providing a better access to goods and services, one bridge for one village covering 88 HHs, 49.33 km pipeline for clean drinking water in 6 villages covering 1,078 HHs, water boreholes drilled for 3 villages covering 211 HHs and 34.68 km power line for electricity supply for 7 villages covering 543 HHs; (ii) benefits from machinery and agricultural equipment sub-projects include: reduction of total cost per hectare for ploughing by an estimated

27. In expanding the VOs model to new villages in the targeted regions, the Project will aim to work with about 225 VOs. The activities will include the following: (a) public information, mobilisation and sensitization at district, *Jamoat* and village level; (b) selection of *Jamoats* and villages using specific criteria; (c) identification of exiting VOs and assessment of their development status, determination of the need to strengthen VOs and assessment of capacity needs; (d) VOs capacity building to address the identified needs; (e) preparation of a prioritised and focused community-level development plan with specific sub-project proposals for delivery of priority public goods and services – such as mechanization services, access roads, drinking water, etc.

28. Mobilisation and VOs' skills development and coaching would be undertaken by Community Facilitators (CFs). There are a number of NGOs who have gained significant experience through the KLSP and other projects and have a good track record in such work. Where required, at Project start-up, Master Trainers will be recruited to train/upgrade local CFs in the new villages.

29. Public information, mobilisation and sensitization at district, *Jamoat* and village level. At Project start-up, each district will carry out a public information campaign through a cascading series of stakeholder meetings to inform and sensitize local leaders and communities. Mobilisation for meetings will be done using mass media, such as rural radio, village announcements, using elders as champions, etc. A summary of the district, *Jamoat* and village selection process is provided in Appendix 2 (Poverty Targeting and Gender). In a step-wise fashion the CF will: (i) explain the Project, the sub-components, the planning process, establishing the VO, selection of VO Council members if absent and facilitating registration; (ii) promote internal bonding through leadership training, and basic governance aspects group processes (iii) establish the existing community's level of participation and experience with other projects; (iv) assist the community set up all the necessary requirements to participate in Project development activities; (v) determine status of local productive infrastructure and commercial agricultural activities; (vi) ascertain the status of financial capacity and ability to mobilise human/financial resources; and (vii) promote community ownership of the priority setting of needs, the planning process and development of a community action plan (CAP) or review the status of an existing CAP.

30. Capacity building of VOs: Based on the training needs assessment and training plan for VOs, training will be available on an 'as need' basis. The CF will create a schedule with the different 'training modules' that can be offered (in areas such as: leadership and group dynamics, visioning, governance, gender, participatory planning, basic financial record keeping and savings mobilisation), drawing on their own expertise and other technical experts as well as in close cooperation with the Component 2. The VO Councils will maintain the list of the available modules and community members/groups will sign up. The CF will organise the desired training sessions, either themselves or by bringing in the appropriate specialists with the support from the PMU. The Project would also support activities aimed at informing and educating farmers, especially women, about their rights under the changing legislation and means to protect these rights. In addition, the Project will prepare a Donor Guidebook to assist communities to approach other donors in Tajikistan for implementation of other initiatives within the CAP but not financed by the Project.

31. Preparation of CAPs and sub-projects: The VOs will be facilitated to consider which socio-economic development activities of a public nature present the maximum benefit for a majority of households and assisted to prepare CAPs. Sub-project proposals will be identified from the CAPs, taking into account availability of the financial resources. The CFs with the required skills and/or with support from district/*Jamoat* staff (engineer or agricultural specialist) will facilitate VOs to define preliminary technical specifications and cost estimates for the investments (e.g. construction works, procurement of goods/services, etc.) based on a set eligibility criteria under the Community Development Funds, innovation grants and mechanization activities (see Component 2).

30%, shorter and timely land preparation period, 20% increase in productivity from a baseline 326 HHs; (iii) realization of profits of agriculture enterprises in the villages (from 917.25 Somoni/pa-baseline to 1297,37 Somoni/pa); and (iv) 176 new permanent farm jobs.

32. Capacity building of CIGs. Support to CIGs will aim to help them become more business-oriented. Activities will include: (a) specialised entrepreneurship training, market identification and development, and farm business planning; (b) assistance to develop simple business plans for implementing farm enterprises; (c) facilitation of linkages with regional mechanization service centres, input (seeds, fertilizer, pesticides) and transport service providers and traders; (d) technical training on post-harvest management, including piloting and demonstrating new technologies and approaches; and, where necessary, (e) selected capacity building for implementing service providers and supervising agencies. About 350 business-oriented *dehkan* and/or household CIGs (involved in fruit, vegetable and milk production) will be mobilised and capacitated to take advantage of market-flows they will choose to pursue.

33. For both VOs and CIGs organizational development, flexibility will be exercised as an overarching principle to provide a diversified response to differentiated needs at the same time in consideration that the exiting VOs/CIGs and those to be established will be at different stages in their development process or will learn at different paces. In view of this a modular approach will be employed for different categories of VOs/CIGs (by type of farm-enterprise) that will accommodate their specific knowledge demands. The CFs with facilitation and close support from the PMU will be responsible for training of VOs and CIGs using the modular approach developed under the KLSP and adapted for the CASP.

34. **Sub-component 1.2: Strengthening service agencies.** Activities under this Sub-component will include: (a) training of *Hukumat*/*Jamoat* agricultural staff, community facilitators and local private business mentors; and (b) building the capacity of participating agricultural machinery service providers.

35. (a) Training of *Hukumat* government agricultural staff. The technical capacity of district government agricultural staff will be strengthened to enable them to assist in activity planning, supervision and quality assurance of VOs and CIGs strengthening activities. Main activity will be to train about 80 *Hukumat* and *Jamoat* agricultural staff on management, quality assurance of service provision in advisory services and of contracts/MoUs with selected implementation partners.

36. Training of community facilitators and business mentors. The Project will make extensive use of CFs trained under the KLSP as Master Trainers to scale up VOs/CIGs strengthening for training of additional CFs in the other new Project areas. This will not only to expose them to new ideas and insights but also to ensure that quality capacity strengthening activities are provided. The key activity will be to train about 30 CFs on 4-8 simple modules on community organizational development at local level and about 30 business mentors who will facilitate CIGs to become business-oriented.

37. Training plan for district staff, community facilitators and business mentors. The PMU jointly with the *Hukumat/Jamoat* agricultural officers will in the first 3 months of the start-up year carry out a needs assessment for training activities demanded for *Hukumat/Jamoat* agricultural staff, CFs and business mentors in new Project areas and the needs of the VOs/CIGs as well. Training and coaching methods will include but not limited to: formal sessions in the villages; and continuous coaching and regional study tours for selected local government staff, CIGs and committee members of VOs on topics relative to production and marketing in crop/livestock enterprises.

38. (b) Capacity building of machinery service providers. Selected machinery service providers and *dekhan* farmers including their associations, who are interested and capable of starting/expanding a machinery servicing business will be supported with maintenance facilities, and be assisted with specialised expertise to: a) enhance their capacity in providing agricultural machinery services to the farming community; and b) strengthen their institutional capacity by improving operational structure and procedures to ensure an efficient and sustainable operations' system. Selection of providers will be undertaken against the criteria clearly specified in the PIM. These would include among others the experience, transparent financial management, and willingness to contribute towards establishment/expansion of Agricultural Mechanization Service Centres (AMSC) or/and Maintenance and Repair Workshop (MRW).

39. *i) Agricultural machinery services.* The ***agricultural mechanization*** **model** under the KLSP's VO investments in machinery and equipment comprises i) 85 tractors; ii) 79 ploughs; iii) 332 harrows; iv) 68 trailers; v) 33 threshers; vi) 19 forage harvesters and a small number of other equipment such as sprayers, front loaders, seed cleaners and planters. Management of agricultural machinery and equipment by VOs has been efficient, providing 11,899 mechanization services for smallholders during the last 1 year 5 months preceding project closing in June 2016. Supervision missions have witnessed the efficient use of equipment that has significantly improved farmer access to mechanization services and reduced their costs[58]. While this model worked well, it was recommended at completion of the KLSP that good operations and maintenance support services are required to ensure sustainability of the services and to be able to expand provision of the services to other areas in Tajikistan.

40. In scaling up the mechanization service model, the Project will put special emphasis on increasing technical capacity of the engineering staff of participating machinery service providers and of organized farmers, in performing maintenance and repair of agricultural machinery. In this respect, the Project will bring highly qualified technical expertise that would perform the following activities: i) develop basic training programmes on repair and maintenance of agricultural machinery; ii) train the core engineering staff in repair and maintenance of agricultural machinery; iii) train the trainers from the core engineering staff of the central offices or the engineers delegated by the organized farmers in maintenance and repair of agricultural machinery; iv) develop basic training programmes for machinery operators on maintenance and operation of machinery; and v) assist agricultural machinery service centers in organising regular training courses for farmers in the regions on machinery operation and basic maintenance procedures.

41. The Project also envisages procuring and endowing with modern maintenance and service equipment of some selected regional Maintenance and Repair Workshops (MRWs) located in the Project area, the exact location of which will be decided based on applications received from potential agencies. Strengthening of these MRWs will allow farmers from the region to get access to quality maintenance services, which are currently lacking and causing shorter-than-optimal life spans of the machinery.

42. Basic training programmes on repair and maintenance of agricultural machinery will be developed by the Maintenance and Service Expert (MSE). These training programmes will be developed depending on the type of maintenance and repair equipment to be imported as well as on the type of machinery and equipment to be repaired.

43. Following the identification of existing maintenance and repair equipment and its importation and instalment at the MRWs sites, the Repair and Maintenance Experts for training of trainers (RME ToT) will be deployed. The RME ToT will focus their efforts on training a selected number of engineers on thorough techniques for maintenance and repair of agricultural machinery and equipment. The topics of training will depend on the type of machinery and equipment to be imported and or available in the Project area and the specific equipment supplied to the MRWs for servicing and maintenance for the equipment. This training course will be mainly organized for the engineering staff that would operate the specialized maintenance and repair equipment procured and provided to the MRWs and would be directly involved in day to day service and repair of agricultural machinery and equipment coming to MRWs for service and maintenance.

44. It is envisaged that about 15 engineers (5 engineers from each of the 3 regional service workshops) will be trained in maintenance and service of agricultural machinery. Deployment of technical experts for theoretical and practical training will take place after the service workshop equipment is procured and installed.

[58] By way of example, in the course of the LPDP, agricultural machinery has reduced the cost of tractor services from TJS 100/ha plus 40 litres of fuel and 1 litre of oil to TJS 70-80/ha plus 30 litres of fuel and 1l of oil. Under the KLSP, benefits from machinery and agricultural equipment sub-projects include: reduction of total cost per hectare for ploughing by an estimated 30%, shorter and timely land preparation period, 20% increase in productivity from a baseline 326 HHs.

45. After finalization of the training programme, the RME ToT will perform a proficiency theoretical and practical testing of the engineering staff participating in the training courses in order to make sure that the knowledge and the skills are acquired by the seminar attendance.

46. It is estimated that the procurement and installation of the maintenance equipment in the workshops will take place at the beginning the second year of implementation when the assessment of the needs and detailed technical specification for the equipment are developed.

47. Additionally to the training mentioned above, a number of selected engineers will follow a special in-depth training course of Trainers for MRWs engineers. The ToT in-depth training course will be organized by the RME ToT experts. The ToT course will be provided to a limited number of most knowledgeable engineers that would demonstrate the capacity to absorb the information and following be able to train other engineers from the regional MRWs on basic maintenance and repair procedures. Similar to the previous training courses, after finalization of the training programme, the RME ToT will perform a proficiency theoretical and practical testing of the engineering staff participating in the training courses. This is required in order to make sure that the knowledge and the skills are acquired by the seminar attendants.

48. One important aspect that the Project will also look at, is training of machinery operators. For this purpose, the Project will develop a series of basic training programmes for machinery operators on basic maintenance and operation of machinery. The number of training programs will vary depending on the types and variety of agricultural machinery and equipment imported. The training programs will be mandatory for both machinery operators from the AMSC and machinery operators from VOs.

49. Training courses for machinery operators from the AMSC including those operated by *dekhan* farmers will be performed by qualified engineers who will be hired by the Project in the position of Trainers for Machinery Operators (TMO). The TMOs will be hired locally and will be proficiency tested and certified by the Maintenance and Service Expert from the Project. The TMOs will be responsible for training of machinery operators as well as for testing of those operators at the finalization of the training courses. The courses will be mandatory for all machinery operators despite the availability of driving licence for operation of agricultural machinery. The driving licence for operation of agricultural machinery will be anyway a mandatory requirement for operation of agricultural machinery as it is required by the local legislation.

50. During the whole period of implementation, the Project will assist agricultural machinery service centres in organising regular training courses for farmers in the regions and machinery operators from VOs on machinery operation and basic maintenance procedures.

51. *ii) Institutional capacity.* The Project will channel essential efforts in building up institutional capacities of the AMSC. Technical expertise will be provided to the participating machinery service providers: to improve operational structure and procedures in order to ensure an efficient use of agricultural machinery and equipment.

52. The Legal and Trade Logistics Expert (LTLE) will be deployed at the initial phase of the Project implementation, after the selection of participating machinery service providers would be undertaken, to assist them in the improvement of their institutional capacities to implement activities foreseen by the Project. Technical expertise will be provided to revise legal documentation, including documentation related to import transactions as well as that related to the leasing mechanism (where relevant). Operational procedures of the companies will be revised in order to ensure that a transparent and efficient operation mechanism is in place.

53. With special regard to the participating specialised agricultural machinery service providers, the LTLE will organise a series of on-the-job training and coaching for selected staff of the central offices in different fields during the first and second years of Project implementation in order to make sure that the companies will be able to handle properly and efficiently a potentially increased volume of transactions. Assistance will also be provided to the PMU and companies on development of demand

based technical specifications for machinery and equipment to be procured (and possibly leased) to farmers. Based on the developed technical specifications, multi-annual procurement plans for machinery and equipment will be established in order to ensure a proper planning mechanism and a more sustainable operation. At the initial stage, the companies will be assisted in international procurements to ensure transparent and competitive procurement process in place. This activity may be extended to the participating large *dekhan* farmers who have engaged in the establishment of the AMSC, and who intend expanding this business.

Component 2: Improvement of Agricultural Productivity and Business Linkages

Component's Rationale, Approach, Outcome and Outputs

1. The aim of this Component is to build communities' productive base and to stimulate adoption of modern agricultural technologies leading to improved agricultural productivity. Thus, the outcome of this Component is: "*increased farm productivity resulted through adoption of improved agricultural technologies and productive infrastructure*". The outcome will be measured by the following indicators: (i) at least 20% increase in agricultural productivity (by main commodities); (ii) 35,000 hectares under improved environmentally sustainable management practices. An additional outcome of the Component is *"acknowledged policy recommendations on tested mechanization improvement options"*, measured by the indicator: a Policy paper on improved mechanization is delivered.
54. The outputs of the Component together with the accompanying indicators are outlined below:

Output 2.1 Enhanced access by poor households to productive infrastructure and innovative technologies	▪ At least 575 sub-project proposals funded by the CDF, and implemented by communities. ▪ At least 30 innovation grants implemented
Output 2.2. Improved access by poor farmers (including household plots) to machinery services	▪ At least 9 machinery service centers and 3 repair and maintenance workshops established and functioning

55. The Project will finance investment in physical infrastructure and income-generating activities that support the process of developing small-scale commercial agriculture, involving farmers, their groups/associations and small and medium-scale rural enterprises, such as agro-processors, machinery service providers, marketing organizations and input suppliers (e.g. improvements to roads, water supplies for irrigation, drinking and commercial use and electricity supplies, storage and marketing infrastructure, seed capital for farm and off-farm operations). Such investments would help farmers to increase their productivity and to access markets, while also providing an environment that would encourage economic development within the community and/or attract investment from outside the community e.g. the establishment of new marketing and processing enterprises. Where the community invests in sub-projects that directly generate income for farmers, their associations and/or other enterprises, it would rent these facilities to the users or enter a contract for provision of management services.

56. Moreover, the Project will foster innovation and best practices based on the results of the applied research and the pilots, including those of the ongoing projects and will organize and made available all the knowledge available in the country in application to various agricultural activities in one place.

57. The supply of agricultural machinery in Tajikistan has sharply dropped after the disintegration of FSU and the existing equipment at that time was mostly destroyed during the civil war in 90's together with the machinery service infrastructure. In some of the regions of the country, agricultural machinery and equipment has been completely liquidated during that period.

58. The import of agricultural machinery has been resumed after 2000, but the pace and scale was obviously insignificant due to lack of finance. According to the data provided by the Ministry of Agriculture of Tajikistan the country's need in agricultural machinery and equipment is covered by only 14% with high power tractors, by 33% with universal tractors, by 16% with cereal planters and by 29% with combine harvesters. The total estimated cost of the machinery required in the country comes to almost US$ 481 million.

59. There are about 10 companies involved in leasing of agricultural machinery and equipment in the country. It is quite evident that the leasing instruments provided by those companies are accessible mainly to big producers that have the capacities to access loans or leasing operations. Small producers, including *dehkan* farms and individuals are practically outsiders of this type of operations, having limited or no access to this type of financial instruments.

60. The financial sector of the country registered a decline during the last few years and it is not stable. Through this Component, the Project will be creating the basis for future rural finance activities by providing support to rural communities and individuals, helping them develop sustainable income-generating activities.

61. The Project recognizes that access to agricultural machinery and equipment is a key element for sustainable development of the agricultural sector. The Project will promote increased income to private farmers by giving them a better access to agricultural technologies and improved agricultural machinery services. Introduction of new harvesting technologies for both cereals and potatoes (which are the main crops in the Project intervention area) will allow an increase in harvest by at least 20% in the assisted farming area. The main arguments for this are the following: a) in case of cereals: an old soviet cereal combine harvester determines up to 25% losses while a modern combines have about 0,5% losses per hectare, b) in case of potatoes: tool-assisted manual harvesting determines up to 20% losses due to tuber damaging, while using a harvester, the losses are down to 3-4%.

62. The Project will assist business operators (both public and private according to interest, capacity and eligibility) willing to invest into agricultural machinery services to build sustainable and efficient businesses, and able to provide agricultural machinery services to the smaller farmers and individuals who do not have the convenient scale and investment capacity. The Project will thus invest in provision of improved agricultural machinery services through establishment of modern Agricultural Mechanization Service Centres (AMSC) and of Maintenance and Repair Workshops (MRW). The Project intends **piloting** diverse operational options for the AMSCs and for the MRWs. The infrastructure will be located in the three regions of the Project and likely in the target districts. However, all Project processes are by design demand-driven and the actual location of the AMSCs and of the MRWs may eventually be beyond the specific priority districts, provided however that their servicing area will include these.

63. The AMSCs may be conveniently operated by (i) specialised service providers, who are interested and willing to adopt the Project approach; by (ii) larger scale *dekhan* farmers who intend diversifying their business by including also service provision to neighbouring farmers; as well as by (iii) associations of smaller scale *dekhan* farmers, who would in such a manner service their membership but also non-members of the association.

64. Project provisions to establish the MRWs will be made available on a competitive basis to interested specialised agriculture machinery service providers but also to private entrepreneurs who intend and are capable of investing in such undertaking. Endowment of service providers with modern maintenance and repair equipment of the MRWs established or strengthened by the Project will considerably increase the capacities of the local businesses in providing high quality maintenance services for agricultural machinery to a wider spectrum of clients, including the smaller farmers from the rural area and VOs. This in turn will provide with the possibility to increase the life span of the agricultural machinery in use by at least 50%, bringing its life span beyond the amortization period of 10 years.

65. The experience that will be gained through the Project on the AMSCs and MRWs models will provide the opportunity, including to other investors and development partners, to scale-up the model if proved successful. The Project itself based on the experience acquired during the first three years of the CASP lifetime, would decide at midterm its way forward with regard to the model.

66. Thus, activities under this Component will be in line with IFAD's approach to scaling up results[59]. Besides, investments in innovative technologies will also contribute to the scaling up approach: a small investment of IFAD's funding of USD 2.0 million for the innovation grants is expected to leverage much larger resources of local community and development funding institutions.

67. Therefore, the scaling up approach will be applied in three of IFAD's main lines of business: rural services, innovations and KM, and pro-poor community development.

Description of Component Activities

68. The Component will consist of three sub-components as discussed below. It will be closely linked with the other component and satisfy the needs of Project beneficiaries in financing their priority investments.

69. **Sub-component 2.1: Community Development Funds (CDFs)** will support VOs in implementation of community-based development plans (i.e. Community Action Plans (CAPs)) that would also integrate climate change adaptation and disaster risk-reduction as well as food security and nutrition aspects. A bottom-up approach would allow the VOs to decide on the detailed investment needs demonstrating that the targets and management principles in the CAPs will be achieved. Community participation and leadership in the decision making process are vital, and hence there is a strong need for community mobilisation which would be undertaken through Sub-component 1.1 with support from the CFs. To support the initial implementation of the CAPs the Project will provide investment grants. The grants would be channelled through VOs and their patterns (i.e. type, phasing and implementation) will be determined by the respective CAPs. The VOs would be expected to commit to the implementation and the achievement of the targets by signed agreements, which would envisage a phased financing of the CAPs against the clearly identifiable milestone indicators. Subject to the VO' agreement and priorities, funds will be allocated to each VO for implementation of their plans, for which procurement and payments will be managed by the PMU. The total funding provided to finance the CAP investment sub-projects is about US$ 22.0 million, comprising of 95% as grant and 5% as community contribution in cash (10% in case of machinery and income-generating activities). The exact amount of each grant would be linked to the VO population and its implementation performance.

70. The Project will support selected investment sub-projects falling within the first three years of implementation of each eligible CAP. The community investments financed by the Project will be limited to a maximum of US$ 400 per household (including 5% as a reserve), with an average of about US$ 80,000 available for a community of average size. Included in this cost will be the finance of consultant services for sub-project design and supervision to assure the good quality of goods and works.

71. Investments will focus on public goods, although assets that will directly support private sector production, processing and marketing could also be financed if providing benefits to a large number of villagers and if the CAP identifies the investment as a priority. Proposals for income-generating sub-projects, such as farm machinery or milk collection centres, should clearly show that at least 30% of community would benefit. The farm machinery would encouraged to be leased to an enterprise or associations concerned, with the rent covering the full costs of the facility to the community i.e. including depreciation and not just the marginal costs of operation. The CF will ensure that rental/leasing arrangements are explained to the community. Each investment proposal will include the outputs, required labour inputs, materials required, investment and recurrent costs, and expected cash flows, phased over the prescribed time-frame.

72. Activities likely to qualify for support under the CDF include: rehabilitation of access and feeder roads, pedestrian bridges and footpaths; rehabilitating and/or constructing viable small-scale public irrigation systems (those linking main canals with farmers' fields); provision of electricity through small scale hydro-generation, wind generation or rehabilitation of key transformers that would enable the

[59] See: IFAD's operational framework for scaling up results, December 2015.

creation of "cottage" processing activities and other income-generating activities; provision of water supplies primarily by rehabilitating existing systems, both for domestic use and for livestock; communal agricultural machinery; improvement of rainfed arable land management on sloping land (i.e. soil and moisture conservation structures such as “mini-terracing” using trees and natural hedges, basins and contour drainage channels); planting of perennial forage crops and cover crops; and planting of alternate higher-value crops such as fruit trees and bushes for berries where feasible; and improvement of pasture management and pasture resources, which could include a number of possibilities such as providing water points, access roads, fencing, stables, feed storage facilities, re-seeding and fertilization in appropriate areas, and introduction of improved grazing management.

73. Links will be established with the other Sub-components of the Project such as innovation grants and provision of machinery services to ensure that Project interventions are complementary.

74. Each investment proposal will include details of the sub-project activities and implementation mechanism. It will specify the following:

- Title, type and location;
- Objectives and expected results;
- Ownership and proposed management arrangements;
- Description of the planned activities;
- Beneficiaries (disaggregated by gender) and their benefits from sub-project implementation;
- Community contribution and its guarantee;
- Estimated cost of materials, works, equipment, services, etc. (based on market value) and the total amount requested from the CAP;
- Cost/benefit analysis;
- Proposed implementation arrangements, including the O&M plan;
- Capacity building activities required for implementation and sustainable management of the investments financed;
- Supervision;
- Monitoring and evaluation.

75. The VO/CIG will prepare its sub-project proposals using the Sub-project Proposal Form that would be presented in the PIM. The proposal will be accompanied by the necessary supporting documents, including the owner’s and responsible institutions’ permits and endorsements (e.g. for use of land or premises).

76. While there is no list of activities that Project funds can finance there is a negative list. The Project will not finance:

i) social infrastructure including schools, kindergartens and health facilities;
ii) equipment that could be eligible for credit financing;
iii) acquisition of land or real estate; and
iv) sub-projects that relate to illicit drugs or production of illegal crops, production and marketing of rare species or harmful plant materials, illegal logging and sales of illegal logs or timber, marketing of products whose production has harmed reforestation or conservation of pasture lands.

77. The Project will not consider, and will return for resubmission, any sub-project proposals where:

i) the proposed sub-project completion date is not within a maximum time frame of two years;
ii) the value of the grant requested is higher than the full community allocation using the household ratio at time of signing contract with VO without proper documentation that the additional funds are guarantee;

iii) such grant supported sub-projects were unsuccessful. The criteria for considering a previous sub-project a failure are as follows:

- donor/supervision agency labelled it as a failure;
- funding was stopped for cause (unsatisfactory implementation); and
- community had to reimburse funding for cause.

78. The communities will be informed of the negative list and other Project restrictions during training and advice sessions on proposal preparation and will be provided with a copy of those lists.

79. **Sub-component 2.2: Provision of improved machinery services.** An initial proposal for provision of improved machinery services, including capacity building under Sub-component 1.2, has been developed by the FAO Country Office in Tajikistan jointly with the MOA under a Technical Cooperation Programme. This has been adapted to the context of the CASP. The activities under this Sub-component will assist smallholder farmers in having better access to improved agricultural machinery services and technologies, resulting in increased productivity level and households' income. The Project will also contribute to the efforts of the Government of Tajikistan for the development of agricultural mechanization service infrastructure.

80. The Project will strengthen or establish up to nine AMSCs located in the Project districts with modern agricultural machinery and equipment in addition to capacity building through Sub-component 1.2. An open competition will allow the selection of the service agents among those who have capacities and are specialized in providing agricultural mechanization services to the farmer community but also among large and associated *dekhan* farmers who prove to be capable of abiding to the Project approach. The contribution for the AMSC agricultural machinery provision will be equal to a minimum of 50% for the specialised machinery service providers and for the large scale *dekhan* farmers. Associated smaller scale *dekhan* farmers will need to contribute to a minimum of 25%. The remainder of the investment required for the procurement of the machinery and equipment will be granted by the Project.

81. The actual share of the nine AMSCs envisaged by the Project among the three operator categories will depend on demand, capacity and final PMU evaluation and selection. It is expected that at least three AMSCs strengthened or established by the Project will be picked up by associations of small scale *dekhan* farmers while the remaining six would be shared equally between the specialised operators and the large *dekhan* farmers.

82. The AMSCs promoted by the Project will be provided with agricultural machinery and equipment based on the production systems of typical *dekhan* farmers of the target districts. In this regard, all eligible machinery service providers will make a specific needs assessment that will need to take due consideration of the target beneficiaries of the Project, and which will form the base of their technical proposal and business plan for evaluation by the PMU. A detailed outline of the technical proposal and business plan is described in the PIM. Typically, the spectrum of machinery supplied to the service centers will include agricultural tractors, combine harvesters, cultivators, seeders, potato planters, potato harvesters, etc. Specifically, all the supported AMSCs will serve the major needs of grain and fodder crops but some will include machinery and equipment required for potato cultivation and orchards. Each AMSC will need to include at least one direct seed drill and a subsoiler for promotion of CA technology. The CA equipment will be facilitated with a grant contribution equal to 80% of its value by the Project.

83. An indicative list of machinery and equipment for two categories of AMSCs is provided below:

(a) Agricultural Machinery Service Centres operated by Specialised service providers/ Large *Dekhan* Farmers

No	Machinery and equipment	Qty, Units
1	Agricultural tractors < 80 HP	6
2	Agricultural tractors < 120 HP	1
3	Agricultural tractor 40 HP	2
4	Hydro pneumatic subsoiler, 50-60 cm, width 2 m (for CA)	1
5	No-till seeder (for CA)	1
6	Universal seeder (cereal /leguminous)	3
7	Cultivator	3
8	Tractor Mower	3
9	Tractor trailer	2
10	Potato seeder	3
11	Potato harvester	3
12	Baler	1
13	Beam sprayer	2
14	Fan sprayer	1
15	Mineral fertilizer	1
16	Combine harvester	1
17	Harrower	2

(b) AMSCs operated by Associated Small-scale *Dekhan* Farmers:

No	Machinery and equipment	Qty, Units
1	Agricultural tractors < 80 HP	3
2	Agricultural tractor 40 HP	2
3	Hydropneumatic subsoiler, 50-60 cm, width 1,1 m (for CA)	1
4	No-till seeder (for CA)	1
5	Universal seeder (cereal /leguminous)	2
6	Cultivator	2
7	Tractor Mower	1
8	Tractor trailer	2
9	Potato seeder	2
10	Potato harvester	2
11	Baler	1
12	Beam sprayer	1
13	Fan sprayer	1
14	Combine harvester	1
15	Mineral fertilizer	1
16	Harrower	1

84. The operational capacity of each typology is as follows:

AMSC a) type: minimum hectares serviced: 1300; maximum hectares serviced: 1650

AMSC b) type: minimum hectares serviced: 1000; maximum hectares serviced: 1400

85. Each of the AMSCs will be either adjacent to or nearby one of the Maintenance and Repair Workshops (MRWs) that will be rehabilitated and equipped by the Project. This will ensure that the service centres have access to qualified maintenance and repair services of high standard and, in turn, enable a longer life span of the machinery and equipment for a more sustainable intervention.

86. The service centres will provide mechanization services on a fee basis to all types of agricultural producers, including individual and collective *dehkan* farms, and to Village Organizations. It will ensure access to better machinery services to all potential beneficiaries in the respective regions. Service agreements will regulate the relationships and rules between the AMSCs and the MRWs and the farming clientele.

87. The piloting of the AMSCs and MRWs will be funded by IFAD with US$ 2.5 million. At Project midterm the experience will be evaluated and recommendations on the way forward will be provided in a Policy Paper based on the lessons learned from the nine AMSCs and three MRWs established by the Project.

88. **Sub-component 2.3: Innovation Grants** will support the development of innovative, demand-driven production and processing technologies through participatory on-farm/enterprise applied research and technology demonstration, delivered by national academic/research institutions, private companies, NGOs and advisory services' providers. Based on the priority needs identification process carried at Project start-up, the PMU will establish a competitive applied research support programme to identify bottlenecks in the country's promising value chain development and environmental sustainability. The Project would fund, inter alia, national and international TA, on-farm/enterprise technology testing and demonstration, farmer and scientist capacity building and experiential study tours, participating institutions' operational costs and field and laboratory equipment requirements, and, where appropriate, scholarships for post-graduate student coordinators of participatory technology testing and demonstration activities. Technology testing and innovation needs would be identified annually over the first three Project years. Depending on the identified needs, technology testing and innovation programme agreements could be awarded for proposals up to US$100,000 and a maximum duration of 2 years.

89. Once technology needs have been identified and prioritised by the Project (through a needs assessment at Project start-up), the PMU will prepare an invitation for public and private technical specialists, faculties and institutions to submit brief pro-forma-based proposals for their implementation. These will be evaluated by a panel of independent experts, PMU staff and international/national advisers against a set of criteria that will include: (i) an assessment of the applicants understanding of the constraint and capacity to address it; (ii) the extent of smallholder farmer and private enterprise engagement in the development of solutions; (iii) the likely financial benefit of the proposed solution(s); and (iv) the expected environmental and social impact and, for negative ones if any, associated mitigation measures (further elaborated in the PIM). Proposals with positive impacts on women will be considered favourably. Successful applicants will then be invited to submit a detailed proposal, which will be negotiated with the PMU and form the basis of a contractual agreement.

90. Wherever possible, technology innovation testing and development will be done on farmer's fields and livestock. Farmers participating in such technology testing activities will receive free trial inputs, but will be expected to periodically make their farms available for farmer awareness training. Each technology innovation package will include a specific beneficiary knowledge sharing, dissemination and capacity building programme, which will be closely monitored and assessed by the Project M&E Specialist. Payments for the delivery of technology innovation programmes will be based on a set of agreed, time-based output-based milestones that will be identified in the contract. Failure to meet agreed delivery times/quantities could lead to financial penalties. Technology innovation contractors will be expected to self-monitor their performance and report on a semester basis. The Project M&E Specialist will conduct spot checks on contractor reported outputs/outcomes. All final research reports will be peer reviewed by national and regional specialists and final payments will only be made on the receipt of a satisfactory review.

91. Possible technology innovation themes could include, inter alia: conservation agriculture; resource saving technologies; IPM; crop/tree drought resistant varieties of; fodder variety testing and registration; use of lactoperoxidase; animal feed quality and nutrition management; processing technologies for product diversification and quality control; and the demand assessment of the innovative products on the Tajikistan market and abroad

Appendix 5: Institutional aspects and implementation arrangements

Implementation principles and governance

Introduction

1. The Project will largely be organized and managed through the same structures as it was with the KLSP, which took a partnership approach in the implementation of project activities between the State, civil society, technical service providers and community organizations. The Ministry of Agriculture (MOA) will have the overall responsibility for management of the Project on behalf of the Government of Tajikistan. A national Project Steering Committee will provide overall policy guidance and maintain oversight of the Project's Annual Work Plans and Budgets. The LPDP Project Management Unit (PMU) will expand its scope and be responsible for overall management, coordination, oversight, monitoring, supervision, procurement and financial management, knowledge management and evaluation of the CASP. The PMU will manage the day-to-day functions of the Project employing staff contracted on an open, transparent and competitive basis and in possession of qualifications and experience commensurate with their duties. The Project Implementation Manual (PIM) developed for the KLSP will be modified at Project start-up to the extent required by additional activities introduced by the CASP. The PMU will contract NGOs with experience in community-based developmental approach to act as Community Facilitators undertaking the social mobilisation, strengthening/establishment and support of VOs and CIGs, and provision of technical assistance. Community Facilitators would work closely with *Hukumat* and *Jamoat* (district and sub-district governments) to coordinate activities, and to stimulate learning across government institutions regarding pro-poor participatory processes.

Project resource allocation

2. The CASP seeks to improve the assets and incomes of selected rural communities, including smallholder farmers, small rural processing enterprises, input suppliers and service providers and the rural unemployed by improving production in terms of building/renovating key infrastructure, capacity enhancement, provision of improved services and innovative technologies. Project support would be targeted, demand-driven and participatory. Thus, the CASP will be executed through a demand-driven approach, rather than the planning and definition of annually fixed targets.

Governing principals

3. The design of the Project and its subsequent implementation are governed by the following principles:

i) Eligibility and transparency

4. Community selection. Given the limited project resources, the Project will target poor areas and communities with favourable conditions for realizing its primary objectives. In that context, the Project will target those poor communities with a recognized potential for the production of labour-intensive, high-value products in which the community has a comparative advantage. This targeting will provide the means for the generation of productive employment and income through intensification of the farming systems and the generation of agricultural value added at the local level in agro-processing, agro-services, and marketing.

5. The principle objective of the targeting process is to select communities that have both a need and recognized potential for agricultural development, but also possess the elements for success under the Project. The system will be designed to enable the re-allocation of funds to respond to local performance. The available funds will be allocated to the selected communities by districts, *Jamoats* and by community.

6. For each *Jamoat* all communities will be assessed and a list of those eligible will be made by the Project. The funds will be allocated to the seven districts depending on population, based on poverty and agricultural indicators.

7. Demand-driven allocation of Project resources. All selected villages and service providers would be eligible to participate in the Project. Participation and the allocation of resources will be demand driven. To qualify for Project support each VO/CIG and service provider will be required to demonstrate commitment to the Project targeting for the interest of the community at large, by strengthening their institutional capabilities and improving the assets of the communal economy. The Project will provide the means to stimulate participating institutions to define and implement a long-term vision of their sustainable economy. The vision would point to all the areas that will be required to successfully address sustainable development including in particular integrated measures regarding institutional development and capacity building, organizational management, improvement of resources and assets, efficient use of the existing resources, diversification of income and employment opportunities. Information campaigns and intensive technical assistance will be used to familiarize participating parties with the Project objectives and approach, thereby creating an effective demand, and fostering competition for Project support among CIGs and among entrepreneurs in each participating village. The Project will give preference to the activities benefiting the majority of women-members.

ii) Community development planning

8. Identification, design and implementation of local development interventions will be participatory. The Project will assist in establishment/strengthening[60] of a Village Organization (VO) in each community where such an institution absent by adopting the KLSP approach (briefly described in Box 1). Members of VO council will be elected in a democratic manner at a village general meeting and more likely include community leaders. It is expected that in many cases the existing Village Head (*rais kishlak*) would be also a Chairman of VO council. VOs will define their medium to long-term vision of a sustainable economy reflected in a formal Community Action Plan (CAP) that would be prepared based on the KLSP's Village Development Planning Process (VDPP). Where communities already have such a plan this will be reviewed and updated as necessary. By acquiring capacity, VOs will gain the ability to plan, monitor and evaluate sub-projects as proposed in the CAP. As stated above, the Project will also encourage formation of Common Interest Groups (CIGs) to access Project funds for income-generating sub-projects and that could be either based on existing *Mohallas* (and more likely represented by VO), or be created around commodities (for example crops, fruit, vegetable, milk, etc.) or common natural resources (such as irrigation water). The Project will provide the necessary institutional and technical support in assisting the participating VO/CIGs to: (i) identify constraints to their local economy, consider options for creating viable opportunities for sustainable economic development using local and external resources; and (ii) identify the infrastructure and other investments required to facilitate the implementation of the CAP.

iii) Production efficiency and market linkages

9. The Project will centre on strengthening the links between the farming community, agro-service providers (input supply, technical service, machinery, and financial services), agro-processors, and markets. It will promote joint economic activities among farmers. It will encourage farmer groups/associations and entrepreneurs to use their skills to initiate new economic activities and/or develop existing activities, which will benefit as broad a segment of the community population as feasible. It will support the creation of effective channels for agricultural products and for the supply of farm inputs and services. It will help create favourable conditions for agriculture-related rural economic activities with a potential for income generation and employment creation.

[60] Following the issuance of the Law on self-initiative bodies, VOs have been established basically throughout the country with support from Aga Khan MSDSP.

iv) Cost sharing

10. The participating VOs, CIGs and participating machinery service providers will have to match the grant funds by contributing the required share of sub-project costs in a timely manner. For sub-projects VOs/CIGs will have to contribute a minimum of 5-10% and machinery service providers a minimum 25-50% (as relevant) in cash of the estimated investment costs from their own resources.

v) Complementarity with on-going programs and Project components

11. The Project will build on existing local institutions and experience of past and on-going community development programmes. Specifically, at community level, an Aga Khan MSDSP approach for creation of VOs would be applied. At *Jamoat* level, an experience of the WB CAWMP, UNDP's JRCs (*Jamoat* resource centres) and MSDSP's SUDVO (unions of VOs at *Jamoat* level) would be taken into account. At district level, a model of the Local Development Committee (LDC) implemented by CARITAS would be adopted. For development of agricultural machinery services, the Project builds on the experience of GIZ and EBRD as well as the KLSP.

12. The Project will also support community interventions that complement those already implemented or being implemented in the community so as to fill-in gaps in the economic infrastructure and strengthen institutional capabilities. Communities will have to include details of all inputs provided, applied for, or expected under other projects or programs when submitting their CAPs. Provision will also be made for coordinating with other Project components when joint intervention is beneficial, in particular for technology demonstrations.

13. Sustainable economic growth and employment generation are recognized as important preconditions for poverty reduction. Major contributions to economic growth are expected to come from the promotion of small business development and increased employment generation as well as improvements in the business environment. According to Government strategies, over the period 2016-2030, agricultural production will remain the main engine for reducing rural poverty.

Governance

14. The Project's design incorporates various measures to assure good governance as indicated by overall operational accountability and transparency; financial management; procurement of goods and services; environmental governance; gender equality and mechanisms for complaints and remedies. These include: (i) the terms and conditions of MOU with all implementing partners; (ii) consistent stakeholder representation in the Project's planning, M&E/ KM and impact assessment cycle, affording mechanisms for complaints and remedies; (iii) fair participation of women beneficiaries in all activities and levels of the Project; (iv) social, environmental and climate change safeguards and guidelines detailed in the PIM; (v) application of guidelines and procedures for procurement consistent with the current IFAD Procurement Guidelines; (vi) selection of machinery service providers and innovation grants by selection committees established by the Project and consisting of representative of key stakeholders; (vii) close supervision and implementation support by IFAD, including risk-based financial management supervision and operational reviews; and (vii) provision for regular external audit.

Project Implementation Manual

15. The CASP is expected to use the Project Implementation Manual (PIM) applied for implementation of the KLSP including procurement and financial management. The manual will be modified at Project start-up to the extent entailed by the Project activities finally agreed upon. It is anticipated that not many changes will be required. The PIM may be amended upon the PMU's proposal and the IFAD's approval.

Project Start-up Activities

16. These activities will include: (i) finalization of Terms of Reference for key institutions and their staff including the CF and other implementing partners and required Technical Assistance; (ii) recruitment, as necessary, of key staff and TA financed by IFAD; (iii) updating the Memoranda of

Understanding between the key implementing partners; (iv) conducting a gender sensitive, livelihoods-oriented baseline survey for the CASP led by the PMU M&E Specialist supported by a selected survey company, plus making arrangements for subsequent repeater surveys, and Participatory Impact Monitoring with particular attention on targeting, gender and socio-economic improvement issues; (v) development of an annual work plan and budget (AWPB) for the Project's first-year activities; (vii) finalization of a procurement plan for the first 18 months of Project implementation; (viii) an initial deposit in the Project's designated accounts by IFAD of up to US$1 million; (ix) setting up the Project M&E system; (x) preparation of the Project Implementation Manual (PIM); and (xi) holding the Project Start-up Workshop.

17. If possible, all analyses would be carried out in time for their findings to be fed into the content of the Project Start-up Workshop. Among those invited to attend would be staff of the PMU and representatives of other key potential stakeholders and participants in the CASP including among others: representatives of the Project's primary target group, i.e. women and men smallholder producers; CFs; potential services providers; relevant farmers organizations; relevant government representatives; socio-economic profilers (e.g. the Agency for Statistics); local government and community-based organizations reflecting the project's intended target groups, in particular rural women's organizations; representatives of other projects concerned with rural poverty reduction and development; and representatives of other relevant development assistance donors, e.g. the World Bank, ADB, EBRD, JICA, GIZ, USAID, UNDP, etc. Key outputs from the workshop would include guidance on: (i) Project component content and implementing modalities; (ii) refinement/adjustments to the PIM; (iii) refinement to the Project's targeting criteria and M&E indicators; (iv) agreement on the Annual Work Plan and Budget (AWPB) for the CASP's first-year activities; and (v) finalization of the 18-month procurement plan. Outputs related to implementing modalities and associated results and impact would feed into the design of the Project's Management Information System (MIS) and M&E system.

18. Further, the PMU will carry out value chain studies for three crops of major importance for the target group (more likely cereal, potato and fodder) that would be later followed by value chain studies for other crops (likely fruits, vegetables, oil). It is expected that the findings of these studies would: 1) identify types of machinery that is lacking at smallholders and small *dekhan* farms and inform VOs and AMSCs in their process of developing CAPs/business plans; 2) identify the major challenges to meet the market requirements, and focus the Innovation Grants on demonstrating potential solutions; 3) inform the farmer and service provider training programmes about areas with largest gaps between market requirements and farmers'/providers' ability to deliver; 4) establish partnerships with market-driven agriculture development programmes, actively use their research and experience, attract their activities to the target area, and link them with value chain entities from the target region.

B. Organizational setting and implementation responsibilities

19. The Ministry of Agriculture (MOA) will have the overall responsibility for management of the Project on behalf of the Government of Tajikistan.

20. A Project Steering Committee (PSC) would be constituted at the central level. The Deputy Minister for Agriculture of the Republic of Tajikistan will chair the PSC. The PSC will have the overall responsibility for providing strategic and policy guidance to ensure that the Project objectives are achieved. The PSC will identify opportunities for support and interaction with government agencies, financial institutions, private sector and other development programmes and facilitate this interaction to ensure that the project can capitalize on any areas of synergy. The PSC will ensure that any potential bottlenecks and constraints that the Project faces during implementation are removed expeditiously. Specifically, the PSC will: (i) endorse the annual work plans of the Project; ii) receive notification of the selected villages; (iii) receive reports and analysis of Project performance; iv) act as the final arbiter of any disputes between the PMU and communities, if consensus cannot be reached through other means. However, it would not have any direct management responsibility.

21. The PSC will meet every six months to review progress, work plan, reports and financial statements. The PSC can also hold special sessions to address any specific issue or constraint which the Project maybe facing upon request from any of its members, implementing partners or donors. The PMU will act as a secretariat, responsible for preparation of the agenda and minutes for PSC meetings and will provide full facilitation in organizing the six-monthly meetings. Its members will include the representatives of the various departments of the MOA; Investment Department of the State Committee on Investments and State Property Management; Investment Division of the Ministry of Finance; State Committee for Women's Affairs and Families; State Agency of Land Reclamation and Irrigation; and State Committee on Land Management and Geodesy.

22. The Project Management Unit (PMU) will be responsible for overall management of the Project. The Livestock and Pasture Development Project (LPDP) PMU will expand its scope and will specifically be responsible for collating work plans and budgets based on district submissions, prepare Project's annual work plan and budget (AWPB) following receipt of no-objection from IFAD, manage technical assistance, manage all staff and agencies implementing Project activities and promote linkages with other programme and agencies relevant to achieve Project objectives. It will undertake the accounting and financial management, the procurement of goods and services The PMU will provide regular six monthly and annual reports on the progress of the Project; liaise with other agencies involved with the Project and facilitate supervision by IFAD missions. The PMU will coordinate preparation of consolidated progress reports, financial reports and audit reports. The PMU with IFAD's no objection will recruit a Project Coordinator, Project District Officers (DPOs), Project Engineer/s, Community and Institutional Development Specialist; Gender Specialist, Business Development Specialist, Monitoring & Evaluation Specialist; Financial Management Specialist, Procurement Specialist and support staff. The job descriptions of the key Project staff are provided in Annex 5.1. In addition, the PMU will contract Community Facilitators to implement the Strengthening of Community Organisations Sub-component. The PMU will also hire outside agencies for undertaking the baseline, mid-term, completion and other surveys.

23. District Administrations (*Hukumat*). The role of District Administration (DAs) is to assist self-government institutions of settlements and villages in performing their functions as well as to render them financial and economic support according to the regulations of the Republic of Tajikistan. DAs can assign some powers to settlements and VOs. In line with the decentralised approach of the Project, the responsibility for selection of the participating communities and endorsement of the sub-project proposals for financing under the CDFs would be delegated to District Development Committees (DDC) established within each participating DAs (or already existing such committees). Endorsement of the sub-project proposals will be made in line with clearly established procedures as identified in the PIM. The Chairperson (Governor) of the District would chair this committee. Its other members would include heads of participating *Jamoats*, representatives of VOs, representatives of farming community, including women's groups, agri-business enterprises operating in the district and local NGOs. Endorsement of sub-project proposals at the district level, with the District Chairman as the chair, would not only result in timely approval of sub-project proposals submitted by VO/CIG(s), but also ensure technical support of departmental staff of the district. The CF would be responsible for organising DDC meetings and taking minutes of these meetings.

24. Community Facilitators (CFs). The PMU will contract NGOs with experience in community-based developmental approach to act as Community Facilitators undertaking the social mobilisation, establishment/strengthening and support of VOs and CIGs, and provision of technical assistance. The CF forms the key element in assisting communities where they lack capacity or knowledge. They are a resource for VOs/CIG(s) to draw upon, as it is expected that the capacity of many VOs/CIG(s) will need to be developed from a low base. The CF will support and assist the VOs/CIG(s) in development of their plans and sub-projects; it will train, mentor, advise, and help the VOs/CIG(s) to draft plans and specifications.

25. The CF will assist in implementation of community development programme in the participating districts and provide community mobilisation and capacity building assistance to the participating communities. The assistance will include capacity building activities that would enable the VOs/CIG(s) to: i) design rules and regulations for running the VOs/CIG(s); ii) prepare CAPs, sub-projects and associated budgets, calculate the community contributions and manage all funds; and iii) manage and monitor operations, maintain and operate investments and identify market linkages.

26. The CF will check that the CAPs and sub-project proposals are complete before forwarding them to the PMU and DA/DDC for subsequent review and endorsement.

27. The work of the CF will be mainly at community level, but will also focus on clusters of communities where there are opportunities for joint action. In addition, the CF would assist *Jamoat* Councils in preparation of *Jamoat* Development Plans, which would be consolidated based on CAPs received from each participating VO.

28. The CF will coordinate closely with the PMU and jointly make supervision visits to the communities from time to time. They will also carry out training on the procedures for approving community sub-projects and their terms and conditions at district workshops or community workshops.

29. The CF will report to the PMU on technical and administrative matters. Annex 5.1 has terms of reference for the CF.

30. *Jamoat* Council. The main role of *Jamoat* Councils in the Project will be to review the CAPs prepared by VOs/CIG(s), consolidation of these plans into a *Jamoat* Development Plan and to help in the screening and prioritisation of sub-project proposals as they are being identified in the context of the overall development plan for the *Jamoat* as well as for any possible conflict resolution between villages in terms of shared resources and assets. This will be conducted in line with the procedures established in the PIM. *Jamoat* Councils would also help in monitoring progress of the approved sub-projects during implementation. The PMU will sign a Memorandum of Understanding (MoU) with each *Jamoat* Council stating that the *Jamoat* Council would create all required conditions for proper operation and maintenance of all assets provided by the Project for implementation of grant sub-projects. The Project, with the assistance of the CF, will support *Jamoat* Councils by setting up small working groups consisting of VOs/CIG(s) representative or through existing SUDVO (union of VOs at *Jamoat* level) established by Aga Khan MSDSP in some *Jamoats* in the Project area.

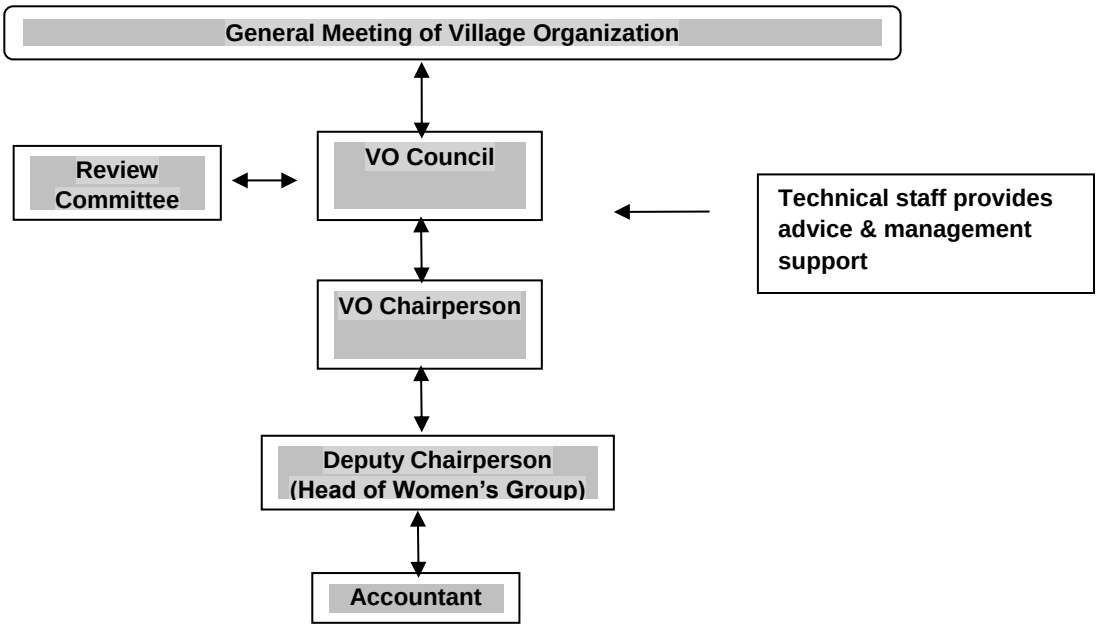
31. VO Councils. The Project will assist in establishment of a Village Organisation (VO) in each participating community where such organisations absent, by adopting the Aga Khan MSDSP's approach which is briefly described in Box 1.

32. If not yet done, each participating community will elect its VO Council in a democratic manner at a general village meeting. The VO Councils will decide upon the objectives, approaches and specific activities for developing the communities' economic base. They will set their own rules and regulations for managing, implementing, monitoring sub-projects and especially the operation and maintenance of physical infrastructures for which the community itself will have direct responsibility. The PMU will sign a Community Grant Agreement (CGA) with each VO Council or *Jamoat* Council if the VO is not a legal entity to reflect: (i) maximum amount of funding for the participating village; (ii) financial and procurement arrangements; (iii) requirements for community contributions; (iv) responsibilities; (v) monitoring; and (vi) post-project ownership and maintenance. The VO Councils will prepare the formal CAPs in a format established in the PIM.

Box 1: Village Organizations (VO)

Figure 2 shows the structure of VO core staff that is elected in a democratic way.

Figure 2. Structure of Village Organizations



The process of VO formation can be summarised as follows:

- MSDSP District staff begins a dialogue with a village at a meeting. 80% or more of the villagers should attend the meeting for MSDSP involvement to proceed.
- At the meeting, the villagers should choose a chairman, vice chairman, accountant and women's group leader.
- 80% of villagers should become members of the VO, agree to hold monthly meetings and pay membership dues into a Village Development Fund.
- VOs prioritise their village development needs and apply for grant to MSDSP to implement village sub-projects.
- MSDSP technical staff works with the VO to design feasible projects that meet the objectives of village development, and regularly checks the management of VO activities.

MSDSP continues to collaborate with a VO if:

- The VO Council holds monthly meetings, and the entire VO meets every three months
- VO does not break any terms or conditions of agreements on separate projects.

Each VO has a WG (Woman Group) that may, in conservative areas, hold meetings separately from the VOs – links between both groups is ensured through one-to-one discussions between their respective leaders. VOs have their own savings fund, which receive income from i) membership dues, ii) various VO projects and, iii) donations and separate contribution from members.

Each VO carries out a village development planning exercise, which lasts about three years and includes six stages.

34. Common Interest Groups (CIG(s)) are self-initiated bodies to access Project resources mainly for income-generating sub-projects and based either on existing *Mohallas* or around commodities (for example crops, fruit, vegetable, milk etc.) or common natural resources (such as irrigation water). The Project will provide support to CIGs if they meet minimum requirements: i) it consists of minimum 10 members; and ii) a sub-project proposal is within CAPs' priorities and follows all the Project modalities for sub-project financing. CIGs may also assist the VO Councils in preparation of the CAPs. The CAPs will identify the priority investments. Then the VO, with the CIG(s) if they are formed, will prepare sub-project proposals in line with the CAP and with the assistance of the CF. Sub-project proposals will be approved by a referendum to be held by at least 80% of representatives of village households. More than 50% of positive votes would be required for submission of sub-project proposals to the PMU and DA/DDC. Sub-project proposals will be prepared in accordance with a

format described in the PIM. The VOs/CIG(s) will also be responsible for mobilising the community's financial contributions, procurement (if relevant), supervising contractors, operation and maintenance of the completed infrastructure and/or leasing of facilities to CIG(s) or other rural enterprises as well as for monitoring and evaluation of sub-projects. CIG(s) and other rural enterprises will operate leased facilities in accordance with an appropriate signed lease. The CF, with the assistance of other service providers where needed, will assist with the planning process and implementation of the priority investments and for monitoring their implementation.

35. VO Council will be responsible for informing the community of its activities and results. It will also be responsible for setting a reasonable schedule for collecting community contributions that would not put undue constraints on community members.

36. Participating machinery service providers will be supported and assisted with specialised expertise to: a) enhance its capacity in providing services to the farming community; and b) strengthen its institutional capacity by improving operational structure and procedures to ensure an efficient and sustainable leasing operations' system. Selection will be undertaken against the criteria clearly specified in the PIM. These would include among others the experience, transparent financial management, and willingness to contribute a minimum of 25-50% (as relevant) towards establishment/expansion of Agricultural Mechanization Service Centres (AMSC) and Maintenance and Repair Workshops (MRWs).

37. The Project organization structure is presented in Annex 5.2.

C. Arrangements for components implementation

38. The Project's implementation aims at achieving the following two outcomes, through their corresponding components: **Outcome 1***. Increased effectiveness and outreach of rural institutions and service agencies; and* **Outcome 2***. Increased farm productivity resulted through adoption of improved agricultural technologies and productive infrastructure.*

Component 1. Strengthening rural institutions

39. **Sub-component 1.1 Strengthening community organizations.** Implementation of this Sub-component will involve two key stages: (i) community mobilisation; and (ii) capacity building of VOs, CIGs and preparation of Community Action Plans (CAPs) and sub-projects and business plans for CIGs.

40. Community mobilisation. Within three months of the Project start-up, the PMU will recruit Community Facilitators (CFs) for each of the participating regions based on the TORs developed during the KLSP, which are presented in Annex 5.1 for easy reference. Within three months of Project start-up, international Community and Institutional Development (CID) and Business Development (BD) Advisers and national CID and BD Specialists will be hired by the PMU to strengthen skills of CFs and other interested NGOs involved in community development through mentoring, as well as to prepare a detailed training programme including the identification of potential trainers (Master Trainers).

41. The Community Facilitator (CF) with support from the PMU's District Project Officers (DPOs), *Hukumat* and *Jamoat* agricultural staff will hold several types of public meetings with the aim to explain the Project, the sub-components, the planning process, establishment of VO Council if absent. The mobilisation process will follow the following steps:

a) Familiarization with the community's level of participation and experience with other projects;
b) Review the status of any existing VOs, CIGs, community development plans or other plans and assessment of the need for and areas of capacity building, and determine the need to establish VOs and CIGs;
c) Assessment of the status of existing local productive infrastructure and commercial agricultural activities and/or the potential to construct/establish additional ones;
d) Ascertain the status of financial capacity and ability to mobilize human/financial resources;

e) Promotion of community ownership of the planning process and assist the community set up all the necessary requirements to participate in prioritization of public goods/services, preparation of sub-projects and CIGs for agricultural business activities.

42. The CF will ensure that the VOs Council members, and especially those responsible for financial issues understand the prioritization of sub-projects/business opportunities and the process of preparation of sub-project proposals for public goods/services and simple business plans for CIGs including budget preparation procedures, how to quantify the community contribution, and how to handle management of funds/assets which will be received by the community.

43. Capacity building of VOs and CIGs. Training will be carried out to increase the capacity of VOs Councils, CIG(s) and communities and promote the operational linkages between farmers, suppliers of agricultural inputs and services, processors of agricultural products and traders. Two types of training will be carried out for farmers: i) training relating to the CAP and sub-project (identification, preparation, and implementation) which is primarily of interest to the VO Council); and ii) training in areas of interest to farmers and entrepreneurs from the community including CIGs. Training for the VO Councils and CIG(s) will be mandatory, while for community members it is optional based on need. VOs Councils/CIG(s) will receive training to help them meet their sub-project/business plan preparation and implementation responsibilities.

44. The CF together with the DPOs, *Hukumat/Jamoat* extension staff and/or technical service providers, contracted by the Project for specific tasks, will provide the technical support and training. The detailed needs of the various VOs/CIGs will be determined during the community mobilization and capacity building assessment described above. The CFs/business mentors will create a schedule of different 'training modules' that can be offered, drawing on their own expertise and other technical experts as well as in close cooperation with modules offered under Component 2. The VO Councils and CFs/business mentors will organise the desired training sessions, themselves or by bringing in the appropriate hired trainers or in partnership with NGOs such as the Aga Khan Foundation as and when needed.

45. Preparation and approval of the Community Action Plan (CAP). Before the sub-projects are identified and designed, the community will consider its overall socio-economic development potential and clearly delineate which are key public investment priorities and those that are of private nature. The participatory village development planning process (VDPP), applied during implementation of the KLSP and detailed in the PIM, will clearly bring out which priority areas deserve support from the Project. This VDPP will be facilitated by the CFs jointly with the VO Councils/CIG(s). A simple CAP will be prepared which will describe how the community wishes to see its economic situation change in the medium to long-term. The CF will screen the CAP before it is submitted to the DPOs/PMU for no objection to ensure that all the relevant eligibility criteria are met. The DDC/DA will approve the CAP, thus providing a base for identification and preparation of one or more specific sub-projects/business plans, which may be financed from the Community Development Funds/Innovation Grants under Component 2.

46. Identification and preparation of sub-projects and business plans. Priority sub-projects/business will be identified from the assessment done and included in the CAP. The CF, PMU DPOs, *Hukumat/Jamoat* and/or technical service staff with the required skills (engineer, agricultural specialist or service provider on agribusiness/entrepreneurship) will facilitate the VOs Councils/CIGs to design preliminary technical specifications and cost estimates of sub-projects/business plans. A brief description of the sub-project/business plans, including their components with estimates of costs will be made based on the format established under the KLSP. Once the VO Councils and CIG(s) have reached a consensus on what sub-project(s)/business plans to propose and the rapid review has shown their technical and economic viability, the proposals will be submitted for vetting and approval. To ensure transparency, the community will vote on whether to submit/or not submit for approval vetting. The voting procedure will be decided by the community.

47. Vetting and approval of sub-projects and business plans. The CF and *Jamoat* Council will screen the sub-project proposals before they are submitted to the DPOs/PMU to ensure that all the relevant criteria have been are met. The CF with support from a service provider on farming as a

business (if needed) will screen the business plans from CIGs to ensure they meet the set criteria. The CF with technical support from relevant district staff and service providers will assist the VO Councils/CIG(s) in submitting complete and eligible formal sub-project proposals/business plans. A positive review by the DPOs/PMU will lead to a no-objection being issued by the DDC/DA. Following this endorsement (and where needed no objection from IFAD) the PMU/DPOs will send a formal letter of acceptance of the sub-project to VO Councils/CIG(s) and a copy is sent to the PSC for information. Details of the process will be contained in the PIM.

48. The table below summarizes in chronological order the key implementation steps:

No.	Activity	Responsibility
1.	Village Ranking	PMU
2.	Contract Community Facilitator (CF)	PMU
3.	Hold regional workshops (in Khatlon, Soght and RRS) to inform all stakeholders about the project	PMU/DPOs and CF
4.	Hold district workshops to inform district stakeholders about the project and to establish District Development Committees (DDC) as required	PMU/DPO and CF *Hukumats/Jamoats*
5.	Village selection	DDC/DA and PMU
6.	Community mobilisation, including establishment of Village Organizations (VOs), if required, and Common Interest Groups (CIGs) on a self-initiated basis	CF
7.	Preparation and signing of Memorandum of Understanding (MoU) with *Jamoat* Councils	PMU, VOs and *Jamoat* Councils
7.	Preparation and signing of Community Grant Agreements (CGA) with VO or *Jamoat* Councils if VO is not a legal entity	DPOs, VOs and VO or *Jamoat* Councils
8.	Preparation of CAP in line with an established in the PIM format and community capacity building	VO with assistance from CF
9.	Village level referendum to approve the proposed sub-project proposals (more than 50% of positive votes, at least 80% participation of households representatives)	VO/CIGs with assistance from CF
10.	Review of CAP and verification; verification will be made against a set of criteria in a simple form described in the PIM	DPOs, PMU
11.	Approval of CAP	Jamoat Council (IFAD no objection for first 10 CAPs)
12.	Preparation of *Jamoat* Development Plan	*Jamoat* Council with assistance of the CF
13.	Preparation of first round of sub-projects in line with an established in the PIM format and associated training	VO/CIGs with assistance of the CF
14.	Deposit cash contribution	VO/CIGs
15.	Review and verification of sub-projects; verification will be made against a set of criteria in a simple form described in the PIM	DPO/PMU (IFAD no objection for first 10 sub-projects and for all sub-projects above USD 50,000)
16.	Approval of sub-projects	DDC/DA
17.	Prepare and sign contracts for implementation of sub-projects	PMU
18.	Project implementation, financing, training, monitoring and reporting	VO/CIGs with support from CF and PMU/DPO
19.	Second and third round of sub-projects (subsequent funding depends upon meeting by VO the criteria against clearly indicated milestones, i.e. institutional assessment, successful implementation of 1st priority sub-project, community contribution and O&M requirements)	Repeat as above
20.	Evaluation of completed sub-projects	External Evaluators

49. **Sub-component 1.2. Strengthening service agencies.** Implementation of this Sub-component will involve training and skills enhancement of service agencies including government staff, business advisers, input supplies, agricultural machinery service providers, etc.

50. As was previously mentioned, within three months of Project start-up, the PMU will recruit a Community and Institutional Development (CID) Specialist for coordination of CID activities to be implemented under Component 1. At the same time the PMU will hire a Business Development (BD) Specialist for coordination of business related activities. They will be initially supported by an international Community and Institutional Development Adviser (CID Adviser) and a Business Development Adviser (BD Adviser) respectively, who would be contracted within three months of Project start-up and who would help the PMU to enhance the PIM (outlined in the Project Design Report based on the KLSP PIM) including TORs for all service providers and other consultants. TORs for CID and BD Specialists and International Advisers are presented in Annex 5.1.

51. The purpose of training activities will be to increase staff competence and skills, and thereby, to improve performance of agencies, who in turn would enhance the capacity of concerned VOs and CIGs. The training of *Hukumat* and *Jamoat* staff will ensure that they attain organizational maturity to perform the functions they will be mandated with. As mentioned above, based on a rapid training needs assessment in the first months of Project start-up, a training plan will be developed containing three parts: (i) training of *Hukumat/Jamoat staff*; (ii) training of service providers (business advice, input suppliers, whole sellers, etc.); and (iiI) capacity building of machinery service providers. This training plan will incorporate both appropriate modules and training methodologies. There will be four types of training:

a) Limited formal training: where staff will attend short-term residential courses - such as on extension service approaches;
b) Informal training: where training will more informal, such as through workshops;
c) On-the job training: where training will be carried as part of supervising staff;
d) Through study-tours and learning routes from successful projects in the region – e.g. in Moldova.

52. Developing the training plan. The PMU with support from the *Hukumat* and *Jamoat* staff, the CFs and international/national TA will develop a training plan based on:

a) Findings of the rapid assessment in the first month of Project start-up, which will be facilitated by the PMU with support from a service provider. The assessment will involve visits to all Project sites, extensive discussions with various stakeholders and in particular existing VOs/CIGs and community members, staff of *Hukumats* and *Jamoats*, the Ministry of Agriculture, NGOs such as the Agha Khan Foundation, processors and input suppliers, traders, farmers including women. The primary organizational and technical training needs of staff and VOs/CIGs will be identified.
b) The PMU will present a draft training plan at a planning workshop with key stakeholders for comments and validation. The training plan will include the types of training modules to be delivered, number of persons or organizations to take responsibility for organizing the training, aims or general objectives of the training, participants' type and number, and targeted duration/dates for implementation and who would carry out the training (DPOs, CFs, contracted service provider, implementing partner, etc.). A training budget for each of the types of proposed modules will be drawn up to inform successive AWPBs.

53. Implementation of the training plan. Different training methods will be applied based on need such as group discussion, brainstorming, question-answer, card writing, demonstration, role play, simulation game, field visit, practical exercise, where appropriate should be used. Based on the training plan, a training calendar will be prepared to deliver the training sessions to the different participants. A record of all training events will be kept by the DPOs, CFs/implementation partners and the PMU. To facilitate the training process, the PMU and the *Hukumat/Jamoat* and CFs will prepare training module-planning sheets for each training event and types of target participants. It is expected that the PMU, DPOs, CFs and hired trainers will use similar sheets during the implementation of the training tasks. Flexibility will however be exercised as some adjustments may be required during implementation.

54. Training programmes will include existing national and regional training products that have been evaluated and accepted as appropriate for the target audience and new training products developed by contracted individuals, faculties and institutes based on their respective competencies. Training material may be in the form of infographics, videos, and concise manuals available to training beneficiaries in digital form. Identified trainers will receive competency-based ToT training from international TA. Knowledge retention of trained trainers will be tested 6 months after the completion of ToT courses, with low knowledge retention rates leading to replacement or retraining.

55. Trained trainers will be contracted to deliver competency-based training on a per head basis, with knowledge retention/adoption by trainees to be tested with a statistically significant sample of randomly selected trainees between 6-12 months after receiving training. Training locations and times will be determined in close consultation with trainees (e.g. local administration office, successful farmer premises or university faculties).

56. Training for machinery operators. Once a positive decision on the participation of a machinery service provider will be taken (see further in paragraphs 66- 70 details of selection process) and a grant award contract will be signed, the machinery service provider involved in the MRWs activity will benefit from technical expertise and capacity building programme provided by the Project. Further, training courses for machinery operators from Agricultural Mechanization Service Centres (AMSC) and VOs will be performed by qualified engineers who will be hired by the Project in the position of Trainers for Machinery Operators (TMO). The TMOs will be hired locally and will be proficiency tested and certified by the Maintenance and Repair Expert from the Project. The TMOs will be responsible for training of machinery operators as well as for testing of those operators at the completion of the training courses. The courses will be mandatory for all machinery operators despite the availability of driving licence for operation of agricultural machinery. The driving licence for operation of agricultural machinery will be anyway mandatory for operation of agricultural machinery as it is required by the local legislation.

57. During the whole period of implementation, the Project will assist agricultural machinery service providers in organising regular training courses for farmers in the regions and machinery operators from VOs on machinery operation and basic maintenance procedures. The machinery from the Project will be released to the AMSC including those operated by *dekhan* farmers or VOs only after assurance that a trained person could operate it. For this purpose, special certification procedure will be established by the Project.

58. Technical assistance for mechanization. Within three months from Project start-up, the Project will begin to mobilize international experts to assist the PMU in implementation of Sub-component 1.2 and 2.2, linked with capacity building activities and provision of improved machinery services. The following international experts will be mobilized: a) one Maintenance and Repair Expert (RME), b) one Agricultural Machinery and Leasing Expert (AMLE); c) one Legal And Trade Logistics Expert (LTLE); d) one Maintenance and Service Expert (MSE), and d) three Repair and Maintenance Experts ToT (RME ToT).

59. International expertise to the PMU will cover but will not be limited to the following:

a) Assist the PMU in the process of selection of beneficiaries for the Sub-component,
b) Ex-ante evaluation of the capacities of the applicants to fulfill Project criteria;
c) Assistance to PMU Selection Committee in the process of screening the applications and selection of potential beneficiaries;
d) Development of criteria and procedures for selection of machinery service providers applying for participation in the Project;
e) Training of PMU staff and Selection Committee members on the methodology and selection procedures for selection of machinery service providers applying for participation in the Project;
f) Recommendations to the PMU on the lists of the equipment agreed with the participating machinery service provider for procurement;

g) Training of PMU staff on procurement and logistics linked with transactions on agricultural machinery and equipment;

h) Assist the PMU in international procurements to ensure transparent and competitive procurement process in place.

60. International expertise to participating machinery service providers will cover but will not be limited to the following:

a) Technical requirements for facilities and logistics to be built for services;

b) Recommendations on improvement of the existing facilities;

c) Development of basic training programmes on repair and maintenance of agricultural machinery;

d) Training of the engineering staff in repair and maintenance of agricultural machinery;

e) Training of the trainers from the engineering staff in maintenance and repair of agricultural machinery;

f) Development of basic training programmes for machinery operators on basic maintenance and operation of machinery;

g) Assistance to agricultural machinery service providers in organizing regular training courses for farmers in the regions on machinery operation and basic maintenance procedures;

h) Training the trainers on techniques for maintenance and repair of agricultural machinery and equipment;

i) Development of a series of basic training programmes for machinery operators on basic maintenance and operation of machinery;

j) Certification of Trainers for Machinery Operators (TMO);

k) Revision of legal documentation, including documentation related to import transactions as well as that related to the leasing mechanism;

l) Training on development of demand based technical specifications for machinery and equipment to be procured.

61. All the engineering staff to be accepted for the training will be obliged to pass a basic proficiency test on the knowledge on maintenance and repair of machinery and equipment. The testing procedure will be organized and performed by the RME ToT prior to the launching of the training programs. This procedure will be mandatory for all engineering staff of the participating machinery service providers in order to ensure a sustainable and efficient process of knowledge transfer to the local engineering staff, resulting in an efficient and sustainable operation of the MRWs following the Project closure.

Component 2. Improvement of Agricultural Productivity and Business Linkages

62. **Sub-component 2.1. Community Development Funds.** Implementation arrangements for this Sub-component include actual implementation of individual sub-projects, supervision of works and goods' delivery, and monitoring of sub-projects and CAPs, with the following distribution of responsibilities between the parties:

VO Councils and CIG(s)

- Implementing sub-project activities following appropriate technical, financial and management procedures, including proper management of goods or equipment acquired during implementation;
- Ensuring provision of the VO/CIG(s) contribution;
- Financial management, including accounting for all disbursements originating from the sub-project grant, in compliance with project requirements;
- Participation in various steps of the tender process;

- Supervision of works;
- Ensuring compliance with implementation plans and schedules; and with project guidelines, national legislation;
- Regular reporting to PMU and CF in accordance with the provisions of Community Grant Agreement;
- Regular provision of information to the beneficiary community on the main implementation issues;
- Consultation with the beneficiary community on the main implementation issues;
- Internal monitoring and evaluation;
- Organising of operation and maintenance of completed facilities.

Community Facilitators

- Providing advisory services to the VO Council/CIG(s) during implementation;
- Providing technical assistance in various stages of procurement cycle such as: identification of needs, classification by categories/groups, verification, inspection and tests during receipt of goods to the VO Council/CIG(s) in carrying out procurement and contracting (if they do procurement);
- Follow up on the progress of sub-project implementation;
- Regular reporting to the PMU in accordance with the contractual and M&E provisions.

PMU/DPO

- Procurement and contracting of all works, goods and services;
- Monitor progress of sub-project implementation;
- Execution of payments according to prepared and signed payment documents;
- Filing sub-project documentation and entering information into the MIS (Management Information System);
- Provision of technical assistance and training both to the CF and VO Council/CIG(s), as required.

63. Implementation plan. For the agreed upon sub-project/business plan, an implementation plan will be prepared defining the steps needed to implement them. While the VO Councils will implement the sub-projects and/or supervise them if contracted out, the CIGs will be responsible for implementing their business plans with support from CF/*Jamoat* staff and business mentors as and when demanded. The *Hukumat/Jamoat* staff will provide overall implementation/supervision support. The implementation plan will take into account the implementation period, expected results, those responsible and services it can use to help implementation.

64. Once the sub-project proposal has been approved the following activities take place: i) delivery of community contribution; ii) open tender, held in the capital/district centre; iii) technical review of bids; vi) contracting of tender winner. VO Council/CIG(s) representatives participate in various phases of procurement with PMU.

65. **Sub-component 2.2. Provision of improved machinery services.** The PMU will be primarily responsible for the implementation of all activities under this Sub-component, including the process of selection of service providers, procurement of specialized equipment and trainings to Project beneficiaries.

66. Selection of agricultural machinery service providers. Selection process for machinery service providers applying for AMSCs and MRWs grant component will be demand driven and based on open competition. The detailed mechanism for screening of the applications, eligibility criteria and business plan assessment will be set in the PIM.

67. The eligible entities qualifying for participation in the Project as Maintenance and Repair Workshop (MRWs) and Agricultural Mechanization Service Centres (AMSCs) will be asked to submit a business plan and a technical proposal (based on a needs assessment on machinery requirements of the area of intervention) to be assessed by the PMU Selection Committee. Additionally, an ex-ante evaluation of the eligible entities will be performed by the International Maintenance and Service Expert. The evaluation will consider the following aspects: a) assessment of technical capacities on maintenance and service of agricultural machinery and equipment, including availability of physical assets, b) assessment of the capacities of the technical staff (engineers), and c) assessment of institutional capacities on service delivery. The evaluation reports will be submitted to the PMU Selection Committee for consideration during the final evaluation of the business plan and decision on eligibility to participate in the Project.

68. The PMU Selection Committee will be assisted in the process of screening the applications and selection of potential beneficiaries by the Agricultural Machinery and Leasing Expert and Maintenance and Service Expert. Prior to the launch of the selection process, both experts will train the PMU staff and Selection Committee members on the methodology and selection procedures for selection of machinery service providers applying for participation in the Project. The experts will also be responsible for development of the selection criteria and selection procedures.

69. The minimum requirements for the private and/or public companies, specialised machinery service providers and large *dekhan* farmers willing to participate in the Project will consist but not limited to the following: i) availability of financial resources and willingness to invest at least 50% of the funds required for the initiation of the business; ii) at least 3 year experience in the business, or related businesses, linked with engineering and machinery or equipment service; iii) positive balance sheets and credit history for at least 3 years period; iv) availability of physical assets and premises required for establishment of the business; v) availability of qualified engineering staff, able to benefit from technical assistance and professional training provided by the technical experts of the Project; vi) availability of technical staff, required for a sustainable operation; and vii) willingness to follow the Project targeting of women and youth.

70. In case of associated small *dekhan* farmers the minimum requirements will include:

- Formal registration of the association;
- opening of dedicated bank account in the name of the association;
- Formal willingness to provide contribution with a value of at least 25% of that of the machinery and equipment to be procured;
- Adherence to the Project approach;
- Commitment to service (up to 20% of the machinery services) non members of the association among the specific vulnerable target groups of the Project;
- Preparation of a sound technical proposal and business plan;
- Participation in various steps of the tender process;
- Ensuring compliance with implementation plans and schedules; and with project guidelines, national legislation;
- Regular reporting to PMU;
- Consultation with the members of the association on the main implementation issues;
- Internal monitoring and evaluation;
- Organising a plan for proper operation and maintenance of machinery and equipment.

71. With special regard to the AMSC investments that are specific for CA (no till seeder and subsoiler as shown in the indicative lists in paragraph 79), the Project contribution will be 80% to be completed by applicants with the remainder (20%).

72. The applicants that will fail to comply with the minimum eligibility criteria set by the Project would not be eligible to participate. Entities that are subject to bankruptcy, criminal investigation, fraud, corruption or are in default of contractual agreements would be ineligible to participate as well.

73. Thorough screening of enquiries will make the process of approving an application efficient. After a review of application documentation for completeness, the applicant's business plan will be appraised. The appraisal aims to verify all aspects of the plan including marketing, management and costs and returns. As a result of the appraisal, a recommendation is made to approve or decline an application for participation in the Project. If the recommendation is positive, the terms and conditions are specified.

74. Following the decision on the participation in the Project, selected machinery service providers will be assisted by the Maintenance and Service Expert in designing and finalization of the procurement list for specific maintenance and repair equipment required for the MRWs activity. The expert will also provide advice to the machinery service providers on the technical requirements for facilities and logistics to be built for such type of services. Recommendations on improvement of the existing facilities will also be provided.

75. The Maintenance and Service Expert will provide written recommendations to the PMU on the final list of the equipment that was recommended and agreed with the participating machinery service providers. The list will serve as a basis for the decision on the amount to be granted to the machinery service provider as a parity investment (50/50) in the MRWs facility.

76. The list of the equipment for MRWs will be approved by the PMU and will be included in the Procurement Plan of the Project. The procurement of the equipment for MRWs will be performed by the PMU and will be assisted by the International Legal and Trade Logistics Expert (ToR attached in Annex 4.1.). The Legal and Trade Logistics Expert will organize a series of trainings for PMU staff and Procurement Officer on procurement and logistics linked with transactions with agricultural machinery and equipment. The expert will also support the PMU in the procurement process.

77. The AMSC's will provide mechanization services on a fee basis to all types of agricultural producers, including individual and collective *dehkan* farms, and to VOs. Service agreements will regulate the relationships and rules between the AMSCs and the MRWs and the farming clientele:

- *Access to services.* To ensure that access to services are provided to the Project target beneficiaries, the PMU will foresee special provisions in the grant contract with service providers for AMSCs and MRWs that services will be made accessible to all beneficiaries in the Project intervention area.
- *Maintenance of equipment.* Given the fact that the equipment provided to VOs will be covered 90% by grant, a special provision will be included in the grant contract with VO's, obliging them to perform maintenance and repair of the machinery granted through the CASP in specialized MRWs. This will guarantee that the life span and integrity of the machinery will be extended beyond the life time of the Project and will be more efficiently used.

78. **Sub-component 2.3. Innovation Grants.** The PMU will select potential applicants (research institutes, NGOs, extension agents, advisory service providers) interested in developing/applying innovative agricultural technologies/products and solutions and committed to disseminating lessons learnt as a result of this process.

79. The indicative eligibility criteria can include (but not limited to):

- Have an extensive experience in agricultural applied research.
- Be experienced in delivering advisory services.
- Be interested and committed to Project targeting, approach and modalities.
- Have the necessary staff, knowledge, physical and other resources to implement the innovation development work under the project.
- Have a sound business proposal and appropriate budgeting and budget control procedures.

- Be willing to share and publicize lessons learnt as a result of the innovation product development (both positive and negative).
- Having prior experience in innovative product development and extension will be a plus.

80. The applicants meeting the eligibility criteria should be issued a “Request for Proposal” and should submit their Innovation Grant proposals to the PMU. A clear dissemination plan should be part of such a proposal.

81. To facilitate the Innovation Grants selection, the PMU will form a Panel of experts, which may consist of both local as well as international specialists. The Panel may include experts of IFAD and FAO to ensure technical competence as well as objective third party assessment of the quality of the proposals.

82. Together with the Panel, the PMU will develop a scoring methodology to help guide the selection process. The scoring criteria may include (but are not limited to):

- Applicant’s compliance with the eligibility criteria;
- Prior Applicant’s experience in the development of agricultural innovations and solutions;
- Applicant’s openness and willingness to share results as evidenced by prior publications (including online platforms);
- Applicant’s willingness to co-fund the proposed innovation/solution;
- The proposal’s focus on IFAD’s target group and Project objectives;
- The innovativeness of the proposal and its potential to generate lessons for the country’s agricultural sector.

83. Together with the Panel, the PMU will develop a system to weigh the criteria to facilitate the assessment of the proposals.

84. All decisions on the Innovation Grants selection should be documented in detail and clearly show that all selected Grants meet the eligibility criteria and satisfy other Project requirements, and include detailed budgets and implementation plans as well as expected outputs/outcomes/impact prior to the implementation of the proposal.

85. The PMU should establish a threshold budget per one proposal (e.g. USD 100,000) and limit the number of proposals per one grant recipient (e.g. up to 2) and duration (e.g. up to 2 years).

86. All of the Innovation Grants selection stages and conditions should be part of the PIM.

87. Respective agreements will be signed with selected grant recipients following the IFAD’s procurement procedures.

88. The priority will be given to Innovation Grant Proposals targeting women and youth participation.

89. Selected Innovation Grants need to demonstrate the potential to contribute to the development of the sector that is:

- *Competitive:* meeting market demand and,
- *Inclusive:* providing benefits to economically vulnerable and marginalized groups, and
- *Resilient: promoting technologies for climate change adaptation.*

90. The CASP will support multiple products as this would allow to simultaneously meeting several objectives. For example, a mixture of fodder/orchards and apiculture may be selected to generate income, improve nutrition, and empower women. At the household level, support to a variety of products can encourage diverse livelihoods that spread risk, maximize the sustainable use of land and labour resources, and allow for greater income.

91. The main selection criteria for the Innovation Grants will be the *establishment/enhancement of the partnerships between primary producers and a scientists/researcher*. The participants will benefit from the Project on a competitive basis. The other selection criteria will be the commercial potential and impact potential. A format of the Innovation Grant Proposal, selection criteria, evaluation modalities and other implementation procedures will be detailed in the PIM.

92. *Commercial Potential.* Significant and sustainable increases in income and employment occur as a result of innovation through an optimal combination of efficiency, product differentiation and access to new or niche markets – will be the most important criterion in Innovation Grant selection for Project support.

93. *Impact Potential.* It is important that the selection of Innovation Grants leads to the desired impact on the target group, namely, smallholders, women and youth.

Annex 5.1: Terms of Reference for key service providers, staff and consultants

COMMUNITY FACILITATOR

These TORs are indicative and need to be read in conjunction with the Project Implementation Manual that describes the role of facilitators in mobilising and organising participating community groups. They may be modified in agreement with the PMU and with no objection from IFAD.

The Community Facilitator (CF) is an experienced organisation (NGO, CBO, etc.) in social mobilisation and development. The principal tasks of the CF are to ensure that the communities are effectively mobilised and have the capacity to plan and implement their development plan and grant sub-projects; monitor and evaluate sub-projects; and provide efficient operation and maintenance of investments. The CF will manage community development programme implementation and provide technical assistance in communities, within clusters or micro-regions, selected by the Project including capacity building activities that would enable the VO Councils/CIG(s) to:

- Manage effectively the medium-term Community Action Planning process and Plan;
- Prepare sub-projects and budgets according to community ranked priorities;
- Receive training in management and monitoring of operations, maintenance of investments and development of market linkages; and
- Oversee community management of the use and the effectiveness of grant funds allocated, including training communities to calculate community contributions for priority productive infrastructure and income-generating sub-projects.

During project implementation the CF will follow the guidelines included in the Project Implementation Manual.

Main responsibilities and tasks of the CF will be:

- Provide qualified personnel for the assignment. The minimum requirements to the number and area of expertise are: per district - a manager, an agricultural specialist, an engineer, an accountant; and community development specialists - at least one per *Jamoat*. The CF should keep in mind that the involvement of female facilitators may be required in some conservative areas.
- Supply equipment, materials, and facilities needed to undertake assignment (e.g., suitable vehicles, portable power generator, camera, materials needed to undertake and record initial participatory analysis, feasibility analysis, implementation progress, monitoring and evaluation, etc.);
- Maintain the focus on the poor, vulnerable and women within the project area and ensure that they are able to actively participate in programme decision making and implementation; develop special strategies to ensure their inclusion in project activities as well as to ensure that at least 40% of the project beneficiaries are women;
- Pay attention to climate change adaptation issues and sustainable agricultural practices;
- Liaising on a regular basis with the PMUs and other project staff working in the districts;
- Facilitate the development of new or expansion and strengthening of community-based Village Organizations in line with AKF MSDSP's approach and procedures;
- Facilitate in initial participatory analysis within villages in collaboration with *Jamoat* Councils, including identification and formation of Common Interest Groups (CIG(s)) and other household participants;
- Facilitate the development and strengthening of people-based organizations at *Jamoat* level;
- Provide training in community driven development (including participatory analysis techniques) for *Jamoat* Councils and DA staff;

- Provide capacity building training for communities in: (i) community development and participation; (ii) selection and functions of the VO Council, formation of CIG(s), Community Grant Agreement; (iii) community planning including CAP formulation or updating; (iv) sub-project identification and proposal writing; (v) developing and managing budgets; (vi) techniques to mobilise better human and financial resources from within the community (including remittances), or identify alternative funding sources; (vii) quality control of inputs, produce, products, equipment, support services; and (viii) procurement, costing and accounting, business and financial management, tendering procedures, monitoring and evaluation, operation and maintenance;
- Develop demand-driven training packages as specified in the PIM;
- Facilitate the development of CAPs for the Village Organizations in line with the AKF MSDSP's Village Management Planning Process and Formats;
- Facilitate village members in the preparation of sub-project proposals including arranging the technical and financial assistance required for the feasibility analysis and detailed design of sub-projects; if required arrange for line agency specialists to assist in this process;
- Conduct pre-appraisal of CAPs and sub-projects;
- Arrange and participate in the appraisal of sub-projects, including site visits
- Keep the *Jamoat* Councils, DAs and PMU informed of schedule and project plan adjustments;
- Provide technical and managerial assistance to VOs, CIG(s) and households undertaking the sub-projects during implementation of activities;
- Participate in monitoring of sub-project activities and associated impacts, and assist villages and *Jamoat* Councils/DAs in conducting participatory monitoring;
- Helping VO Council/CIG(s) follow timely and proper procedures, review all forms for completion and compliance with project regulations, and review local bidding process for opening tenders for contractors/suppliers;
- Help build the capacity of *Jamoat* Councils to undertake their project responsibilities;
- Facilitate *Jamoat* Councils in screening CAPs and sub-project proposals;
- Support Jamoat Councils in preparation of *Jamoat* Development Plans;
- Participate in regular village, *Jamoat* Councils, DA, PSC consideration of work plans, sub-projects, and project processes;
- Keep electronic and hard copy files for each of its communities and complete the Community Data Sheets on a six-monthly basis;
- Maintain regular grant records on community activities by community and by sub-project;
- Provide periodic financial and progress reports to the PMU as mutually agreed;
- Coordinate with and provide support and information to consultants selected for baseline and impact assessment surveys;
- Promote good relations between the village members and other project partners and stakeholders (e.g., *Jamoat* Councils, DA, PMU, line agency staff, private sector input suppliers, machinery service providers, and private sector marketing agents) and help in prevention and resolution of conflicts; and
- Otherwise help carry out project in accordance with arrangements outlined in the PIM.

Duration:	The duration of the consultancy is 12 months subject to renewal each year for up to six years subject to good performance. The contract with the CF will be a result-based contract.
Qualifications:	Organization with long-term field experience within Tajikistan in facilitation of participatory analysis and implementation support for small-scale community-based agricultural, natural resource management, and rural infrastructure development sub-projects. Capacity to supply equipment, materials, and facilities needed to undertake assignment. Having mix of local personnel in its staff to perform the responsibility.
Coverage	Project districts: TBI
Reporting:	During the course of this assignment, the CF will directly report to the Project Director. The CF will be required to provide brief monthly progress reports defining the status of ongoing and indicating planned activities as well as problems encountered with proposed solutions. Other report requirements would be agreed during contract negotiations.

COMMUNITY AND INSTITUTIONAL DEVELOPMENT CONSULTANT (National)

The Community Development (CID) Consultant will report directly to the Project Director and be directly responsible for supervising the work of the Community Facilitator (CF) in close coordination with District Project Officers (DPOs).

The key task of the CID Consultant will be to ensure that the targeting objectives of the Project are reached and that the technical interventions are integrated and phased into a coherent planning framework that reflects community priorities and capacities. S/He will also be responsible for representing community interests to the PSC, the PMU and other policy and management institutions. S/He will also be responsible for ensuring that communities are kept fully informed of policy and legislative developments that affect their entitlements. S/He will work closely with the Gender Consultant in coordinating activities and supporting gender targeting objectives.

In more detail her/his tasks include:

- Review the PIM, specifically the guidelines for promotion, community mobilisation, the community planning process and the Community Handbook. Validate and/or refine the proposed programme approach, activities and implementation arrangements, and systems for the DPOs and the CF;
- With support from CID Adviser, review and validate and/or refine the Training Manuals, Community Handbook and action plans prepared by the DPOs;
- With support from CID Adviser, develop a Capacity Building Training Plan including: (i) number and types of participatory learning and capacity assessment training workshops required; (ii) new topics to be covered; and (iii) duration, location, costs, and personnel or organizations (national and international) appropriate to carry out training;
- With support from CID Adviser, develop and carry out training sessions with the governmental staff, DPOs and the CF in critical thinking analysis techniques for use throughout the entire community mobilisation and community planning and sub-project implementation process, including operation and maintenance;
- Assume responsibility for developing a work plan for community mobilisation together with local communities, DPOs, the CF, other PMU specialists and the CID Adviser;
- Work together with the CF, Gender Consultant, DPOs and other TA and *Jamoat* Councils in creating awareness and disseminating information about the Project objectives;
- Work together with the Gender Consultant, DPOs CID Adviser and the CF in developing gender sensitive participatory analysis methods to chart community interests, constraints and priorities for their development;
- Work together with the Gender Consultant and DPOs and supervise work of CF in target group identification and be responsible for monitoring the poverty and gender orientation of the inputs;
- Work together with Gender Consultant and DPOs and supervise work of CF in establishment of VOs and CIG's;
- Work together with PMU specialists and consultants to establish the integration and phasing of technical inputs and develop and adjust AWPB in line with this plan;
- Be responsible for ensuring that technical inputs remain gender sensitive, focused on the target group and operate through the appropriate institutions;
- Together with the DPOs, CID Adviser and CF develop simple user-friendly information for project participants;
- Collaborate with PMU specialists and consultants to identify the legal and policy issues that affect local entitlements to local resources (land, water, forests, etc.) and develop a strategy for how to represent and support community interests;

- Collaborate with other PMU specialists in developing a training schedule for the *Jamoat* and *Hukumat* Administrations' and MOA staff;
- Collaborate with the DPOs and the CF in organising training schedules and selecting participants for workshops and study tours that are effectively targeted and gender sensitive;
- Assist the Project Director, the M&E Specialist and other PMU specialists in reviewing progress reports and AWPB. Assume responsibility for ensuring that sex disaggregated data is provided and write a quarterly progress report on community and gender mobilisation that shows progress, problems and actions to be undertaken.

COMMUNITY AND INSTITUTIONAL DEVELOPMENT ADVISER (International)

The Community Development (CID) Adviser will report to the PMU Director and will work closely with the District Project Officers (DPOs) and with the CF team leaders.

Specific Tasks:

- Review the PIM, specifically the guidelines for promotion, community mobilisation, the community planning process and the Community Handbook. Validate and/or refine the proposed programme approach, activities and implementation arrangements, and systems for the DPOs and the CF;
- Review and validate and/or refine the Training Manuals, Community Handbook and action plans prepared by the DPOs;
- Observe and evaluate staff for community mobilisation activities, including: surveying techniques, door-to-door interviews, public meetings, meetings with officials, and CAP planning and sub-project implementation process;
- Assess the mobilisation processes in rural communities (who to mobilise and how), including the participatory learning and action exercises and working with local governments for mobilising district and national level resources and CF resources to complement community and project resources;
- Critically evaluate the mobilisation and community development training and planning processes and make specific recommendations for improving the content and implementation, specifically focusing on the number and duration of interventions (on average) required by the CF for the mobilising and planning exercises (from the initial visit to the community through to the submission of the CAP and first sub-project);
- Develop a Capacity Building Training Plan including: (i) number and types of participatory learning and capacity assessment training workshops required; (ii) new topics to be covered; and (iii) duration, location, costs, and personnel or organizations (national and international) appropriate to carry out training;
- Develop and carry out training sessions with the governmental staff, DPOs and the CF in critical thinking analysis techniques for use throughout the entire community mobilisation and community planning and sub-project implementation process, including operation and maintenance;
- Develop and carry out training sessions with the governmental staff, the DPOs and the CF on ‘advocacy’, covering how it can be effectively used as a development tool in planning, project implementation and sustainability and in mobilising additional resources;
- Develop and carry out training sessions with the governmental staff, the DPOs and the CF on “conflict resolution and conflict mapping, covering how it can be effectively used as a development tool for planning, project implementation, product market chain and market linkage development, and the mobilising additional resources;
- Identify and deliver techniques for motivating women and youth to become actively involved in community planning and project decision-making initiatives, and provide examples of appropriate participatory learning and action approaches that will improve their participation in capacity building activities, infrastructure sub-projects, and agri-business-related training and market assistance sub-projects;
- Provide participatory community development methodologies and strategic medium-term planning tools to the DPOs and the CF including: (i) how to elaborate plans and develop budgets through “planning work” groups, including how to prepare planning sheets, how to write interview questions, select performance indicators and results – qualitative and quantitative; (ii) how to prepare task schedules; and (iii) how to manage and monitor resistant and supportive team members, strong leaders and weak leaders, in planning work groups and

in presentation of planning work group efforts to the VO Council/CIG(s) and general community.

- Identify and develop 'media displays' within the community: (i) involving how to organise charts and tables to use for planning at community meetings; and (ii) how to effectively use Community Handbook for capacity building for project activities and in building agri-business and market related training activities with specific interest groups from the community and/or cluster or micro-region;
- Identify, develop and train DPOs and PMU staff on "media promotional materials" work programme, involving how to plan promotional news items, types of booklets and explanatory videos to be useful in community, micro-region, regional and national level workshops and meetings, including preparing outlines for videos and booklets, and methods to use these materials to expand the communities' operations and outreach within the community and among neighbouring communities;
- Provide technical guidance in making informed decisions for planning well for, developing, and executing an appropriate community (graduation) plan for all of the partner communities to ensure the positive momentum initiated under the project continues;
- Provide an on-the-job training for the CID Consultant, the DPOs and the staff of CF and *Jamoat* Councils by conducting general community meetings in one community of each district and the whole mobilisation exercise in one community.

Time Frame

The inputs for the consultant would be 2 months as follows: (i) one month in Year 1; and (ii) one month in Year 2. The timing of the first input would be determined: (i) after the DPOs are contracted; (ii) the micro-regions or clusters and communities have been selected, and (iii) CF is in place. The second input would occur as agreed with the PMU.

Deliverables

The Consultant will prepare a report on each assignment completed. The consultant will in addition prepare the following specific reports:

- Training Framework to be provided one week after arriving in the country for each input (e.g. revisions to training curriculum following site visits in one district).
- Capacity Building Training Plan and draft curriculum outlines for use by DPOs and CF, including the design of specific conflict management methodologies, advocacy methodologies, activities to increase involvement of women/youth, and planning work group methodologies to be incorporated into the project (during the second input).
- Status report after 15 days (for each input) of fieldwork with the DPOs on effective use of participatory methodologies in mobilisation, planning, and promotion activities, and efficiency of the sub-project cycle process for disbursement of the community grants.

Qualifications

The consultant will have the following qualifications: (i) relevant degree in social science, institutional development or related field; (ii) a minimum of ten years' experience in the field of community development programme implementation aimed at infrastructure improvement and income generation and capacity-building training; (iii) training skills in participatory learning and action methodologies with formal and informal community organizations involved in strategic planning, project implementation; (iv) ability to communicate effectively with farmers, public sector officials and civic society organizations; (v) previous experience with donor activities and understanding of donor requirements; (vi) Tajik experience preferable but ECA experience essential; and (vii) fluency in written and spoken English with Russian/Tajik languages capability a plus.

BUSINESS DEVELOPMENT CONSULTANT (National)

Duties and Responsibilities

- Coordinate the mapping of all key value chain stakeholders in the Project area;
- Initiate consultations with identified value chain stakeholders to develop linkages with VOs, CIGs and farmers;
- Guide implementation partners and technical service providers on the identification, planning, implementation, monitoring and evaluation of value chain support activities, including the promotion of entrepreneurial skills in farmers' organizations;
- Facilitate linkages and contacts between the supported value chains' stakeholders including VOs/CIGs, input suppliers and service providers, processors, middlemen and farmers;
- Coordinate the formulation and development of value chain financing mechanisms for improving the accessibility of financial services and knowledge to farmers and other value chain stakeholders;
- Ensure adequate synergies between components, in collaboration with the PMU specialists and consultants;
- Monitor the development of innovative business models and, in collaboration with the PR Consultant and the Monitoring and Evaluation Consultant ensure related knowledge management, including the identification of best practices;
- Guide the preparation and implementation of the various value chain related studies; Contribute to the preparation of project Annual Work Plans and Budgets (AWPBs) and progress reports; and
- Undertake any other duties assigned by the PMU Director.

Qualifications

- Master's degree in Agricultural Economics, Agribusiness. Agriculture, Economics, Rural Development or a related discipline from a recognized university;
- At least 8 years working experience in a similar field. 3 of which should be in senior management position;
- Experience in the private sector will be considered a plus.
- Demonstrated practical experience in facilitating livestock value chain development at field level value chain analysis and in building capacity of value chain actors. Practical experience in livestock value chains development will be an added advantage.
- Knowledge of technologies and best practices in value chain development, business development, and rural livelihoods;
- Strong computer and communications skills (oral, written, presentation);
- Strong coordination, leadership and interpersonal skills;
- A good knowledge of the local language could be an added advantage.

BUSINESS DEVELOPMENT ADVISER (International)

Duties and Responsibilities

A Business Development (BD Adviser) will be appointed by the Project. S/he's role will be to provide technical support to the PMU on a periodic basis concerning CASP development of selected value chains, and business mentoring to value chain stakeholders, particularly processors and input suppliers and service providers, active in the selected value chains and receiving Project support.

The BD Adviser, with support from the PMU, will support the directors and other key staff participating entities active in the value chains in developing the procedures and systems needed to make them operational and effective in relation to: (i) business and investment planning; (ii) supplier relationships and products collection and storage; (iii) product development; (iv) processing and marketing in local centres.

The BD Adviser's duties and responsibilities will include:

- Carry out a study on the future demand for selected promising products (volume, product types, location, competitiveness with imports) and, if needed, adjust scope and volume of the investment in this sector accordingly;
- Analyze broad developments and challenges within the selected value chains, from production, primary processing, packaging, processed products and retail, focusing on market structure, key factors of growth, and sector challenges;
- Assist in designing a value chain development and business management training programme, including the detailed training modules, and training of CASP contracted trainers who will teach beneficiaries in these fields;
- Assisting the PMU and contracted business service providers in designing and implementing the business related CASP activities;
- Providing oversight and guidance for the implementation of business related CASP activities, including:
    i. development strategies for improving links with producers and producer organizations;
    ii. strengthening aggregation activities and improvements to product quality along the value chains;
    iii. business management, negotiating skills, marketing and quality control;
    iv. market studies and test marketing;
- Conducting seminars/training/workshops for technical personnel to ensure that they are current with the recent international best practice in agricultural industry management;
- Preparing technical reports as may be required pertinent to the tasks undertaken.

Qualifications

- Minimum 10 years of experience in a mix of economic growth, trade, or value chain development, competitiveness, or agricultural development programmes;
- Minimum 5 years of experience in the private manufacturing sector;
- Demonstrated success in implementing programmes increasing the competitiveness and inclusiveness of agricultural value chains;
- Demonstrated knowledge of the latest developments in advancing good/best practices in value chain development;
- Demonstrated creativity, willingness to innovate, think systemically and design catalytic approaches to intervening;
- Experience as a senior project manager for large and complex private sector agricultural development projects.

AGRICULTURAL MACHINERY AND LEASING EXPERT (International)

Duties and Responsibilities

- Coordinate and assist the PMU in the selection process of the service agencies involved in the project Sub-component 1.2 and Sub-component 2.2.
- Develop selection criteria and mechanisms for selection of machinery service providers applying for participation in the project;
- Train the PMU staff and selection committee members in the process of selection of beneficiaries for mechanization component of the project;
- Guide implementation partners and technical service providers on the identification, planning, implementation, monitoring and evaluation of mechanization component;
- Assess technical capacities of the companies applying to the project on service delivery for both sub-components;
- Assess the capacities of the technical staff (engineers) of the service agencies to participate in the project;
- Assess institutional capacities of the companies applying to the project on service delivery for both sub-components;
- Provide recommendations for participating service providers on improvement of their institutional, technical and logistical capacities;
- Organise training for participating service providers on institutional, technical and logistical infrastructure;
- Design and provide the criteria to be followed by the eligible service providers for the preparation of their technical proposals and business plan that will then be used for evaluation and eventual selection by the PMU;
- Undertake any other duties assigned by the PMU Director.

Qualifications

- Master's degree in Agricultural Engineering, Machinery Engineering, Agricultural Economics, Agriculture, Economics, or a related discipline from a recognized university;
- At least 8 years working experience in the field of leasing operations or related areas, 3 of which should be in senior management position;
- Evidence of experience in the design, operation and/or assistance to agricultural machinery service centres (e.g. "machinery rings");
- Demonstrated practical experience in management or implementation of leasing operations, international trade with agricultural machinery and equipment.
- Experience in the private sector will be considered a plus.
- Practical experience in TA implementation in the field will be an added advantage.
- Knowledge of management and best practices in leasing operations and/or related business development;
- Strong computer and communications skills (oral, written, presentation); and
- Strong coordination, leadership and interpersonal skills.
- A good knowledge of Russian and/or local language could be an added advantage.

Duration of the assignment: up to 90 working days, split in 3 missions during the first two years of implementation.

LEGAL AND TRADE LOGISTICS EXPERT (International)

Duties and Responsibilities

- Train the PMU staff and procurement officers on procurement procedures and logistics linked with international transactions with agricultural machinery and equipment;
- Guide implementation partners and technical staff on the identification, planning, implementation, monitoring and evaluation of mechanization component;
- Assess the internal legal documentation of the machinery service providers on service delivery and internal logistics;
- Assess technical capacities of the machinery service providers applying to the project on service delivery logistics for both sub-components;
- Assess the capacities of the technical staff (engineers) of the machinery service providers to participate in the project;
- Provide recommendations for participating machinery service providers on improvement of logistics for service delivery and spare parts supply;
- Organise training for participating machinery service providers on logistical infrastructure;
- Undertake any other duties assigned by the PMU Director.

Qualifications

- Master's degree in Law, Agricultural Engineering, Machinery Engineering, Agricultural Economics, or a related discipline from a recognized university;
- At least 8 years working experience in the field of leasing operations or related areas, 3 of which should be in senior management position;
- Demonstrated practical experience in development of logistics for leasing operations, logistics in maintenance and service machinery and equipment.
- Experience in the private sector will be considered a plus.
- Practical experience in TA implementation in the field will be an added advantage.
- Knowledge of management and best practices in leasing operations and/or maintenance and repair of agricultural machinery;
- Strong computer and communications skills (oral, written, presentation); and
- Strong coordination, leadership and interpersonal skills.
- A good knowledge of Russian and/or local language could be an added advantage.

Duration of the assignment: up to 60 working days, split in 2 missions during the first two years of implementation.

MAINTENANCE AND SERVICE EXPERT (International)

Duties and Responsibilities

- Assess technical capacities of the companies applying to the project on maintenance and service of agricultural machinery and equipment, including physical assets required for maintenance and service workshops;
- Assess the capacities of the technical staff (engineers) of the machinery service providers to participate in the project;
- Assess institutional capacities of the machinery service providers applying to the project on service delivery for both sub-components;
- Establish training modules for engineering staff of the participating machinery service providers on maintenance and repair of agricultural machinery and equipment;
- Train the PMU staff in the selection process of machinery service providers applying to the maintenance and repair workshops sub-component;
- Establish training courses for the core staff of the participating machinery service providers on maintenance and repair of agricultural machinery and equipment;
- Provide recommendations for participating machinery service providers on improvement of maintenance and repair logistics;
- Undertake any other duties assigned by the PMU Director.

Qualifications

- University degree in Agricultural Engineering, Machinery Engineering or a related discipline from a recognized university;
- At least 5 years working experience in the field of repair and maintenance of agricultural machinery and equipment;
- Demonstrated practical experience in development of logistics in maintenance and service machinery and equipment.
- Experience in the private sector will be considered a plus.
- Knowledge of management and best practices in maintenance and repair of agricultural machinery;
- Strong computer and communications skills (oral, written, presentation); and
- Strong coordination, leadership and interpersonal skills.
- A good knowledge of Russian and/or local language could be an added advantage.

Duration of the assignment: up to 120 working days, split in 4 missions during the year two and three of implementation.

MAINTENANCE AND REPAIR EXPERT ToT (3 Experts, International)

The Maintenance and Repair Expert(s) main responsibilities will be focused on specialized training of the core engineering staff of the participating service agents on repair and maintenance of agricultural machinery and equipment. The training programmes will depend on the types of machinery imported and will be focused on basic repair and maintenance operations, providing deeper practical training to the engineering staff of repair techniques.

The Maintenance and Repair Expert duties and responsibilities will include:

- Develop Training of Trainers programs for selected participating machinery service providers on repair of agricultural machinery, depending on the equipment supplied /procured by the service providers;
- Organize a series of theoretical and practical training for the core engineering staff of the participating machinery service providers, preparing them to train other engineers from the country on the repair and maintenance of agricultural machinery and equipment;
- Assist the core engineering staff (trainers) of the participating machinery service providers in organizing and providing training on maintenance and repair of agricultural machinery for other staff of the organizations;
- Develop training programs for machinery operators that will operate on the agricultural machinery supplied by the machinery service providers;
- Organize a series of training seminars for the local engineering staff that will be afterwards involved in the process of training of agricultural machinery operators;
- Undertake any other duties assigned by the PMU Director.

Qualifications and experience:

- University degree in Agricultural Engineering, Machinery Engineering or a related discipline from a recognized university;
- At least 10 years working experience in the field of repair and maintenance of agricultural machinery and equipment;
- Demonstrated practical experience in in maintenance and service machinery and equipment.
- Experience in the private sector will be considered a plus.
- Knowledge of training techniques in maintenance and repair of agricultural machinery;
- Strong computer and communications skills (oral, written, presentation); and
- Strong coordination, leadership and interpersonal skills.
- A good knowledge of Russian and/or local language could be an added advantage.

Duration of the assignment: up to 100 working days, split in up to 4 missions during the 2nd, 3rd and 4th years of implementation.

TRAINER FOR MACHINERY OPERATORS FOR VOs (Local)

Duties and Responsibilities:

The Machinery Operator's Trainers duties and responsibilities will include:

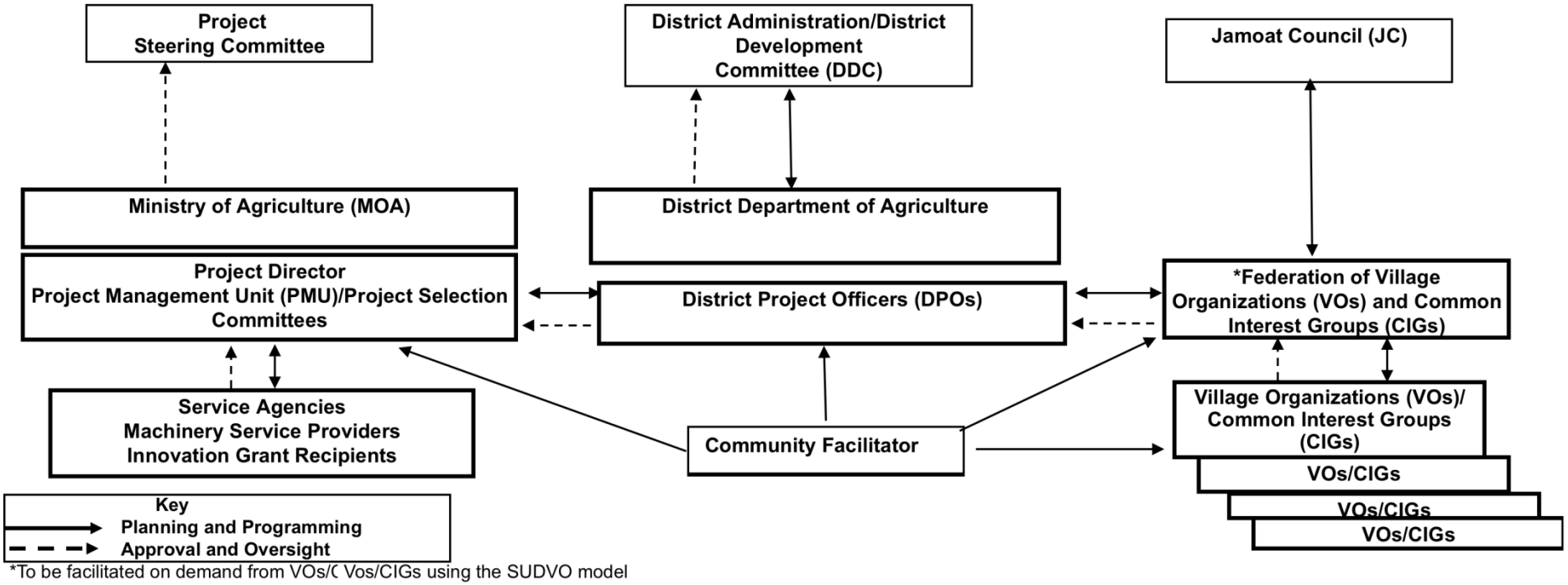
- Provide theoretical and practical training for machinery operators on basic operation procedures of agricultural machinery and equipment of the project beneficiaries;
- Provide theoretical and practical training for machinery operators on basic maintenance procedures of agricultural machinery and equipment of the project beneficiaries;
- Test machinery operators on the knowledge and skills on machinery operation and basic maintenance of agricultural machinery;
- Assist the PMU staff in the procedure of certification and releasing the equipment to project beneficiaries;
- Prepare necessary reports as required by the PMU.

Qualifications and experience:

- University degree in Agricultural Engineering, Machinery Engineering or a related discipline from a recognized university;
- At least 5 years working experience in the field of repair and maintenance or operation of agricultural machinery and equipment;
- Hold an official driving licence for agricultural machinery;
- Demonstrated practical experience in operation of agricultural machinery and equipment.
- Knowledge of training techniques in maintenance and operation of agricultural machinery;
- Knowledge of Russian language could be an added advantage.

Duration of the assignment: Full time, beginning with the second year of implementation.

Annex 5.2. Project organization structure



*To be facilitated on demand from VOs/C Vos/CIGs using the SUDVO model

Appendix 6: Planning, M&E and learning and knowledge management

A. Planning

1. The Project Management Unit (PMU) is the main responsible for planning of the AWPB. The PMU will send the AWPB to IFAD 60 days prior to the end of each Project Year for no objection.

2. The PMU will consolidate the Project's quantitative financial and physical output data in the Planner, which is an excel based Management Information System. The Planner organises inserted project planned and actual data by financing source, category of expenditure, gender, status and timing of all activities on (i) financial expenditure; (ii) physical outputs and outreach; (iii) procurement and contracts; and (iv) indicators for the Results and Impact Management System (RIMS).

3. The PMU's M&E unit will be responsible for overseeing the inserting of data into the Planner on financial management, procurement and M&E respectively, and ensuring the correctness of such data. A Coordinator in the M&E unit will have the main responsibility for the quality and comprehensiveness of the data inserted in the Planner and ensuring that the Planner reporting tables are appropriately used for the AWPB.

B. Monitoring and Evaluation

4. The M&E system will have a three-level structure, consisting of output monitoring, outcome monitoring and impact evaluation. The final indicators will be defined in the start-up workshop using the logframe as point of departure. This will include relevant first second and third level indicators of IFAD's Results and Impact Management System (RIMS). AWPBs will provide the targets for first level monitoring. The PMU M&E staff will have lead responsibility for the coordination of all M&E activities of the project.

5. **Output monitoring** will comprise the monitoring of physical and financial inputs, activities and outputs, both planned and actual. The PMU and its M&E staff will be responsible for consolidation of all output data, which will flow from records at different management levels (Community Facilitators, District Officers, Village Organizations, Common Interest Groups, service centers etc). Such entities would keep clear records for the cost of all activities and their timing.

6. The PMU will consolidate the key quantitative financial and physical output data in the Planner. The Planner will generate reports on the planned and actual financial and physical performance of the Project, including the first level RIMS report.

7. **Outcome monitoring** will assess the use of outputs and measure their benefits at beneficiary level. The monitoring will focus on the accessibility of Project outputs and the extent to which they provide benefits to the target groups in terms of access to finance, services, and markets. It will also include the Project's achievements in terms of returns, added value, direct and indirect job creation, and prospects for sustainability.

8. The Project will conduct periodical standardized **Field Surveys** with Project beneficiaries. The questionnaires for the Field Surveys would be drafted by the M&E staff of the Project with technical support as applicable, and be standardized for each type of Project activity. The Project may make use of an information collection platforms for conducting the survey and maintaining the database.

9. The objective of the Field Surveys on the outcome level would be to: (i) provide management with information on quality and usefulness of Project activities for planning and taking corrective action to remedy emerging issues; and (ii) collect qualitative data on Project activities to identify success stories and models for replication.

10. To capture qualitative aspects and to sharpen the analysis, PMU M&E staff will complement the Field Surveys by conducting interviews with focus groups.

11. **Impact evaluation.** The main instruments for the impact evaluation are the Project's Baseline Survey, Mid Term Survey, and Project Completion Report. The Baseline Survey shall be conducted in the first Project year, procured by the PMU. The objective of the baseline survey will be to establish benchmarks for time-series comparisons between Project beneficiaries and non-beneficiary 'control' populations. The Mid Term Survey (MTS) shall be completed one month prior to the IFAD Mid Term Review, and its objective is to provide CASP management and the MTR team evidence for possible revisions the CASP design and targets. The Project Completion Report shall be conducted in the six months preceding Project closing.

12. The Field Surveys would be used to collect relevant quantitative data for the MTS and Completion Report. Such quantitative data would cover incomes and assets and increase in employment in the various value chains, thus providing the Project with a dataset for quantitative impact evaluation. This would, through extrapolation from relevant beneficiary strata, allow evaluation of impact for all relevant value chains on at least the following levels: (i) incremental increase in farmer income and assets measured by IRR and NPV; (ii) employment creation; (iii) incremental increase in regional economic activity; and (iv) incremental increase in tax revenue to the government. The data collected in the course of the Field Surveys can be complemented in the last Project year by additional **Thematic Studies** to be procured by the PMU necessary to measure the full impact of the Project's interventions.

C. Learning and Knowledge Management

13. The learning and knowledge management activities will include (i) impact studies comprising a Baseline Survey, MTS and Completion Report; (ii) Thematic Studies; (iii) information dissemination campaigns about the project; (iv) preparation of publications; and (v) training of processors and other actors in the value chain, farmers and CIGs in modern farm techniques and farm management; vi) Progress Reports.

14. During the final year of Project implementation, as part of the preparation of the IFAD-required **Project Completion Report/Impact Assessment (PCR)**, the M&E data collected over the Project implementation period will be used as part of a thorough assessment of Project achievements. In particular, this shall compare changes in the livelihoods of beneficiaries that relate to the implemented Project activities against the situation documented in the **Baseline Study**. The Project Completion Report shall share lessons learned and development experience.

15. The Project will also finance **Thematic Studies** that will feed into the Project completion process. Such studies will, making use of the data collected in the course of the monitoring activities of the M&E staff as well as through complementing surveys, document the impact of Project interventions and will provide insights into the achieved targeting, and the efficiency and efficacy of such investments. This will comprise studies to assess the piloting of models for provision of mechanization services (AMSCs, associations/cooperatives as well as private entrepreneurs/farmers) by MTR. Such studies will inform the MTR on lessons learned and recommendations for further action.

16. The Project would prepare **publications** to complement trainings and for enhanced and more widespread learning. These would comprise practical 'user's manuals' for the intensification of the agricultural production on best husbandry practices, inputs, prices, expected yields etc. on the identified activity types. Films that document the establishment of Project demonstrations and co-financed investments should complement these publications. A thorough due diligence would be done to identify whether existing materials can be used for this purpose, and whether permission can be obtained for further dissemination. As applicable, publications will also be commissioned to inform the project stakeholders, Government and donor community of the project's successes that can be used for further forging of partnerships and resource mobilization. The publications would be made available both in 'hard' and electronic formats among project stakeholders. The PMU M&E staff would set up and maintain a GIS in which data is inputted to illustrate Project interventions. The PMU would maintain a Project webpage to provide information to beneficiaries and other stakeholders about the Project's benefits and modalities for participation, and for dissemination of the knowledge products

produced by the Project.

17. **Progress Reports** have two primary objectives: (a) to record the progress of implementation, for the period under review, compared against the targets and objectives set out in the loan documents and the AWPB; and (b) to confirm the degree to which the Borrower is in compliance with the conditions of the financing agreement.

Annex 1: Extended Project Logical Framework

Please refer to the Project File.

Appendix 7: Financial management and disbursement arrangements

Summary of Risk Assessment

1. The Community-based Agricultural Support Project (CASP) will be implemented by the Ministry of Agriculture (MOA), through the Project Management Unit (PMU), which is already established and it is managing LPDP I & II. Details of the institutional arrangements are presented in Appendix 5.

2. During project preparation mission, a financial management capacity assessment of the implementing agency PMU and Tajikagroleasing was carried out to determine if it complies with IFAD requirements with IFAD guidelines for the project management. This involved: (i) work sessions with the PMU and Tajikagroleasing staff were held to obtain an understanding of the current applicable FM systems and to discuss and agree on the FM arrangements to be in place during Project implementation; and (ii) the response to the IFAD FMA questionnaire (on Project File).

3. The FM assessment covered the human resources, the accounting system, the internal control mechanism, the external audit, the information system, and the capacities of the project reporting system.

4. The FM assessment concluded that financial management arrangement as set out for this Project satisfy the IFAD's minimum requirements and that financial management arrangements in place can provide, with reasonable assurance, an accurate and timely information on the progress of project implementation. However, the following were the primary risks identified during the project detailed design:

- The country risk is rated as **High risk**. Transparency International's Corruption Perception Index ranked Tajikistan 151 of 176 countries in 2016 (136 of 168 in 2015), with a score of 25/100 in 2016 (26/100 in 2015).

- The PEFA report (2012) concluded that some progress had been made since the previous report in 2007, however the report identified several weaknesses in the areas of:
  - Institutional capacity of the PFM sector including an unreliable fiscal framework for budget planning;
  - Insufficient linkages between the budget and policies;
  - a limited role for line ministries in sector policy formulation;
  - weak payroll control and audit;
  - absence of auditing of budget execution reports;
  - poor financial reporting and accounting.

- The Project will support selected investment sub-projects submitted by VOs for a total amount of US$ 22 million, 95% of them as grants financed by IFAD loan/grant. As the beneficiary communities are geographically dispersed, the inherent risk is the use of the grants for other purposes than those intended in the sub-projects proposals and to be sure of the good quality of goods and works of sub-projects.

- Institutional and organizational aspects due to the number of beneficiaries (VOs, service providers) may result in the monitoring of activities on field, coordination problems, flow of information bottlenecks and reporting delays.

- Financial management arrangement of Tajikagroleasing as set out for this Project does not satisfy the IFAD's minimum requirements and that financial management arrangements in place cannot provide, with reasonable assurance, an accurate and timely information on the progress of project implementation.

- There is no internal audit unit at PMU level.
- The accounting software used by PMU for the other projects needs to be parameterized to allow the record of the transaction of the CASP.

5. Several actions should be planned to mitigate these risks, in particular:

- The PEFA (2012), updated from 2007, shows some improvements in:
  - Progress on Public Financial Management (PFM) reforms (unified charts of accounts, use of a Treasury Single Account (TSA), decentralized internal audit function).
  - Indications of strong commitment of the Government to these reforms.
  - Implementing the Country Governance and Anticorruption framework.
- A Project Implementation Manual will be prepared by the PMU and approved by IFAD. It will clearly describes: a) the responsibilities of each beneficiary (VOs, service providers, innovation grant recipients); b) the detail of funds flow; c) the responsibility to prepare and submit the SOEs and the withdrawal application for the replenishment of the two Designated account in US$; and d) specific transmission of financial reporting procedures between the beneficiaries and PMU. The main control points should be:
  - Control of the respect of eligibility criteria for beneficiaries (VOs, service providers, innovation grant recipients) to receive grants from the Project, by regional committees and PMU before signing the agreement. The submission of the audit reports for the last three years by the participating machinery service providers must be one of the criteria.
  - Follow-up of the progress of sub-projects by field controls.
  - Procurement and payments will be managed only by PMU, in accordance with the IFAD procurement procedures and disbursement guidelines.
- Parameterise the accounting software to include additional financing sources (IFAD grant/loan) and the commitments (signed contracts) by financing sources, by component, sub-component and by category.

These two actions are considered as conditions for the first disbursement.

- Hire an internal auditor consultant. The main tasks assigned to him are: (i) prepare a yearly action plan of the entities that he will audit at center and regional level and submit this action plan for the approval of the PMU Director; (ii) prepare an action plan to follow up the weaknesses revealed by the external auditors; (iii) check on sample basis if eligibility criteria are respected; and (iv) assure the good quality of goods and works of sub-projects by frequent field visits.
- The Project is also subject to ex-post review by the Accounts Chamber of the Republic of Tajikistan and by the Agency for State Financial Control and Fight with Corruption of the Republic of Tajikistan.
- The PMU, which is managing the on-going IFAD's projects established reasonably well functioning financial accountability systems and procedures. The PMU finance Unit will be in charge to ensure that the eligibility criteria are respected before every payment.
- Reinforce the management capacity staff at regional level by targeted training.
- The external auditor will check on sample basis if this procedure is respected. The TORs for Project external auditor should be expanded to include field visits.
- Hire one additional finance consultant to handle accounting and payments.

6. Based on the findings of the financial management capacity assessment and the actions, which will be implemented or foreseen to manage identified risk and weaknesses, ***the overall financial management risk is assessed as Medium.***

B. Financial Management and Disbursement Arrangements

Financial management organization and staffing

7. The PMU financial Unit is responsible for maintaining a financial management system acceptable to IFAD and fulfilling IFAD procedures with respect to disbursements and financial monitoring. This Unit is well structured and consists of one chief accountant, one finance consultant and one assistant accountant. They manage both on-going projects, LPDP I and LPDP II. All of them have been hired in 2013 and 2014 and they had acquired acceptable experience in IFAD disbursement procedures, with projects financed by IFAD and other donors (the World Bank, ADB). No significant issues have been noted in their withdrawal applications for the on-going projects and the last supervision mission of LPDP I on October 2016 rated the financial management of the project as satisfactory.

8. For the CASP, it is proposed to hire one additional finance consultant on a competitive basis, to handle accounting and payments. Job descriptions for this position will be prepared by the PMU. S/He should be specifically trained on IFAD disbursement procedures.

Budgeting

9. IFAD loan/grant is viewed by the Government as a part of the national budget. All Project activities will be included in an Annual Work Plan and Budget (AWPB). It will indicate what activities and expenditures will be implemented and the extent to which budgeted expenditures are intended to be financed from each financing source. PMU staff has experience in preparing AWPB to meet IFAD needs. AWPB (LPDP I) for 2016 was approved on 29 December 2016 and is well documented, with analysis to components and category allocations and procurement plan.

10. Before the end of each fiscal year, all the key staff participate to the preparation process of the Annual Work Plan Budget (AWPB) for the following year, including all its activities from the grant and Government proceeds and submit it to the Project Steering Committee (PSC) for examination and approval, then submitted to IFAD for its No Objection no later than 60 days before the beginning of the relevant Project year. The AWPB is then submitted to the Ministry of Agriculture, the Ministry of Finance and to the Parliament for its final approval by December 31 each year.

Disbursement arrangements and flow of funds

11. The Project will use available disbursement methods of replenishment, reimbursement and direct payments. Two USD denominated Designated Accounts will be opened for the Project in a commercial Bank acceptable to IFAD and will be managed by the PMU, according to the IFAD disbursement guidelines. One Designated Account in USD to receive funds from IFAD loan and one to receive funds from IFAD grant.

12. The authorized allocation for the DA, as well as detailed disbursement modalities will be defined in the Letter to the Borrower/Recipient (LTB/R). The operating authority for the two DA and for authorizing Withdrawal Applications will be formally defined by the Borrower/Recipient before withdrawals can begin. Direct payments may be necessary for US$ denominated contracts and for local contracts of high value.

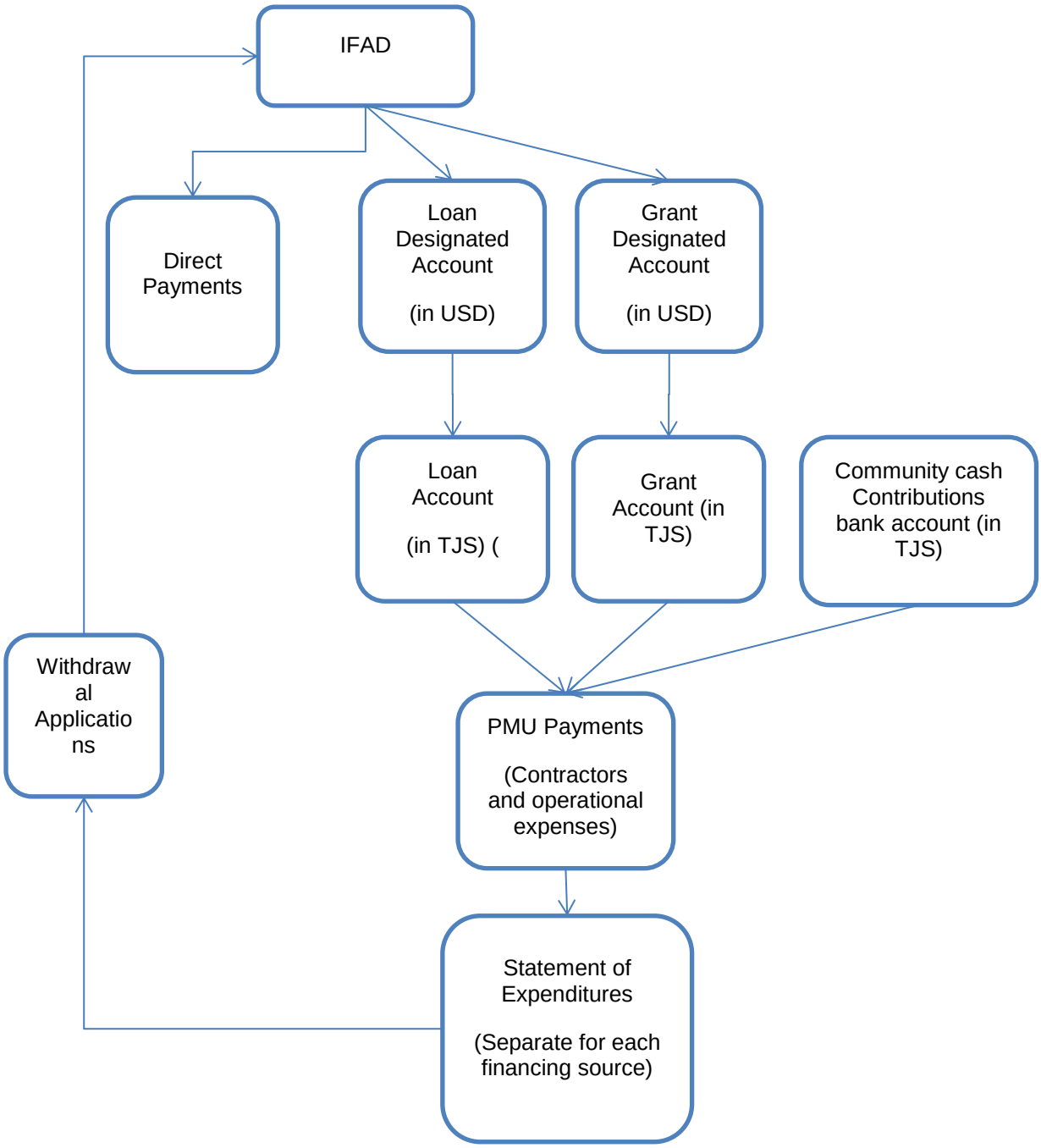
13. The PMU will open and manage three separate operating bank accounts, in TJS, in a commercial bank acceptable to IFAD. The first one of these accounts will receive funds from Loan Designated Account, to pay eligible expenditure of the Project on Loan proceeds, the second one will receive funds from Grant Designated Account, to pay eligible expenditure of the Project on Grant proceeds, and the third one to receive beneficiaries' and other service providers' contribution.

14. "Smart" Statements of Expenditure (SOE) with comprehensive audit trails will be utilised to justify advances given. The accounting software in use at the PMU is already able to generate both Withdrawal Applications and Statements of Expenditures electronically. This will reduce risks in this area for the CASP and facilitate smooth start up.

15. Documentation of the expenditures listed above will be maintained at the PMU and will be made available for review by IFAD supervision missions and by Project auditors.

16. Counterpart funds will be essentially in the form of exemption from indirect taxes (VAT and Customs duty) on Project transactions. Tax exemption amounts for individual transactions will be recorded in the accounting system, in line with current practice.

17. The arrangement for Flow Funds to meet eligible Project expenditures is described below.



Internal Controls

18. The internal control system in place within the PMU conforms to the Government system and has been deemed acceptable by IFAD. Indeed, it guarantees the separation of the functions through several levels of independent controls: (i) formal organisational structure, which clearly separates specific functions from independent control mechanisms; (ii) the authorization by the PMU Director, who is the signatory of payment orders for all the project expenditures. All payments are made using bank transfers, no cash payments from IFAD Loan/Grant proceeds are allowed, except for some of very small operating cost; and (iii) the control by the Accounts Chamber of the Republic of Tajikistan, and by the Agency for State Financial Control and Fight with Corruption of the Republic of Tajikistan, in accordance with the legislation and regulations.

19. The on-going projects (LPDP I & LPDP II) have a comprehensive Project Implementation Manual, including financial management procedures, in place. This manual needs to be updated to take into account specific aspects of the CASP. All internal control mechanisms will be detailed within the CASP Financial Management (FM) Manual to be prepared before implementation begins. The PIM will be a condition for disbursement and will have to be designed in a manner that is simple and succinct to all.

20. Training of all staff on financial management and fiduciary controls will be provided before implementation begins. Follow up of recommendations will be provided in the subsequent reports to ensure that all internal control weaknesses are addressed in the most appropriate manner. Additionally, the external audit will report any internal control weaknesses within the Management Letter.

Accounting systems, policies and procedures

21. The Project general accounting principles are as follows:

- The Project will adopt cash basis accounting standards. All accounting policies and procedures, related to the Project will be clearly documented in the FM manual (part of the PIM).
- The Project accounting will cover all the Project sources and uses of funds, including payments made and incurred expenditures. All Project-related transactions will be included in the accounting system and reports. The disbursements made through the two designated accounts and the three bank accounts in TJS will also be included in the Project accounting system. The counterpart funds will be indicated separately.
- The Project chart of accounts will be compliant with the expenditure classification and sources of funds indicated in the Project documents (PIM, detailed design report, Costab tables) and general budget breakdown. The chart of accounts should allow data entry in order to facilitate the Project expenditures financial monitoring by component and sub-component, expenditures allocation and category of disbursement.
- The PMU uses, for the on-going projects, IPSAS-cash as basis for accounting. The PMU is using 1-C accounting software for the financial monitoring. The accounting software is in line with IFAD requirements. The financial reporting of the project is automatically generated by the system, including the Designated Account reconciliation, withdrawal applications and fixed assets register.

22. This accounting system will be used for the CASP. It will need to be parameterized by the software company to include additional financing sources (IFAD Grant/Loan) and the commitments (signed contracts) by financing sources, by component, sub-component and by category.

23. Participating communities' and service providers' contributions will be in cash (not in kind) and deposited into the separate Project bank account, and recorded in the accounting system. Tax exemptions to reflect counterpart contributions will also be recorded in the accounting system based on exemption certificates issued under each contract.

Financial reporting

24. For LPDP I and LPDP II, financial reports are generated automatically by the 1-C accounting software. The PMU prepares and submits to IFAD Interim Financial Reports (IFRs), semi-annual and annual financial statements. The PMU also prepares statements of commitments and expenditures by component, sub-component, category and by financier and monthly bank reconciliation statements for all the bank accounts. This same accounting system will be used for the CASP.

25. The financial reports will be in formats acceptable to IFAD and samples of the same will be available within the FM Manual. It is expected that the financial reports will provide information to management, financiers and related parties to facilitate decision-making processes. The financial report includes sources and uses of funds, commitments and payments by financing sources, by component, sub-component and by category, and a comparison against approved budgets. The financial reports will be submitted to IFAD within four months of the end of the fiscal year.

Internal Audit

26. There is no internal audit Unit at PMU level. However, the project financial statements are subject to ex-post review by the Accounts Chamber of the Republic of Tajikistan, and by the Agency for State Financial Control and Fight with Corruption of the Republic of Tajikistan. Both entities do not send the report to the PMU.

27. As the majority of the Project funds will go for the community driven activities, the PMU will hire an internal auditor consultant to implement quarterly internal audit reviews of operational controls, in particular over community activities. The scope of this audit will also include record keeping and internal controls of the Community Facilitators and service providers, who are key Project parties and ensure that procedures set in the FM Manual are enforced.

28. The main tasks assigned to internal auditor are: (i) prepare an yearly action plan of the entities that s/he will audit at center and regional level and submit this action plan for the approval by the PMU Director; (ii) prepare an action plan to follow up the weaknesses revealed by the external auditors; (iii) check on sample basis if eligibility criteria are respected; and (iv) assure the good quality of goods and works of sub-projects by frequent field visits.

External Audit

29. The Project's financial statements, including the reconciliation of the two Designated Accounts in US$ and the three Operating bank Accounts in TJS will be audited annually by a private audit firm, acceptable to IFAD, under the terms of reference cleared by IFAD and in accordance with internationally accepted auditing standards. The audit will cover all Project aspects, all operations implemented under the Project and sources and uses of funds. It will also relate to financial operations and internal control, and financial management system.

30. The auditor will produce: a) an annual audit report including an opinion on the Project annual financial statements; b) a separate opinion on the use of the Designated Accounts; c) a separate opinion on withdrawal applications, statements of expenditure and summary of expenditures; and d) a management letter on internal control weaknesses checked while performing the audit. The reports will be addressed to IFAD within six months starting from closing date of each fiscal year subject to the audit.

Appendix 7.1: Terms of reference for the audit of IFAD and non-IFAD funded programmes/projects

1. Background Information

The Republic of Tajikistan has received a Loan and a Grant from the International Fund for Agricultural Development (IFAD) to implement the Community Based Agricultural Support Project ("CASP") which will run in certain districts of Khatlon, Soghd and Region of Republican Subordination (RRS) regions to facilitate poverty reduction. Coordination and management of activities within the Project carried out by the Project Management Unit "Livestock and Pastures Development" (PMU) and under the direct supervision of the PMU Director.

The following are the terms of reference ('ToRs') on which the PMU agrees to engage audit firm ('the Auditor') to perform an Audit and to report in connection with the Financing Agreement with the IFAD concerning the project CASP where in these ToRs the 'Contracting Authority' is PMU.

The audit engagement will be for a fiscal year of [ ] i.e. from January 1 to December 31, [ ]. The annual audit should be planned so as to ensure the receipt by the IFAD of the audited PFSs before June 30 of each year, that is, not later than 6 months after year-end.

2. Objective of the Audit

The objective of the audit is to enable the Auditors to express their professional opinion(s) on the reliability of the financial statements of the CASP up to the end of each fiscal year, comprising the sources and applications of funds, the funds received from various financing sources and the expenditures incurred during the involved accounting period. The audit is also to enable the Auditors to give an opinion on the reliability of Statements of Expenditures (SOE) used as a basis for submitting Withdrawal Applications, of the transactions of the Special / Designated Account, as well as compliance with the provisions of the loan agreement and IFAD's rules and procedures in respect to project management. The Project's books of account and records, which are maintained by the Financial Management Unit, provide the basis for the preparation of the Project Financial Statements, and reflect the financial transactions in respect of the Project.

3. Scope

The audit will be conducted in accordance with International Standards on Auditing (ISA) as published by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC), with special reference to ISA 800 (Auditor's Report on Special Purpose Audit Engagements) and to relevant IFAD guidelines. The Auditors are to comment on the accounting principles used for the preparation of the Financial Statements and on if they were consistently applied.

In complying with the International Standards on Auditing, the Auditors will be expected to pay specific attention to Fraud and Corruption (ISA 240), Laws and Regulations (ISA 250), Governance (ISA 260) and Risks (ISA 330).

In conducting the Project audit, special attention will be paid to the following:

- IFAD funds and counterpart funds have been used in accordance with the financing agreement, with due attention to economy, efficiency, and only for the purposes for which financing was provided in the Project Financing Agreement.
- Goods and services have been procured in accordance with the financing agreement.
- All supporting documentation for expenditures incurred are authentic, adequate, eligible for financing under the financing agreement, and related records and accounts have been maintained in respect of all programme activities, (including the expenditures justified to IFAD by SOEs).
- The Special / Designated Account has been used and maintained in conformity with the financing agreement.

- Assets procured from programme funds exist, are properly safeguarded and there is a verifiable ownership by the implementing agency or beneficiaries in line with the financing agreement.
- The PFS have been prepared in accordance with generally accepted accounting principles and practices and IFAD guidelines, and give a true and air view of the financial position of the Project and of the resources and expenditures for the fiscal year then ending.
- The accounting and overall internal control system to monitor expenditures and other financial transactions are adequate and effective and ensure safe custody of programme financed assets.
- Funds disbursed to beneficiaries (sub-grants) such as Village Organisations, individual farmers, cooperatives, companies, common interest groups under expenditure categories [ ] Schedule 2 of the Financing Agreement have reached the intended beneficiaries, have been spent for intended purposes and the expenditures correctly accounted for.
- The fixed asset register is maintained for all fixed assets procured under the Project.
- Review the compliance on each of the financial covenants in Financing Agreement.
- National laws have been complied with and that the financial and accounting procedures approved for the Project i.e. Project Implementation Manual (PIM) have been followed.

4. Project Financial Statements (PFSs)

The Auditors will verify that the Project Financial Statements (PFSs) have been prepared in accordance with the agreed accounting standards and give a true and fair view of the financial position of the Programme and of the resources and expenditures for the audited period. The Project Financial Statements will be combined for both the IFAD Loan and Grant, with receipts and expenditures from each indicated separately. The PFS will include:

a) Statement of Sources and Uses of Funds (expenditures) disclosing separately IFAD's funds, counterpart funds (government), and beneficiaries' contributions where applicable.

b) A summary of the transactions and the reconciliation of the Designated Account

c) A Balance Sheet showing as a minimum accumulated funds of the Programme, bank balances, other assets and liabilities (if any).

d) A schedule listing individual Withdrawal Applications authorized and submitted to IFAD during the period, with corresponding values.

e) A reconciliation of the amounts shown as received by the Project and those shown as disbursed by IFAD.

f) A summary of assets acquired or procured to date with Project funds by category.

g) A Statement of comparison of Budgeted and Actual expenditures for the accounting period for each expenditure category. On a cumulative basis, the actual expenditure shall be compared against the authorized allocations for each expenditure category, as defined in Schedule 2 to the Financing Agreement.

h) A summary of the accounting policies and other explanatory notes.

The Auditors will pay particular attention as to whether:

a) The Summary Reports have been prepared in accordance with the provisions of the relevant financing agreement

b) Expenditures have been made wholly and necessarily for the realization of Project objectives and are eligible for financing under the Financing Agreement.

c) All information and explanation necessary for the purpose of the audit have been obtained

d) Supporting records and documents necessary for the audit have been retained, and

e) The Summary Reports can be relied upon to support the Withdrawal Applications

f) Funds disbursed by the Project have reached intended beneficiaries.

5. Statement of Expenditure (SOEs)

The Auditors will include a review of SOEs used as a basis for submission of Withdrawal Applications to IFAD, as defined in the Letter to the Recipient (LTR). The Auditors will carry such tests and reviews as considered necessary under the circumstances in order to verify that SOEs issued during the period were prepared in conformity with the financing agreement, were for expenditures that were eligible for financing and were in agreement with the accounting books and records.

Annexed to the PFS, will be a schedule listing individual Withdrawal Application providing details relative to amounts submitted for reimbursement and amount reimbursed and by disbursement method (SOEs, direct payment, special commitment, replenishment to the Special Account, reimbursement to Borrower of pre-financed expenditures). Where ineligible expenditures are identified, as having been included in Withdrawal Applications, these should be separately noted in the audit report. Additionally, the Auditors will verify reimbursement of eligible expenditures to the Special Account. The total withdrawals under SOE procedure should be part of the overall reconciliation with IFAD records indicated in para 2.

The Auditors will issue a separate audit opinion on the SOEs indicating the extent to which the SOE procedure can be relied upon as basis for loan disbursement under the Programme.

6. Special Account (SA)

The Auditors will also be required to audit the activities of the SA associated with the Programme, including the Authorized Allocation or Initial Deposit, replenishments, interest that has been earned (which accrues to the Programme and should be fully accounted for), withdrawals related to Programme expenditures, transfers to the Operating bank account(s), and the year-end balance. All transactions in the SA should be fully accounted for and be compliant with the Financing Agreement and LTR.

The Auditors will ensure that the fund balance reconciles with the Bank Statement. Receipts will be reconciled with IFAD disbursements

The Auditors will issue a separate audit opinion on the SA indicating if the operations of the SA were in accordance with the financing agreement.

7. Audit Report

The report on this audit should describe the purpose and the agreed-upon procedures of the engagement in sufficient detail in order to enable the PMU and the IFAD understand the nature and extent of the procedures performed by the Auditor. Separate opinions should be given on the PFSs, the SOE and Special Accounts.

In addition to expressing a primary opinion on the PFSs, the Auditors will include a separate paragraph commenting on the accuracy and propriety of expenditures withdrawn under SOE procedures, if appropriate, and the extent to which these can be relied upon as a basis for loan disbursements.

8. Additional Opinions

Additional to the opinion on the PFS, the SOEs and the SA, the annual audit report or Management Letter should include separate paragraphs commenting on the items described in the (3) Scope above, especially the following:

a) Compliance with Procurement Procedures
b) Provision and usage of Counterpart Funds
c) Entities that receiving funds met eligibility
d) Use of and accounting for funds by line Ministries
e) Delivery of specified/agreed outputs/services
f) Compliance with the financing covenants,
g) IFAD’s disbursement and procurement guidelines

h) End-use of funds disbursed as sub-grants to beneficiaries

9. Management Letter

The Auditors will provide a Management Letter, in which they will:

a) Give comments and observations on the accounting records, systems and controls that were examined during the course of the audit.

b) Identify specific deficiencies or areas of weakness in systems and controls, and make recommendations for their improvement.

c) Report on the degree of compliance of each of the financial covenants in the financing agreement and give comments, if any, on internal and external matters affecting such compliance.

d) Communicate matters that have come to their attention during the audit which might have a significant impact on the implementation of the project

e) Give status of and comments on previous audits recommendations that have not been satisfactorily implemented.

f) Status of achievement of the planned results of the projects.

g) Bring to the recipient attention any other matter that the Auditors consider pertinent, including ineligible expenditures.

Ideally, the management letter should also include responses from the implementing agency to the issues highlighted by the Auditors.

10. Available Information

The Auditors will be given access to all legal documents, correspondence, and any other information associated with the Project that may reasonably be deemed necessary to enable them undertake the audit.

The responsibility of the preparation of Financial Statements including adequate disclosure is that of the management of the PMU. This includes the maintenance of adequate accounting records and internal controls, the selection and application of accounting policies and the safeguarding of the assets of the entity.

The PMU will cooperate fully with the Auditors and will make available to the Auditors whatever records, documentation and other information that is requested by the Auditors in connection with the audit. The Auditors will also obtain confirmation of amounts disbursed and outstanding at IFAD, which can be obtained from the IFAD Controller's office. Available information should include copies of the relevant Project Appraisal/ Design Report, Financing Agreement, Letter to Recipient, PIM, Supervision Mission Reports and Progress Reports. It is highly desirable that the Auditors become familiar with "IFAD Operational Procedures for Project Audits", with "IFAD Guidelines for Project Audits", with "IFAD Procurement Guidelines" and with "IFAD Loan and Grant Administration Manual".

11. Engagement Letter

The selected Auditors should prepare an engagement letter upon receiving the contract for this assignment, to help avoid misunderstandings about this assignment. It is in the interest of both the Auditors and the borrower that the Auditors send the engagement letter before the engagement commences. The form and content of the audit engagement letter may vary for each client, but it should generally include reference to the matters addressed in this document. In addition, it should state the management's responsibility for the preparation of the financial statements, the amount of audit fees, and the timetable for providing the audit reports.

Appendix 8: Procurement

A. Procurement Legislation and Governance

1. The Public Procurement Law (PPL) of 2006, as amended on April 16, 2012 (PPL Amendment), is the major legal instrument that regulates public procurement in Tajikistan. The PPL spells out the major principles of the public procurement process. It covers all public procurement of goods, works, and services conducted in the Republic of Tajikistan except for public procurement aimed at ensuring national defense, national security, State secrets, and precious metals and stones.'

2. The PPL does not contain a clear provision exempting public procurement financed by International Financial Institutions (IFIs) from the PPL. However, according to the Constitution "International legal acts recognized by Tajikistan are a constituent part of the legal system of the republic. In the case of discrepancy between the laws of the Republic [of Tajikistan] and recognized international legal acts, the norms of the international legal acts are applied."

3. In line with this provision, pursuant to the relevant financing agreements, most IFI project such as those of WB and ADB are exempted from the PPL, and procurement is conducted pursuant to the rules of the IFI in question. The reason for this is a number of shortcomings with the PPL.

4. According to the 2012 public procurement assessment conducted by the EBRD, the PPL 2006 showed a medium level of compliance with international standards. Regulatory shortcomings include:

- Unclear allocation of roles and division between functions of regulatory body, central purchasing body, review authority and procurement capacity evaluator for the local public procurement sector;
- Insufficient institutional and legislative safeguards of the integrity of review procedures;
- Unclear approach to decentralization of public procurement and specification of the central purchasing body function;
- Lack of sufficient detail in procedural rules, as well as requirements concerning qualification of bidders, domestic preferences and evaluation criteria, to ensure an objective basis for the procurement process.

5. The WB's procurement assessment from 2013 further notes that

- The User's Guide for practitioners of the PPL is not updated to reflect the effective legislation.
- While a single Standard Bidding Document (SBD) exists for the procurement of goods, works, and services, this SBD does not include a standard contract form
- As the assessment outlines, procurement is not a profession in Tajikistan. Therefore, the conduct and management of procurement is assigned to public officials as a secondary task; who frequently lack specific procurement skills.

6. The Government is in the process of developing a new PPL in close consultancy among others with the EBRD and World Bank that is expected to address the above-mentioned issues. It is expected however that the final law will not be approved before 2018. An assessment of the law and its application over a sustained period will be required prior to determining whether it is substantially compliant with IFAD procurement Guidelines. In view of the above, the mission deems that it is prudent to adopt the IFAD procurement guidelines for the CASP.

B. Agency Capacity Assessment

7. As part of the initial design of the CASP, IFAD undertook a procurement capacity assessment of the Project Implementation Unit, which will be responsible for managing and overseeing project related procurement. The PMU was created as an entity in the Ministry of Agriculture, and is currently the implementing unit of the on-going IFAD investments in the country.

8. The main instrument utilised for this validation exercise was the IFAD procurement assessment tool and covered the various phases of the procurement cycle: planning, soliciting, evaluation, award and contract management.

9. The PMU has a good track record with implementation of IFAD procurement; the procurement function is separate from financial management; and the procurement unit is staffed with capable personnel. Overall, the procurement capacity and procedures are assessed as satisfactory in all aspects of advertisement, drafting of bidding documentation, evaluation and contract management. The PMU procurement unit consists of two staff members responsible for procurement for two projects.[61]

C. Arrangements for Procurement under the Project

10. For each contract financed from IFAD proceeds, the Borrower and IFAD will agree in advance in the procurement plan the following: the types of procurement methods, the need for pre or post-qualification, estimated cost, prior review requirements and timeframe.

11. **Civil Works** shall be procured adhering to the following thresholds for procurement methods:

- International competitive Bidding (ICB): Any contract estimated to cost more than US$ 2 000 000 or equivalent;
- National Competitive Bidding (NCB): any contract estimated to cost more than US$ 100 000 or equivalent or less than US$ 2 000 000;
- National Shopping (NS): as agreed on separately, any contract estimated to cost less than US$ 100 000 or equivalent;
- Direct Contracting (DC): as an exception to the above and if warranted by circumstances in line with IFAD procurement guidelines, contracts estimated to cost less than US$ 30 000 or equivalent.

12. **Equipment and Goods** shall be procured adhering to the following thresholds for procurement methods:

- International competitive Bidding (ICB): Any contract estimated to cost more than US$ 500 000 or equivalent;
- National Competitive Bidding (NCB): any contract estimated to cost more than US$ 100 000 or equivalent or less than US$ 500 000;
- National Shopping (NS): any contract estimated to cost less than US$ 100 000 or equivalent;
- Direct Contracting (DC): as an exception to the above and if warranted by circumstances in line with IFAD procurement guidelines, contracts estimated to cost less than US$ 30 000 or equivalent.

13. **Non-consulting services** shall be procured adhering to the following thresholds for procurement methods:

(a) Request for quotations:
   - Internationally: for contracts valued over US$ 2000,000 or equivalent, and
   - Nationally for contracts valued over US$ 20,000 or equivalent up to and including US$ 200,000

(b) National shopping applies to contracts valued up to and including US$ 20,000 or equivalent.

[61] These comprise the IFAD financed LPDP I and LPDP II.

14. **Consultancy services** shall be procured adhering to the following thresholds for procurement methods:

- Quality and Cost Based Selection (QCBS): Any contract estimated to cost US$ 100 000 or more shall be awarded on the basis of QCBS, unless the use of another procurement method is expressly allowed. Advertising shall be international for any contract estimated to cost US$ 100 000 or more and where there is expected to be interest internationally. Otherwise the advertising shall national.
- Quality Based Selection (QBS): Any contract for assignments which require high specialisation or where the best expertise is required without consideration of price may be awarded on the basis of QBS with due consideration of the principles set out in the Procurement Guidelines. Advertising shall be international for any contract estimated to cost US$ 100 000 or more and where there is expected to be interest internationally. Otherwise the advertising shall national.
- Least Cost Selection (LCS): Any contract for consulting services of a routine nature estimated to cost US$ 200 000 equivalent or less may be awarded on the basis of LCS from a shortlist prepared by the PMU and comprising three to six firms / individual consultants. Advertising shall be international for any contract estimated to cost US$ 100 000 or more and where there is expected to be interest internationally. Otherwise the advertising shall national.
- Selection Based on Consultant's Qualifications (CQS): Any contract for consulting services of a routine nature estimated to cost US$ 100 000 equivalent or less may be awarded on the basis of CQS from a shortlist prepared by the PMU and comprising three to six firms / individual consultants.
- Individual Consultant Selection (IC): Any contracts for consulting services estimated to cost US$ 50 000 equivalent or less may be awarded on the basis of IC with due consideration of the principles set out in the Procurement Guidelines.
- Sole Source Selection (SSS): as an exception to the above and if warranted by circumstances in line with IFAD procurement guidelines, contracts estimated to cost US$ 10 000 equivalent or less may be awarded on the basis of SSS.

D. Prior Review of Procurement Decisions by IFAD

15. For purposes of IFAD's Procurement Guidelines, the following shall be subject to prior review by the Fund:

- Award of any contract for works and goods estimated to cost more than US$ 100 000 or equivalent;
- The award of any contract for non-consulting services estimated to cost more than US$ 20 000 or equivalent;
- The award of any contract for consulting services estimated to cost more than US$ 50 000 or equivalent;
- The award of any contract on the basis of DC or SSS.

16. The aforementioned thresholds may be modified by the Fund during the course of Project implementation.

17. All contracts, with our without prior IFAD approval, shall be listed in the register of contracts with the dates of approval. As this report facilitates the review and approval of payment requests on contracts, the register needs to be updated and submitted to the IFAD country Programme Manager on a monthly basis.

18. **Post review.** All other contracts will be subject to post-review and procurement audit by IFAD. The CASP procurement officer will maintain accurate records and separate files for each procurement

activity. Details with regards to the content of a procurement file or dossier can be found in the Module C of the Procurement Handbook.

19. All contracts, with or without IFAD prior approval, should be listed in the register of contract maintained by the CASP procurement sections within the PMU. When a contract is amended, the amendment will be recorded in the document. If a contract is cancelled, the information should also be recorded, providing the relevant background. The sample form to be used and instructions are detailed in the Annex 6 of IFAD's Loan Disbursement Handbook. It would also be necessary for the CASP procurement sections within the PMU to prepare an updated PP on procurement transactions carried out by the project for inclusion in the annual and semi-annual Progress Report.

20. **Bidding Documents.** All bidding documents for the procurement of works, goods and services shall be prepared by the CASP procurement sections within the PMU with the support of technical experts, as needed, who will provide specifications, terms of reference, and bill of quantities and so forth as required.

21. **Responsibility.** CASP holds the overall responsibility for the procurement of goods, works and services. The procurement sections within the PMU will be responsible for undertaking the following tasks: (i) consolidate annual procurement plans; (ii) implementation and monitoring of procurement activities; (iii) interface with IFAD for procurement reporting; and (iv) ensure that the procurement under the project is undertaken in line with the Project Design Report and IFAD Procurement Guidelines.

22. The following basic principles shall guide the work of the CASP while implementing the procurement activities: (i) economy and efficiency; (ii) equal opportunities to all eligible bidders; and (iii) fairness, transparency, integrity and good governance.

23. As a main rule, the availability and access to spares should be included as criteria in the tendering, including for the major types of agricultural machinery.

Annex 8.1: Eighteen-month procurement plan

Consultancy services

Component		Unit	Qty	Total USD '000	Proc method	Post/ prior review	Advertisement	TOR prep	RFP issued	Tech evaluation	Financial evaluation	Contract	Completion
1.1	Gender business and targeting study	study	1	10	CQS	Post	1/6/18	1/7/18	31/7/18	30/8/18	14/9/18	29/9/18	28/12/18
1.1	International study tour /b	person	5	13	SSS	Prior	15/6/18	15/7/18	14/8/18	13/9/18	28/9/18	13/10/18	12/12/18
1.1	Project coordinator / economist	pers-month	2	29	IC	Post	30/6/18	30/7/18	29/8/18	28/9/18	13/10/18	28/10/18	28/10/19
1.1	Community Development Specialist	pers-month	2	29	IC	Post	1/7/18	31/7/18	30/8/18	29/9/18	14/10/18	29/10/18	29/10/19
1.1	Business Development Specialist	pers-month	2	29	IC	Post	1/7/18	31/7/18	30/8/18	29/9/18	14/10/18	29/10/18	29/10/19
1.1	District Project Officers	pers-month	14	123	IC	Post	1/7/18	31/7/18	30/8/18	29/9/18	14/10/18	29/10/18	29/10/19
1.1	Engineer consultant	pers-month	2	18	IC	Post	1/7/18	31/7/18	30/8/18	29/9/18	14/10/18	29/10/18	29/10/19
1.1	Community Development (International TA)	pers-month	2	22	IC	Post	30/8/18	29/9/18	29/10/18	28/11/18	13/12/18	28/12/18	28/12/19
1.1	Business Development Specialist (International TA)	pers-month	2	22	IC	Post	30/8/18	29/9/18	29/10/18	28/11/18	13/12/18	28/12/18	28/12/19
1.1	Business Advisory Services	lumpsum	-	21	CQS	Post	30/4/19	30/5/19	29/6/19	29/7/19	13/8/19	28/8/19	27/8/20
1.1	Establishment / Strengthening of VO and CIGs (to reach about 225 vlgs)	VO	125	375	QCBS/ CQS	Prior	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	22/5/20
1.1	Vocational training (one man and woman/VO)	workshop	15	77	QCBS	Prior	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
1.2	Training Needs Assessment	contract	1	15	CQS	Post	26/7/18	25/8/18	24/9/18	24/10/18	8/11/18	23/11/18	21/2/19
1.2	Hukumat/Jamoat staff training / refresher	person	80	16	CQS	Post	26/7/18	25/8/18	24/9/18	24/10/18	8/11/18	23/11/18	21/2/19
1.2	Community Facilitators training (4-8 modules)	person	30	6	SSS	Prior	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	29/12/18
1.2	Business mentors training (for CIG mentoring)	person	30	6	SSS	Prior	6/8/18	5/9/18	5/10/18	4/11/18	19/11/18	4/12/18	4/3/19
1.2	Regional study tours for central/regional administration	person	40	33	CQS	Post	2/10/18	1/11/18	1/12/18	31/12/18	15/1/19	30/1/19	30/4/19
1.2	Assessment of service providers for business advisory	contract	1	5	SSS	Prior	3/11/18	3/12/18	2/1/19	1/2/19	16/2/19	3/3/19	2/5/19

1.2	Entrepreneurs needs assessment and training	contract	7	36	CQS	Post	30/4/19	30/5/19	29/6/19	29/7/19	13/8/19	28/8/19	26/11/19
1.2	Business management training	session	7	4	SSS	Prior	30/4/19	30/5/19	29/6/19	29/7/19	13/8/19	28/8/19	26/11/19
1.2	Agricultural machinery and leasing expert	pers-month	7	79	CQS	Prior	9/1/19	8/2/19	10/3/19	9/4/19	24/4/19	9/5/19	8/5/20
1.2	Legal and trade logistics expert	pers-month	8	90	CQS	Prior	8/4/19	8/5/19	7/6/19	7/7/19	22/7/19	6/8/19	5/8/20
1.2	Maintenance and service expert	pers-month	6	68	CQS	Prior	8/4/19	8/5/19	7/6/19	7/7/19	22/7/19	6/8/19	5/8/20
1.2	Repair and maintenance experts ToT	contract	6	67	CQS	Prior	30/4/19	30/5/19	29/6/19	29/7/19	13/8/19	28/8/19	27/8/20
1.2	Training for machinery operators for VOs	lumpsum	8	90	CQS	Prior	6/7/19	5/8/19	4/9/19	4/10/19	19/10/19	3/11/19	2/11/20
2.3	Innovation Grants	lumpsum	-	400	NS	Prior	3/12/19	2/1/20	1/2/20	2/3/20	17/3/20	1/4/20	2/3/22
3.1	Financial management specialist	pers-year	2	29	IC	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	Gender specialist	pers-year	2	24	IC	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	M&E officer	pers-year	2	24	IC	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	Assistant accountant / disbursement specialist	pers-year	2	18	IC	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	Assistant procurement specialist	pers-year	2	18	IC	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	Translator	pers-year	2	18	IC	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	Social Fund (consultants) /g	lumpsum	-	33	IC	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	Audit	pers-month	2	31	CQS	Post	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.1	Short-Term Technical Assistance /h	lumpsum	2	20	SSS	Prior	2/6/18	2/7/18	1/8/18	31/8/18	15/9/18	30/9/18	30/9/19
3.2	Baseline study	study	-	30	CQS	Post	28/3/19	27/4/19	27/5/19	26/6/19	11/7/19	26/7/19	24/10/19
3.2	Management Information System (MIS)	contract	1	5	SSS	Prior	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19

Civil works

Component		Unit	Qty	Total USD '000	Proc method	Post/ prior review	Advertisement	BD prep	BD issued	BD opening	BD evaluation	Contract	Completion
2.1	CDF Grants (civil works)	lumpsum	-	2	NCB	Prior	14/10/19	13/11/19	13/12/19	12/1/20	27/1/20	11/2/20	30/7/22

Equipment and goods

Component		Unit	Qty	Total USD '000	Proc method	Post/ prior review	Advertisement	BD prep	BD issued	BD opening	BD evaluation	Contract	Completion
2.1	CDF Grants (equipment and machinery)	lumpsum	1	7,874	NCB	Prior	14/10/19	13/11/19	13/12/19	12/1/20	27/1/20	11/2/20	30/7/22
2.2	Agricultural Mechanization Equipment / repair tools / internat'lly procured	lumpsum	1	2,295	ICB	Prior	14/10/19	13/11/19	13/12/19	12/1/20	27/1/20	11/2/20	30/7/22
2.2	Agricultural Mechanization Equipment / repair tools / nat'lly procured	lumpsum	1	255	NCB	Prior	14/10/19	13/11/19	13/12/19	12/1/20	27/1/20	11/2/20	30/7/22
2.2	O&M costs for agricultural machinery	lumpsum	1	236	NS	Prior	3/12/19	2/1/20	1/2/20	2/3/20	17/3/20	1/4/20	18/9/22
3.1	Desktop computers for central office (PMU)	unit	6	6	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Table set for central office (PMU)	unit	6	1	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Chairs set for central office (PMU)	unit	6	1	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Printer for central office (PMU)	unit	5	1	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Other furniture for central office (PMU)	unit	5	1	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Equipment replacement for central office (PMU)	lumpsum	1	16	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Laptop for district offices	unit	7	3	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Table set district offices	unit	7	1	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Chairs set district offices	unit	7	2	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Printer district offices	unit	7	1	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Other furniture district offices	unit	7	1	NS	Post	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19
3.1	Vehicle 4 Wheel Drive	number	7	212	NCB	Prior	9/9/18	9/10/18	8/11/18	8/12/18	23/12/18	7/1/19	7/4/19

Appendix 9: Project cost and financing

Introduction

1. This section describes the assumptions underlying the derivation of Project costs, estimated Project costs and financing plan. The Project costs are based on parameters collected during the design mission in February 2017 and updated during the second design mission in April/May 2017. Some of the key parameters are presented below.

2. **Project Period**. The expected duration of the proposed project is six years.

3. **Inflation**. The inflation rate has been significantly volatile in the last years, also in relation to the fluctuation of the exchange rate of the Tajik Somoni (TJS) with the US Dollar (US$). The latest available Economist Intelligence Unit's (EIU) Country Report (1st quarter 2017) forecasts the Tajikistan's inflation rate at around 10% for 2017 and 9% for the following year. For CASP's cost analysis, a constant rate of 9% of inflation per year was considered a sufficiently conservative option as a base for the project period 2018-2023. The international inflation rate is set at 2% per year, in line with medium to long term projections of EIU and the World Bank group (Commodity Market Outlook, Jan 2017) for the US$.

4. **Exchange Rate**. In 2017, the authorities have started a managed deprecation against the dollar, with the currency falling to 8 TJS per US$1 as at March 1st. The EIU reports that the MOF has forecast a devaluation of the TJS for the 2017-2018 biennium as part of its budget assumptions. As a result, it is expected a further devaluation of the TJS against the US dollar in 2017 to about 9.2 TJS per US$. For CASP costs, the Base Exchange rate for is set at TJS 9 to US$1.

5. **Taxes and Duties**. Overall, the items to be imported for the Project do not attract any import and excise duties. However, there is VAT of 18% levied on all imported and locally procured goods and services. For directly recruited local staff, international and national technical assistance, the Project will cover the employer's insurance of 25% (Social Fund). The Government would cover the cost of all taxes on goods and services procured under the Project either through provisions in the state budget or tax exemption.

6. **Expenditure Accounts**. The expenditure accounts, together with the breakdown of taxes, physical contingencies and the average rates for foreign exchange used in the analysis are shown in Table 6. Physical contingencies have only been applied on the items for which the required amounts could not be reasonably estimated, and have not been applied to the funds earmarked for the grants as they follow a demand-driven delivery scheme.

Table 6: Expenditure Accounts

Description	Taxes (share in total costs)	Physical Contingency	Foreign Exchange
Investment Costs			
Equipment and Goods	25.0%	5%	70%
Vehicles	28.0%	0%	70%
Technical Assistance			
International TA	0%	0%	100%
National TA	0%	0%	0%
Studies	0%	0%	50%
Training and Workshops	0%	0%	0%
CDF Grants	14.5%	0%	47.5%
Innovation Grants	0%		
Recurrent Costs			
Salaries and allowances	0%	0%	0%
Social Fund	0%	0%	0%
Operating Expenses: Vehicles	4.8%	5%	30%
Operating Expenses: Office	15.3%	5%	30%

7. **Project Investment Component Structure**. The project will have two principal inter-related components as well as another for the required support for project management and implementation as follows:

(i) Strengthening rural institutions;

(ii) Improvement of agricultural productivity and business linkages; and

(iii) Project management.

8. **Project Organisation and Management**. The implementation responsibility will rest with the Project Management Unit (PMU) in the Ministry of Agriculture, in line with the similar arrangements established under the ongoing IFAD-funded Livestock and Pasture Development Project (Phase II) and the recently closed Khatlon Livelihood Development Project (KLSP).

B. Project Costs

9. The total investment and incremental recurrent Project costs, including physical and price contingencies, are estimated at about US$ 39.3 million (TJS 353.9 million). Physical and price contingencies are low at 1% of the total Project costs. This is mostly due to the fact that investments associated with the Community Development Fund grants and the Innovation grants represent around 72% of the total Project costs. As additional reason for the limited portion of contingencies, the agricultural mechanization fund represents some additional 16% of the total investment, for a total of about 88% of the project cost allocated as a lump sum, with no contingencies.

10. The foreign exchange component is estimated at US$ 16 million, about 41% of the total Project costs. Taxes and duties make up approximately US$ 4.9 million. The project management cost makes about 4 per cent of the total Project costs and are partly covered under LPDP-II. Table 7 summarizes the project costs by component.

Table 7: Project Costs by Component

	(Somoni Million)			(USD '000)			ForEx	Base Cost
Components Project Cost Summary	**Local**	**Foreign**	**Total**	**Local**	**Foreign**	**Total**	**%**	**%**
A. Strengthening Rural Institutions								
Strengthening community organizations	17.3	0.4	17.7	1,920.7	44.0	1,964.7	2	5
Strengthening services agencies	6.9	2.7	9.6	765.3	296.8	1,062.0	28	3
Subtotal Strengthening Rural Institutions	**24.2**	**3.1**	**27.2**	**2,685.9**	**340.8**	**3,026.7**	**11**	**8**
B. Improvement of agricultural productivity and business linkages								
Community Development Fund	123.5	110.0	233.5	13,724.5	12,224.5	25,949.0	47	67
Provision of Improved Machinery Services	28.4	28.3	56.7	3,160.0	3,140.0	6,300.0	50	16
Innovation Grants	18.0	0.0	18.0	2,000.0	0.0	2,000.0	-	5
Subtotal Improvement of agricultural productivity and business linkages	**170.0**	**138.3**	**308.2**	**18,884.5**	**15,364.5**	**34,249.0**	**45**	**89**
C. Project Management								
Project Management	11.6	2.7	14.3	1,283.6	301.6	1,585.2	19	4
Monitoring and Evaluation	0.7	0.6	1.3	81.2	66.8	148.0	45	0
Subtotal Project Management	**12.3**	**3.3**	**15.6**	**1,364.8**	**368.4**	**1,733.2**	**21**	**4**
Total BASELINE COSTS	206.4	144.7	351.1	22,935.2	16,073.7	39,008.9	**42**	**100**
Physical Contingencies	0.3	0.1	0.5	35.3	16.1	51.4	31	0
Price Contingencies	12.5	1.9	14.4	229.6	32.3	261.9	12	1
Total PROJECT COSTS	**219.3**	**146.7**	**366.0**	**23,200.1**	**16,122.0**	**39,322.1**	**42**	**101**

C. Financing

11. An IFAD Grant of US$ 15.3 million (39 per cent of total project costs) will finance 92 per cent of the Strengthening Rural Institution component (which amounts US$ 3.2 million); 32 per cent of the Improvement of agricultural productivity and business linkages component (US$ 34.3 million); and 82 per cent of the project management (US$ 1.9 million). An IFAD Loan of an equal amount of US$ 15.3 million will finance: 44 per cent of the Improvement of agricultural productivity and business linkages component; and 10 per cent of the project management component.

12. As a general rule applied to CASP costing, all expenses related to technical assistance, trainings, PMU costs (except those related to equipment and goods) and the innovation grants are financed by IFAD Grant. Equipment and goods are all financed by IFAD Loan, including the lump sum amount allocated for agricultural mechanization. The Community Development Funds are financed by both the IFAD Grant (35 per cent) and the IFAD Loan (45 per cent), which add up to the beneficiaries' contribution (5 per cent) and the Government contributions (15 per cent) to cover taxes. The project costs include also an unallocated amount of US$ 3 million for the Improvement of agricultural productivity and business linkages component (temporarily equally shared between the Community Development Fund and the Provision of Agricultural Machineries sub-components). Such amount will be reallocated at Mid-Term Review.

13. The government contribution is estimated at US$ 4.9 million (12.6 per cent of the total cost) and includes contributions from its budget mostly to cover taxes (see next paragraph) including those related to the procurement for the Community Development Fund grants. Approximately US$ 1.6 million (4.0 per cent of the total Project cost) will be provided by beneficiaries as co-financing of the Community Development Fund grants and of the Innovation grants. Finally, a contribution of about US$ 1.9 million (4.9 per cent) is expected from private service providers operating in the field of agricultural mechanization. This contribution will match CASP's allocation for machineries and equipment for mechanization under Component 2, plus related operation and maintenance costs. An additional amount of US$ 250,000 will be financed by the Food and Agriculture Organization of the UN (FAO), corresponding to 0.6 per cent of the total project cost. Such amount will finance about 8 per cent of the Strengthening Rural Institution component, with particular focus on strengthening capacities for improved agricultural mechanization services.

14. The Government contribution would cover all taxes and duties on all Project inputs that involve funding from the IFAD Loan and Grant or any other external source of funding associated with the IFAD Loan and Grant. The estimate of taxes and duties is based on the rates in effect prevailing at the time of the design. In conformity with the principle that no taxes or duties would be financed out of the proceeds of the IFAD Loan and Grant, any future changes in the rates and/or structures of taxes and duties would have to apply to the Project.

15. Tables 8 and 9 below provide summaries by the Project components and expenditure accounts of the proposed financing arrangement. The other summary financing tables are provided in attachment to Appendix 9, and the COSTAB file is available on Project file.

16. **Implications for Government Budget.** Apart from repayment of the IFAD Loan, implications for Government's budget are limited in terms of its contribution to the Project costs: the MOF will need to make annual allocations in the state budget to cover taxes and duties.

Table 8: Financing Plan by Components – including contingencies ('000 US$)

	IFAD GRANT		FAO		IFAD Loan		Ben Contribution		Provider		GOVT: Taxes		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Strengthening Rural Institutions														
Strengthening community organizations	2,039	100.0	-	-	-	-	-	-	-	-	-	-	2,039	5.2
Strengthening services agencies	866	77.6	250	22.4	-	-	-	-	-	-	-0	-0.0	1,116	2.8
Subtotal Strengthening Rural Institutions	2,904	92.1	250	7.9	-	-	-	-	-	-	-0	-0.0	3,154	8.0
B. Improvement of agricultural productivity and business linkages														
Community Development Fund	8,993	34.7	-	-	11,770	45.4	1,456	5.6	-	-	3,730	14.4	25,949	66.0
Provision of Improved Machinery Services	-	-	-	-	3,375	53.1	-	-	1,920	30.2	1,063	16.7	6,357	16.2
Innovation Grants	1,900	95.0	-	-	-	-	100	5.0	-	-	-	-	2,000	5.1
Subtotal Improvement of agricultural productivity and business linkages	10,893	31.8	-	-	15,145	44.1	1,556	4.5	1,920	5.6	4,792	14.0	34,306	87.2
C. Project Management														
Project Management	1,382	81.1	-	-	179	10.5	-	-	-	-	143	8.4	1,704	4.3
Monitoring and Evaluation	150	95.6	-	-	5	3.3	-	-	-	-	2	1.1	157	0.4
Subtotal Project Management	1,533	82.3	-	-	184	9.9	-	-	-	-	145	7.8	1,862	4.7
Total PROJECT COST	15,330	39.0	250	0.6	15,330	39.0	1,556	4.0	1,920	4.9	4,937	12.6	39,322	100.0

Table 9: Expenditure Accounts by financier ('000 US$)

	IFAD GRANT		FAO		IFAD Loan		Ben Contribution		Provider		GOVT: Taxes		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs														
A. Goods, Equipment and Materials														
Goods, Equipment and Materials	-	-	-	-	1,907	44.4	-	-	1,313	30.6	1,073	25.0	4,292	10.9
B. Vehicles														
Vehicles	-	-	-	-	153	72.0	-	-	-	-	59	28.0	212	0.5
C. Technical Assistance and Studies														
International TA	212	64.9	115	35.1	-	-	-	-	-	-	-0	-0.0	327	0.8
National TA	3,013	96.3	116	3.7	-	-	-	-	-	-	-0	-0.0	3,129	8.0
Studies	164	90.1	18	9.9	-	-	-	-	-	-	-0	-0.0	182	0.5
Subtotal Technical Assistance and Studies	3,390	93.2	249	6.8	-	-	-	-	-	-	-0	-0.0	3,638	9.3
D. Training and Workshops														
Training and workshops	337	99.6	1	0.4	-	-	-	-	-	-	-0	-0.0	338	0.9
E. CDF Grants	8,243	33.7	-	-	11,020	45.1	1,456	6.0	-	-	3,730	15.3	24,449	62.2
F. Innovation Grants	1,900	95.0	-	-	-	-	100	5.0	-	-	-	-	2,000	5.1
G. Unallocated	750	25.0	-	-	2,250	75.0	-	-	-	-	-	-	3,000	7.6
Total Investment Costs	14,619	38.5	250	0.7	15,330	40.4	1,556	4.1	1,313	3.5	4,862	12.8	37,930	96.5
II. Recurrent Costs														
A. Salaries and Allowances	245	100.0	-	-	-	-	-	-	-	-	-	-	245	0.6
B. Social Fund	50	100.0	-	-	-	-	-	-	-	-	-	-	50	0.1
C. Operating Expenses														
Vehicles	238	26.8	-	-	-	-	-	-	607	68.4	43	4.8	888	2.3
Office	177	84.8	-	-	-	-	-	-	-	-	32	15.3	209	0.5
Subtotal Operating Expenses	415	37.8	-	-	-	-	-	-	607	55.4	75	6.8	1,097	2.8
Total Recurrent Costs	711	51.0	-	-	-	-	-	-	607	43.6	75	5.4	1,392	3.5
Total PROJECT COSTS	15,330	39.0	250	0.6	15,330	39.0	1,556	4.0	1,920	4.9	4,937	12.6	39,322	100.0

Appendix 10: Economic and Financial Analysis

Introduction

1. The goal of the CASP is to to stimulate inclusive economic growth and reduction of poverty in poor rural communities. The Project's objective is to improve access of communities to productive infrastructure and services leading to sustainable agricultural production and equitable returns. The Project will be implemented in selected districts of Sughd, Khatlon and Rayons of Republican Subordination (RRS).[62] Its primary target group includes the actually or potentially economically active among: (i) rural poor living in extreme poverty; (ii) subsistence and semi-subsistence farmers, in particular those willing to move to more commercial farming; (iii) the rural underemployed and self-employed; and iv) private entrepreneurs with actual or potential strong backward linkages to poor rural communities in the capacity of service provider, input supplier or off taker of agricultural produce. Emphasis will be placed on women headed households and youth.

2. The Project will have a two pronged approach to reach its development objective. On one side, the Project will scale up the successful demand-driven approach implemented by the IFAD funded Khatlon Livelihoods Development Project (KLSP, 2009-2016). Main benefits included a reduction of production costs and an increase in productivity for the farmers and communities who benefitted of increased access to productive agricultural equipment and rural infrastructures, or a combination of both. On the other side, the Project will aim to further expand the access to agricultural equipment and machineries by supporting the establishment or the strengthening of agricultural mechanization service centers (AMSC). The models presented in the economic and financial analysis are aiming to demonstrate how the Project interventions will generate benefits to the target group, as well as to assess opportunities for and constraints to economic development and associated risks. They are for demonstration purposes only, and are used as building blocks for the CASP approach.

II. Project Benefits

3. The Project is expected to lead to increased income of farmers, households and rural entrepreneurs. Benefits would accrue from: (i) increased farm productivity and reduction of production costs due to the adoption of modern technologies and mechanized operations; (ii) reduced losses during harvesting (through the use of combined harvesters, potato harvesters and mowers); (iii) a subsequent increased proportion of marketed farm produce; (iv) improved quality and safety of agricultural and food products, thus attracting higher prices as a result of the demand by processors for more reliable outputs; (v) potential decrease of import of staple cereals (wheat); (vii) increased employment opportunities, either for hired or family labour, for both on-farm and off-farm activities; and (viii) tax revenues as a result of increased volume of taxable production. Principal increases in incomes would be largely dependent on farmers/household/rural entrepreneurs adopting proposed activities, which the Project will promote directly through the community development fund, including technical assistance, through co-funding the establishment and strengthening of AMSCs, and by disseminating innovative technologies tested within innovation grants, thus generally contributing to create a favourable economic environment that encourages farmers/rural entrepreneurs to produce more competitive products.

4. This appendix presents the Economic and Financial Analysis (EFA) of CASP's interventions through the use of indicative activity models. The analysis builds upon the precautionary principle, accounting for Project benefits in a realistic and conservative manner. A financial analysis is carried out to present the scenarios with and without project interventions. The key-indicators used to carry out the analysis are the net present values (NPVs), financial and economic internal rate of return (FIRR – EIRR), benefit-cost ratios (B/C) and switching values for both benefits and costs.

[62] In consultation with project stakeholders, the following districts have been considered: Devashtich, Dusti, Jaihun, Norak, Rasht, Shahriston and Tajikobod. The financial and economic analysis is based on their current agricultural production and potential.

III. Financial Analysis

5. The primary objective of the financial analysis is to determine the financial viability and incentives for the Project target group as a result of their engagement in Project activities, and hence to examine Project's impacts on family labour, financial flow and household incomes.

6. A number of indicative economic activities, which may be supported by the CASP, were identified during the design process. The analysis presents several sets of models. A first set comprises seven crop production models (selected according to the prevailing cropping patterns in the Project areas), including rainfed and irrigated wheat and potato production, vegetable production, orchard and fodder. A second set assesses the benefit streams generated by rural infrastructures (public goods). A third set models the benefits of income generating activities that could be adopted by Common Interest Groups (CIG). A fourth set illustrates the potential benefits of providing agricultural mechanization services through AMSCs and MRWs (the two latter will not account for the benefit stream of the project). Finally, the analysis presents two models showing the benefits of minimum/no-tillage and conservation agriculture technologies as possible results, which could be demonstrated through the innovation grants. These models were used as building blocks for the economic evaluation of the entire Project once aggregated for the target population. All the technical assumptions within the models have been elaborated jointly with the team members on the basis of field surveys, national statistics, international and national expert consultation.

Table 10: Summary of Financial models

Models	HHs	Ha	NPV (TJS) 12.5%	NPV (USD) 12.5%	Financial IRR	B/C ratio	Switching values Benefits	Switching values Costs	Returns to HH labour (TJS)
Rainfed wheat	1	1	548	61	18.5%	1.07	-7%	7%	28
Rainfed potato	1	1	9,380	1,042	30.0%	1.22	-18%	22%	60
Irrigated wheat	1	1	1,454	162	15.5%	1.06	-6%	6%	52
Irrigated potato	1	1	47,056	5,228	58.6%	1.48	-33%	48%	112
Vegetable (onion)	1	1	27,883	3,098	42.3%	1.90	-47%	90%	182
Orchard (apple)	1	1	73,399	8,155	28.3%	1.71	-41%	71%	302
Fodder (Alfalfa)	1	1	1,586	176	36.2%	3.72	-73%	272%	602
Drinking water	170	NA	7,906,769	878,530	22.9%	1.76	-43%	76%	NA
Electricity line	80	NA	13,396,257	1,488,473	40.0%	2.87	-65%	187%	NA
Rural roads	60	NA	2,112,081	234,676	22.8%	2.24	-55%	124%	NA
Irrigation expansion	70	NA	4,163	463	21.1%	1.02	-2%	2%	NA
Large scale AMSC[63]	6	~1,500	1,325,671	147,297	18.6%	1.16	-14%	16%	NA
Small AMSC	3	~1,250	205,926	22,881	14.0%	1.04	-3%	4%	NA
MRW[64]	1		1,982,702	220,300	20.7%	1.22	-18%	22%	NA
Min. tillage	1	1	2,891	321	27.0%	1.03	-3%	3%	39
Cons. Agriculture	1	1	2,027	225	71.8%	1.48	-15%	17%	50
Wild berries	10	NA	135,580	15,064	608.9%	3.89	-74%	289%	339
Beekeeping	10	NA	17,419	1,935	56.1%	1.48	-32%	48%	12
Poultry	10	NA	798	89	830.5%	1.86	-46%	86%	15
Bio Climatic Cells	10	NA	326,130	36,237	1679.0%	3.95	-75%	295%	2,098

7. It is expected that the Project would reach around 225 villages with an estimated population of 48,375 households. Among those, the Project will include specific support for about 300 business-oriented *dehkhan* and/or household CIGs. In addition, the Project will pilot to establishment of agricultural mechanization services and maintenance and repair of agricultural machineries involving dehkan farmers and other entrepreneurs. These pilot centres could serve an area of about additional 12,500 ha and an estimate of about 2,000 additional *dehkan* farmers as indirect beneficiaries serviced by the agricultural mechanization service centres supported by the Project. Overall, the analysis

[63] Including the benefits from the incremental equipment utilized by the AMSC.
[64] Including the benefits from the incremental equipment utilized by the MRW

illustrates the consolidated benefits generated by the Project's two investment components and corresponding five sub-components for the Project expected beneficiaries.

IV. Key Assumptions

8. The parameters for the models are based on information gathered during the design mission: interactions with farmers and entrepreneurs, information from donor agencies and development partners, the PMU of the ongoing IFAD-funded LPDP and mission's estimates. In particular, information on labour and input requirements for various operations, capital costs, prevailing wages, yields, farm gate and market prices of commodities, input and farm-to-market transport costs were collected. Conservative assumptions were made both for inputs and outputs, and take account of possible risks.

9. **Prices.** The adopted numerate for the EFA is the domestic price level expressed in local currency unit. The financial prices for Project inputs and products represent average market prices and were collected in the field during the design missions (February-May 2017). Information on labour requirements for various production models, prevailing wage rates, yields, input use, farm gate and market prices of the products, input prices were collected. Prices used represent estimates of the average seasonal prices and the analysis is carried out using nominal constant prices. A list of prices used in the analysis is available in Working Paper 2 (Project File)

10. **Exchange rate.** The exchange rate used in the analysis is fixed at 1 USD = 9.0 TJS, computed as the forecasted exchange rate.[65]

11. **Internal rate of return.** An internal rate of return (IRR) of 12.5% has been used as discount rate for the financial analysis to assess the viability and robustness of the investments at farm level. The selection criterion for the IRR[66] is to accept all projects for which the IRR is above the opportunity cost of capital. Using the IRR as the measure, the models' sensitivity to the changes in parameters can be assessed by varying the costs and revenues. For the social opportunity costs of capital, the analysis has adopted a rate of 10%.[67]

12. **Labour.** Family labour has been valued both in financial and economic analysis. It has been assumed that both family labour and hired unskilled labour market price is TJS 12.5 per day, which has been adjusted by local unemployment rates to calculate its economic value.

13. **Land taxes**. A rate of 111 TJS per Ha for irrigated areas and of 35 TJS per Ha in rainfed areas were applied to the analysis. These correspond to the prevailing rates in the Project areas, updated as per the most recent official publication.[68]

14. More details on production and financial parameters for the models are found in the analysis excel tables in Working Paper 2 (Project files).

V. Farm and Rural Enterprise Models

15. **Summary.** The main result of the financial analysis include: (i) a significant increase in gross and net returns from each model compared with and without-project situation: (ii) sufficient benefit/cost ratios illustrating the worthiness of the investments. The respective NPVs range from 61 USD to 1,4 USD, while, the IRRs from 14% to 72%, which are comparable to those estimated for similar operations in neighbouring Kyrgyzstan, Uzbekistan and South Kazakhstan. The analysis showed that the models are more sensitive to changes in both productivity and price assumptions than they are to variations in investment and operating costs. Sensitivity analysis also showed that all models would remain attractive even if costs increase up to 20% or benefits are delayed by two years.

[65] Economist Intelligence Unit's (EIU), Country Report, 4th quarter 2016.
[66] The IRR is a measure of the project's worth that in this case compares the return on the investment with the best alternative use of the funds, i.e. a refinancing rate of the National Bank of Tajikistan (31 January 2017).
[67] The social discount rate used for the economic analysis is calculated as an average of the World Bank long term deposit interest rates with an additional coefficient due to the remoteness of the areas and the general difficulty of access to financial services for the project's beneficiaries and stakeholders.
[68] Decree of the Government of Tajikistan # 33, 03/01/2014.

Delay in adoption of the improved technologies and in the operationalization of the AMSC are the most important factors. A specific element of risk is related to the AMSC. Despite their financial model shows promising profitability indicators (even in cases where the Project's contribution to the investment is as low as 10%), the Project will need to raise entrepreneurs' interest to ensure establishing the pilot centres before mid-term review. The amount of the investment plays an important role in this, especially in contexts with limited access to credit. Equally, the Project will have to provide significant technical and managerial support to the centres in their early stages, and in parallel stimulate the demand of services offered by the centres.

16. The indicative models both at farm and enterprises show a positive return on labour (both, hired and family labour). Favourable cash flows from the possible programme financed investments indicated that the improvements in incomes at the farm/ enterprise levels would be sufficient to ensure uptake of the proposed activities. Also, a beneficiary's contribution is likely to translate into a high degree of economic attractiveness. Detailed business proposals would be required for each sub-project and innovation grant proposals and AMSC.

17. The description of the models follows the Project investment component clustering, including: (i) Community development funds, with investments focused on public goods and productive assets, and income generating activities for the most vulnerable households; (ii) Agricultural Mechanization Service Centres, with investments in agricultural machineries and equipment; and (iii) Innovation grants, with climate smart agriculture technological packages.

i. Community Development Funds

18. Community Development Funds (CDF) will support Village Organizations in implementing community-based development plans that integrate climate change adaptation and disaster risk-reduction. The community investments financed by the Project will be limited to a maximum of US$ 400 per household, with an average of about US$ 80,000 available for a community of average size. The investment includes the contribution from the beneficiaries, respectively 5% and 10% for investments in infrastructures and for income generating activities, including agricultural productive equipment. It also includes the cost for consultancy services for sub-project design, technical assistance and supervision to assure the good quality of goods and works. In order to measure the benefits of CDF, three major groups of models have been designed: (a) investment in community managed agricultural machinery and equipment (tractors, mowers, sprayers, potato planters/ harvesters, trailers, combined harvesters, etc.), which would contribute to a generalized decrease of production costs, an increase of the agricultural outputs, and an increase of the saleable produce for the field crop productions prevailing in the Project areas; (b) investment in infrastructures and public goods (drinking water, electricity supply, rural roads, expansion of irrigation schemes), which would combine social and economic benefits; and (c) support to Common Interest Groups to establish or expand income generating activities.

(a) Investments in agricultural machineries and equipment.

19. The investment costs for these options comprises a lumpsum amount of 320 TJS (40 USD) as the household's contribution to the CDF grant, plus the cost of specific investment required to enhance the productivity of the specific crop (land preparation, minimum tillage, saplings, etc.). All models are based on the assumption of a 1 Ha production plot. The main benefits and outcomes of the investments are summarized below, while the generalization for the VOs in the Project areas (and for the entire Project), the possible scenarios envisaging a shift in cropping patterns and the corresponding adoption rates, as well as the main sensitivity analysis are presented later in the document.

- **Rainfed wheat cultivation**. The model presents moderately positive returns. The cash-flow over the period of twenty years, discounted at 12.5%, produces a NPV of 548 TJS (71 US$) with a FIRR of 18.5%. Every dollar invested the activity generates a 7 cents of extra worth (B/C ratio equal to 1.07). Overall, the utilization of mechanized services allow an increase of about 40% of the sales. The model presents a moderate increase in operating costs largely

depending on improved seeds and adequate quantities of fertilizers. Operating costs amount 2,975 TJS (331 US$), and net incremental benefits compared to the without project scenario are 327 TJS (41 US$) at full implementation, from the fourth year onwards.

- **Irrigated wheat cultivation**. This model is a slight variation of the previous. The most significant change is represented by the expected production output (almost 50% higher than the rainfed production), and by the additional costs related to rehabilitate the irrigation scheme (for an amount of about 9,600 TJS, or 800 US$). The operating costs amount 3,191 TJS (355 US$), and net incremental benefits compared to the without project scenario are 2,093 TJS (233 US$) at full implementation. The cash-flow over the period of twenty years, discounted at 12.5%, produces a NPV of 1,454 TJS (162 US$) with a FIRR of 15.5%, and the B/C ratio equal to 1.06. Despite the higher productivity of irrigated wheat production compared to the rainfed one, the lower return of irrigated wheat cultivation compared to rainfed is mostly due to the conservative assumption that wheat, one of the major staple food in the country, is always cultivated with the maximum potential. Import of wheat represents a large part of the domestic demand, and the domestic output is always absorbed either by market demand or by the household for self-consumption. As such, it is assumed that shifting to the more productive irrigated cultivation always requires rehabilitating the irrigation scheme.
- **Rainfed potato cultivation**. The model entails a 35% increase of output compared to the without project situation. Besides the CDF related investment costs, the increase in operating costs depends on better seeds, fertilizers and mechanized agricultural services as typical feature of this set of models. The operating costs amount 20,067 TJS (2,230 US$), and net incremental benefits compared to the without project scenario are 2,876 TJS (320 US$) at full implementation. The NPV at 12,5% discount rate over a twenty years period is 9,380 TJS (1,042 US$) with a FIRR of 30%, and the B/C ratio equal to 1.22.
- **Irrigated potato cultivation**. The improved irrigated potato cultivation has a potential to raise the output by as much as 50%, or some 18 tonnes of potato per ha (even taking into account limited availability of high quality seeds). Similarly to the irrigated wheat production model, the rehabilitation of the irrigation scheme has been factored in as a conservative assumption. The operating costs – mostly due to the high cost of improved seeds, amount 25,664 TJS (US$ 2,852). Net incremental benefits are 10,561 TJS (1,173 US$); the NPV is 47,056 TJS (5,228 US$) and the FIRR is 58.6%. B/C ratio is 1.48.
- The 1 ha plot results as a very profitable dimension for this production. However, the lack of financial services represents a significant barrier for the majority of producers, which would lack the access to the capital required for introducing potato production in such large portions of land. Moreover, lack of high quality potato seed hampers the full potential of such cultivation. Nevertheless, the production still remains profitable, with proportionately lower investments and costs (or when irrigation is available at no or limited cost - such as in some districts of RRS).
- **Vegetables cultivation (onion)**. Vegetables have a robust market demand and are cropped in a significant portion of irrigated cultivable land. In the project area, the largest production area is in the three targeted districts in Khatlon, where it reaches 13% of the total land. Less in RRS (7% of cultivable land) and even lower in Sughd targeted districts, where it is as low as 2% (while wheat occupies almost three quarters the cultivable land). Irrigated production of onion has been taken as a representative model for vegetables. The operating costs amount 9,735 TJS (or 1,082 US$), mostly for hybrid seeds. The benefits of the project and the VO operated mechanized services generate net incremental benefits for 7,560 TJS (840 US$), and the NPV is 27,883 TJS (US$ 3,098). The FIRR is 42.3% and the B/C ratio is 1.9.
- **Fodder cultivation (alfalfa)**. Considering the high intensity of livestock production as a capital, a source of income and nutrition, fodder production is important. Within the project area, the largest proportion of land dedicated to fodder production is in the targeted districts of RRS (28%), while it is respectively 9% and 12% in Sughd and Khatlon. Alfalfa is one of the most nutritious fodder and it has been selected among the representative models for this

analysis. Operating costs for 1 ha vary between 105 TJS and 94 TJS (12 US$), as the operations vary from year to year, in order to maintain land fertility and productivity. The mechanization of alfalfa related operations generates a significant net incremental income of 906 TJS (113 US$), a NPV for twenty years of 1,586 TJS (176 US$), a FIRR of 36% and a B/C ratio of 3.72.

- **Orchard (apple)**. Orchards represent a significant portion of the agricultural land. In the Project areas, in RRS region some 15% of the land are dedicated to orchards, and respectively 5% and 4% in Sughd and Khatlon. With modern cultivation techniques, systematic and effective spraying and proper mechanization in harvesting and post harvest handling, orchards can be very profitable and can be planted even in hilly areas which are not suitable to other horticultural production. The establishment of an apple orchard over a wheat field has been selected as representative model for the analysis. Considering that the production reaches its maturity after four to six years, an intercropping with vegetables (onion) has been factored in for the first years. The investment is represented by the seedlings and by land preparation. The operating costs represent 3,973 TJS (441 USS). The net incremental benefits at year five are 7,990 TJS (888 US$). When the production reaches its peak, during the eight year, the net incremental benefits are as much as 30,171 TJS (3,352 US$). The NPV is 73,399 TJS (9,175 US$), the FIRR is 28.3% and the B/C ratio 1.71.

20. **Farm production choices**. Based on the average size of land for the project target households of about 1 Ha, a set of possible shifts in cropping patterns has been simulated for the analysis.

a. **Establishment of an irrigation scheme to increase the output of staple food**. The shift envisages passing from a traditional rainfed crop production pattern to a more modern, mechanized and irrigated production. The most significant investment costs are represented by a quota of a standard set of agricultural machineries for mechanization and the incremental cost of the irrigation scheme. The NPV is 12,543 TJS and the IRR 27%, for a B/C ratio of 1.18. This shift presupposes the possibility to rehabilitate or establish a functioning irrigation system and the preference (for market or household choice reasons) for staple food production such as potato and wheat.

1 ha	WOP	WP
Wheat (rainfed)	0.70	-
Potato (rainfed)	0.30	-
Wheat (irrigated)	-	0.70
Potato (irrigated)	-	0.30
Onion (irrigated)	-	-
Orchard (Apple)	-	-
Alfalfa	-	-
	1.00	**1.00**

IRR	28%
NPV	12,977
NPVb	108,162
NPVc	91,771
B/C ratio	1.18
Switching values B	-33%
Switching values C	49%

b. **Establishment of an irrigation scheme to diversify the production from staple food only**. A traditional rainfed wheat (70%) and potato (30%) production scheme is turned into a more modern farm. The output of wheat and potato (staple food with stable marketing opportunities) remains the same as in the without project scenario, but is obtained in a more limited portion of land (about half). The remaining 0.50 ha is dedicated to cash crops such as irrigated vegetables (onion) and Alfalfa. The specific selection of the additional crops will be made depending on market opportunities. Main benefits derive from a CDF investment in mechanization and in the expansion of an irrigation scheme. Precondition for this scheme is the possibility to expand irrigation to about half of the farm's land.

1 ha	WOP	WP
Wheat (rainfed)	0.70	-
Potato (rainfed)	0.30	-
Wheat (irrigated)	-	0.34
Potato (irrigated)	-	0.13
Onion (irrigated)	-	0.20
Orchard (Apple)	-	-
Alfalfa	-	0.33
	1.00	**1.00**

IRR	43%
NPV	20,218
NPVb	87,758
NPVc	64,127
B/C ratio	1.37
Switching values B	-35%
Switching values C	54%

c. **Establishment of an irrigation scheme to start fodder production**. This model is a slight variation of the previous one, for areas with higher livestock intensity and subsequent demand for fodder. Main benefits derive from a CDF investment in mechanization and in the expansion of an irrigation scheme. Precondition for this scheme is the possibility to expand irrigation to about half of the farm's land. The most significant investment costs are represented by a quota of a standard set of agricultural machineries for mechanization and the incremental cost of the irrigation scheme.

1 ha	WOP	WP
Wheat (rainfed)	0.70	-
Potato (rainfed)	0.30	-
Wheat (irrigated)	-	0.34
Potato (irrigated)	-	0.13
Onion (irrigated)	-	-
Orchard (Apple)	-	-
Alfalfa	-	0.51
	1.00	**1.00**

IRR	23%
NPV	5,857
NPVb	57,568
NPVc	48,298
B/C ratio	1.19
Switching values B	-13%
Switching values C	14%

d. **Establishment of an irrigation scheme and an orchard**. This model is a slight variation of the previous one, for areas with higher comparative advantages for fruits (hills), and possible market outflow or processing facilities. The returns are slightly lower, but intercropping of vegetable (in this case excluded from the analysis) would bring the benefits significantly higher.

1 ha	WOP	WP
Wheat (rainfed)	0.70	-
Potato (rainfed)	0.30	-
Wheat (irrigated)	-	0.34
Potato (irrigated)	-	0.13
Onion (irrigated)	-	-
Orchard (Apple)	-	0.51
Alfalfa	-	-
	1.00	**1.00**

IRR	24%
NPV	45,542
NPVb	148,509
NPVc	99,554
B/C ratio	1.49
Switching values B	-13%
Switching values C	14%

e. **Shifting production on rainfed land with a limited irrigation scheme (0.1 ha)**. A traditional rainfed wheat (70%) and potato (30%) production scheme is modernized and enriched with the introduction of irrigated vegetable production on a very limited portion of land (10%). The modernization of rainfed wheat and potato production allows the farm to produce the same output, but on a relatively smaller portion of land (90% of the area previously cropped). This choice is particularly indicated where there is a potential expansion for irrigation, but very limited.

1 ha	WOP	WP
Wheat (rainfed)	0.70	0.59
Potato (rainfed)	0.30	0.31
Wheat (irrigated)	-	-
Potato (irrigated)	-	-
Onion (irrigated)	-	0.10
Orchard (Apple)	-	
Alfalfa	-	-
	1.00	**1.00**

IRR	20%
NPV	3,751
NPVb	78,992
NPVc	71,828
B/C ratio	1.10
Switching values B	13%
Switching values C	14%

f. Diversifying production on rainfed land. Significant positive benefits can be obtained by modernizing the production of wheat and obtaining the same output in about 70% of the land, dedicating the remaining 30% of land to potato (IRR 20% and NPV 3,126 TJS).

This option is valid for areas where irrigation cannot be expanded. If instead irrigation could be expanded, greater benefits could be obtained by dedicating the remaining 30% to either potato (IRR 69% and NPV 45,413 TJS), or onion production (IRR 62%, and NPV 36,045 TJS), or apple (IRR 22% and NPV 39,843 TJS). It would not be sufficient to turn the 0.3 ha to Alfalfa only (IRR 11% and negative NPV).

21. Additional findings of this analysis include:

- Starting from a traditional rainfed wheat production is among the most disadvantaged production patterns. Positive benefits can be obtained by diversifying the production. The minimum diversification is to turn at least 10% of the farm's land to rainfed potato production. The underlying assumption is that there is sufficient market to absorb the increased production of wheat and potato.
- Significant positive benefits instead can be obtained by modernizing the production of wheat and obtain the same output in about 70% of the land, and dedicating the remaining 30% to potato, including on a rotational basis (IRR 21% and NPV 3,513 TJS). This option is valid for areas where irrigation cannot be expanded.
- Still in the same assumption of keeping the total wheat production unchanged, but with the potential to cover at least 30% of the land with irrigation, substantial benefits can be obtained by dedicating the irrigated area to either onion production (IRR 50%, and NPV 17,920 TJS) or apple (IRR 21% and NPV 20,106 TJS). It would not be sufficient to turn the said 30% to Alfalfa only (IRR 1% and negative NPV).
- Where irrigation can be expanded on the entire land, the most profitable changes of production patterns that keep the total wheat production unchanged (which would cover about half of the land) include: (i) irrigated potato production (IRR 69% and NPV 45,413 TJS); (ii) irrigated onion production (IRR 62% and NPV 36,045 TJS); (iii) establishment of an apple orchard (IRR 22% and NPV 39,834).
- The production of Alfalfa is not sufficiently profitable when wheat is still cropped on half of the land (IRR 11%). It could be profitable if associated to other productions, or when cropped alone (IRR 41%, and NPV 9,789 TJS), including on rotational basis which may be more attractive.

b. Investments in rural infrastructures.

22. The investment costs for these options depend on the nature of the investment. Both the investment costs and the socio-economic benefits of the rural infrastructures have been calculated on the individual household basis. The analysis – largely building on the successful experience of the KLSP, shows a general positive impact of rural infrastructures, with B/C ratios between 1.4 and 2.1, and an average of 0.5 US$ of incremental benefits for every dollar invested.

Table 11. Rural infrastructures: investment costs and benefits.

Model	Investment Costs per VO	Annual Net Benefits (after CDF grant)				Incr. annual net benefit per dollar invested	B/C Ratio	IRR	NPV
		WP - Full Dev.	Incremental	HHs benef.	Per HH				
Drinking water	59,461	18,937	18,937	171	111	0.3	1.8	23%	878,530
Electricity lines	43,562	22,664	22,664	78	292	0.5	2.9	40%	1,488,473
Rural Roads	20,190	6,408	6,408	59	109	0.3	2.2	23%	234,676
Additional benefits from sales:	*wheat*	3,451	3,451	-	59			28%	373,395
	apples	310,511	310,511	-	5,298			182%	4,534,387
Irrigation expansion	30,660	21,158	21,158	70	301	0.7	1.0	21%	463

23. **Enhanced access to drinking water supply**. Benefits deriving from receiving drinking water are multiple, mostly social. This models takes into account the main measurable benefits that have been found by talking to the beneficiaries: water pick-up time saved per year, which can now be used for other profitable activities, savings on water tanks purchase. As not all households used to purchase water tanks before the project intervention, in order not to overestimate the benefits, only half of the total beneficiaries of this model are assumed to save money on purchase of water tanks. The estimated benefit per household is about 111 US$ per year, and the operation generates 0.30 US$ per every US$ invested.

24. **Expansion of access to electricity**. This models takes into account the main measurable benefits that have been found by talking to the beneficiaries: average savings on coal per year, average savings on wood per year, savings on daily household activity, which before could not been done without electricity in the house. Without electricity, it is assumed that the average household consumed about 12 m^3 of wood per year and about 2 Mt of coal per year. With electricity, the wood and coal consumptions are reduced respectively to 7 m^3/year and 1 Mt/year. Additional economic benefits can derive from using the electricity for productive or processing purposes (e.g., dairy production and conservation). Such benefits are not taken into account in the analysis. B/C ratio is 2.9, and some 0.50 US$ are generated per every dollar invested.

25. **Rehabilitation of rural roads**. The main measurable benefits include savings on transportation costs, and incremental access to markets to increase sales and reduce wastes due to lack of access to markets. Additional sales of wheat have been factored in the analysis to compute the benefit stream. IRR is 23%, B/C ratio 2.2 and the operation generates an increase of 0.30 US$ per every dollar invested.

26. **Rehabilitation of irrigation scheme**. The main benefit of this option are of economic nature. The expanded irrigation area has an immediate effect on agricultural production of about 30%. The investment costs are represented by the pipelines over channel to direct water to fields (for a cost of 300US$ per ha). The subsequent fees for the maintenance are calculated based on the practices of existing water users associations. The IRR of the operation is 21%, and despite the B/C ratio is about 1.0, every dollar invested generates 0.7 US$ of benefits.

c. Income generating activities for common interest groups.

27. The Project will support alternative income generation activities (IGA) for smallholder farmers, especially women. Several models were analysed, demonstrating an opportunity for diversification of income sources for communities/community members unable to engage into entrepreneurial agricultural activities. The summary of benefits are shown in **Error! Reference source not found.**.

28. **Wild Berries collection**. Wild berries represent an important source of additional income with a limited investment, especially considering the potential demand from domestic agro-processors. The project will mobilise technical assistance coupled with a grant to rehabilitate a collection/drying facility and support groups of vulnerable households (especially targeting women headed households) in engaging in a promising activity. The model indicates the likely returns over time to a women group is

about 3,378 TJS per household (375 US$), and a return to labour day around 339 TJS. The provision of grant for an amount equivalent to the cost of the investment generates positive cash flow from the second year.

29. **Bio-climatic Cellar Model**. This model presents the likely returns from an investment in the establishment of bio-climatic cellars primarily for apples, but also for potatoes and other tubers. The sub-project is to be managed by a group of 10 households. An investment of 6,267 US$ into a cellar (storage capacity can vary from 4 to 20 tons) would allow benefiting from off-season prices, that in case of apples could be triple compared to post-harvest price. The financial analysis demonstrates that the group would have an annual incremental benefit of 77,900 TJS (8,655 US$), equivalent to some 865 US$ per household, and the return to labour day of about 2,098 TJS.

30. **Beekeeping**. The project will mobilise technical expertise and will cover the cost of an investment of 10 bee families and 15 beehives - 10 for the existing families and 5 for future bee expansion - for a group of about 10 women. The investment will include also a manual honey extractor and specific clothes to manage beehives. The grant will cover the 11,600 TJS (1,289 US$) to cover the cost of capital, plus technical assistance, for a total amount of 20,260 TJS for a group of 10 (about 232 US$ per household). This activity – piloted within the KLPS, has proven to be profitable, with a B/C ratio of 2.5 and total incremental annual income of 583 TJS.

31. **Poultry**. Rearing poultry has the potential to provide support to family income and to enhance the nutritional levels of the household, through sales and self-consumption of eggs and meat. The main investments are represented by the provision of an improved shed for poultry, and the technical assistance required to ensure a profitable management of the activity. Increased frequency and effectiveness of vaccination, improved feeding practices and use of higher quality feed will be the most significant factors to enhance egg productivity (above 2.5 times higher), surplus of growers for sale and self-consumption (about 6 times higher) and manure (slightly above three times higher). The cash flow is positive from the first year, and the net incremental income from the increased output is about 30% higher already on the first year, after factoring in the cost of the improved shed. The returns to labour is 14.5 TJS per day. The analysis does not take into account the additional benefits from nutrition.

Table 12. Income generating activities

Model	Investment Costs	Annual Net Benefits (after grant)				Incr. annual net benefit per dollar invested	B/C Ratio	NPV
		WOP	WP - Full Dev.	Incremental	Per HH			
Poultry	278	71	319	248	24.8	0.9	1.9	89
Wild berries	2,467	-	3,753	3,753	375.3	1.5	6.4	15,064
Beekeeping	2,318	-	648	648	64.8	0.3	2.5	1,935
Bioclimatic cellar	6,267	5,333	13,989	8,656	865.6	1.4	4.7	36,237

ii. Agricultural Mechanization Services

32. The activities under this sub-component will ensure that smallholder farmers will have better access to improved agricultural machinery services and technologies, resulting in increased productivity level and households' income. This sub-component will pilot the establishment of functioning Agricultural Mechanization Service Centres (AMSC), dedicated to the provision of mechanized services for agricultural production, and of Maintenance and Repair Workshops (MRW), with a complementary aim to ensure higher life cycle of the equipment. Based on the options developed during the design of the Project, three models were analyzed for this sub-component: (i) a large scale AMSC, operated by entrepreneurs or large dehkan farmers; (ii) smaller scale AMSC, operated by associated dehkan farmers with lower capacity to invest; and (iii) privately operated MRWs.

33. The large scale AMSCs and the MRWs will be established with a contribution from the Project equivalent to at least 50% of the value of the mechanization equipment (or tools for repairing and maintenance in case of MRW). The small scale AMSCs operated by associated dehkan farmers will be supported by the Project with a contribution of 75% of the investment. For both types, special equipment for the promotion of Conservation Agriculture (CA) technology among the farming population of the Project area will be included at 80% concessional rate, as a measure to favour the adoption of environmentally sustainable and drought resilient technologies. The investment envisaged for the large scale AMSCs would allow servicing an area comprised between 1,300 and 1,650 ha, while the one for the small scale could allow servicing some 1,000-1,400 ha. This is supposed to cover an estimated amount of 12,500 in total, which would sum up to the target area reached out by the CDFs and other Project's interventions. The AMSC's budget and the related incremental benefits have been calculated based on these assumptions, considered conservative. The service fees are based on the information provided by the service prices applied by Tajagroleasing State Enterprise and other private operators.

34. Considering the risk associated with the pilot nature of the intervention, the incremental net benefits of the AMSCs and MRWs were not computed in the aggregation to estimate the profitability indicators of the Project. The costs (including the contribution from the private service providers were full accounted. This contributes to build a conservative scenario for the net incremental benefit stream generated by the Project.

35. **AMSC**. The average investment costs for large AMSCs is 431,500 US$ and 296,500 US$ for a small one. The investment includes a wide variety of machineries and equipment: tractors, universal seeders, cultivators, omwer, trailers, potato seeders, potato harvesters, baler, sprayers (beam and fan), portable fertilizer, harrower and a combined harvester, plus one hydropneuymatic subsoiler and a no-till seeder for Conservation Agriculture. The composition of the package is standard only for the financial analysis purposes, but will have to be adjusted on a case-by-case basis before starting the cost-sharing operation with the entrepreneur. The expected duration of the equipment and machineries has been accounted for to calculate the cost stream of the operation. The introduction of a modern combined harvester in the Tajik context has a high impact on agricultural production. The benefits of its use are mostly in loss reduction in harvesting. A modern combined harvester (European model, budgeted for in this model), generates an average of 0.5% losses at harvesting. For the same operation, an old Soviet Niva Combined (still prevailing and partly functioning in the Project area), the losses are around 20-25%.

36. The operations covered by the AMSCs include land preparation, cultivation, sowing spraying, fertilizing, harvesting, mowing and baling adjusted to the cropping pattern prevailing in the project area (cerals, potatoes, fruits and vegetables, fodder and alfalfa, pulses), to better adhere to the context and to ensure higher demand from the entrepreneurs and from the farmers. Table 13 summarizes the some of the key operations of both the large and the small AMSC (the difference between the two will be the potential area covered).

Table 13. AMSC machineries and operations

Machinery	Operation	Crops	Duration (years)
Tractors	Tillage, all trailed operations		12
Comb harvester	Cereal harvesting	Barley, wheat , pulses, potatoes	15
Sower	Seeding / Sowing		15
Mower	Alfalfa harvesting	Alfalfa	8
Potato planter	Potato sowing	Potato	8
Potato harvester	Potato harvesting		8
Sprayer	Portable and trailed	Field crops and orchards	10
Hydropneumatic subsoiler + no-till seeder	Conservation Agriculture	Field crops	10
TOTAL Capital			

37. The AMSC seems to be sufficiently profitable and able to generate positive FIRR even with a co-funding from the project as low as 10% of the investment cost (see Table15). However, with low co-financing by the Project, the capacity of the AMSC to generate sufficient cash flow to repay the privately-funded share of the investment is lower, up to 11 years for co-financing at 10%. When factoring in the cost bared by the Project dedicated to technical assistance and the gradual phasing of full potential of the AMSC, the cost-sharing arrangement envisaged by the project is necessary to ensure financial and economic viability of the operation. The stream of benefits and costs is summarized in Table 27.

Table 14. Large AMSC net incremental benefits with co-funding

CASP co-funding share. Alternative scenarios:	Standard: 53%	Alternative: 25%	Alternative: 10%	Alternative No co-fin
Financial IRR	39.7%	29.6%	24.8%	19%
NPV @12.5% (USD)	405,656	268,869	195,926	147,297
B/C Ratio	1.60	1.33	1.22	1.16
Years to recover the investment *(based on cash flow)*	6	8	11	11

Table 15. Large AMSC benefits with variation of service prices

Service prices discounts. Alternative scenarios:	Standard: Full price%	Alternative: 10% discount	Alternative: 20% discount	Alternative: 30% discount
Financial IRR with 53% co-funding	39.7%	33.4%	26.6%	19.1%
NPV @12.5% (USD)	405,656	296,956	188,255	79,555
Years to recover the investment *(based on cash flow)*	6	7	8	10

38. Small scale AMSCs' profitability does not present substantial differences compared to the large ones. Small dehkan farmers deciding to associate to reinforce their business and diversify their source of income, from agricultural production on own land to a mix of production and provision of mechanization services would have a good chance of success. The main assumption is that mechanization services are in high demand: this is confirmed both from the statistics on available agricultural machineries in the Project districts (limited number and high age) and from the discussions with project stakeholders during the design. Key critical element of the pilot small AMSCs as envisaged by the Project is the dimension of the business. The amount to be provided by the associated small dehkan farmers is sensibly high. Nevertheless, CASP contribution is as high as 75% of the value, which would allow the cash flow to cover the cost of the initial dehkan farmers contribution in five years (corresponding to seven or eight in case of an average 10% and 20% discount on service fees, respectively – see Table 16 and Table 17).

Table 16. Small AMSC net incremental benefits with co-funding

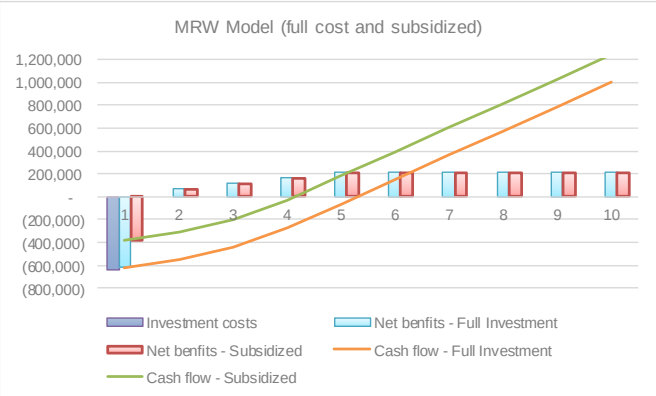
CASP co-funding share. Alternative scenarios:	Standard: 76%	Alternative: 50%	Alternative: 25%	Alternative No co-fin
Financial IRR	56.6%	31.6%	20.8%	14%
NPV @12.5% (USD)	283,744	195,239	109,060	205,926
B/C Ratio	1.76	1.42	1.20	1.04
Years to recover the investment *(based on cash flow)*	5	7	9	14

Table 17. Small AMSC benefits with variation of service prices

Service prices discounts. Alternative scenarios:	Standard: Full price%	Alternative: 10% discount	Alternative: 20% discount	Alternative: 30% discount
Financial IRR with 76% co-funding	56.6%	47.8%	26.6%	19.1%
NPV @12.5% (USD)	283,744	296,956	188,255	79,555
Years to recover the investment *(based on cash flow)*	5	7	8	10

39. **MRW**. The Model describes the profitability of a pilot Maintenance and Repair Workshop with contribution from the CASP on the investment. The investment cost (about 639,380 USD) and the operations have been set on the capacity to cover up to 300 tractors per year. Depending on the location of the pilot MRW, such volume would guarantee to cover agricultural machinery and equipment beyond the ones procured through the CASP. Operating costs include the salaries of engineers, plus electricity, water and other office utilities. Revenues are represented by the services for maintenance and repairing of a potential outreach between 100 and 300 tractors (the latter representing the full capacity). The service fees are based on standard operating procedures. The unit cost reflects the capacity of farm enterprises and agricultural production units in the country. The annual servicing of a tractor would be about 2.5% of the tractor cost. A projection of 10 years was considered sufficient to assess the profitability of the enterprise, which has a NPV of 435,580 USD and an IRR of 36% with a CASP contribution of 50% of the investment (respectively 220,300 USD and an IRR of 21% even computing the entire cost of the Investment) and with the cash flow covering the investment cost at the 6th year (8th year when computing the entire cost of the investment). Overall, the pilot operation shows positive profitability indicators (see Figure , and Table 27) and may attract private investment as may generate substantial benefits, especially along with the expected increase of agricultural mechanization).

Figure 1. MRW Model



	Full	Subsidized
Discount rate	12.5%	12.5%
NPV @ 0.125	$220,300	$435,580
IRR	21%	36%
NPVb	$1,217,158	$1,217,158
NPVc	$996,858	$1,041,058
B/C ratio	1.22	1.17
Switching values Benefits	-18%	-14%
Switching values Costs	22%	17%
INV repayment (Cash Flow=INV)	Y8	Y6

iii. Innovation grants

40. Through the innovation grant window, the Project will promote the development of innovative, demand-driven production and processing technologies through participatory on-farm/enterprise applied research and technology demonstration. Two models have been selected as possible representative innovations demonstrated through the innovation grants: minimum tillage applied to a wheat-potato crop rotation, and conservation agriculture with no-tillage and wheat and chickpea rotation. Both options, combining minimized soil disturbance and in case of CA increased soil cover and crop diversification, are highly beneficial for the environment, for soil fertility and for resilience to reduced water.

41. **Wheat and chickpea with CA no-tillage and rotation model**. Based on the experience of KLSP, this model intends to capture the possible benefits of conservation agriculture. The KLPS

established two demo sites and involved about 1,000 farmers through demonstration and training. One is use of the no-till planting technique and the diversification of cropping system by alternating crops and using no-till planters. This model illustrates the replication of such successful practice in the world, showing the impacts of using the no-tillage technology together with crop rotation of rainfed wheat and a legume (chickpea). Thanks to CA, the land is expected to increase its organic fertility. This will lead to higher yields and reduction of the use of fertilizers from the third year on.

42. **Minimum-tillage with rotation of wheat and potato**. Based on a similar experience from KLSP in Khatlon region, the innovation grant would promote crop rotation with minimum tillage as a highly beneficial agricultural practice. Compared to conservation agriculture, minimum tillage is more affordable. Moreover, through the increased access to agricultural services promoted by the Project (both by the AMSC and the CDF), ploughing, harrowing and sowing can be accessed at a much cheaper rate by renting them from the VO (main project intervention).

Table 18. Estimated benefits of innovative agricultural practices

Estimated benefits	Minimum tillage		Conservation agriculture	
Return to family labour	39 TJS	5 US$	50.42 TJS	6 US$
NPV (TJS)	2,891 TJS	321 US$	2,034 TJS	225 US$
IRR	27%		78%	
NPV benefits	66,108 TJS	7,345 US$	15,913 TJS	1,768 US$
NPV costs	63,959 TJS	7,107 US$	13,596 TJS	1,511 US$
B/C ratio	1.03		1.17	
Switching values Benefits	-3%		-15%	
Switching values Costs	3%		17%	

I. Aggregating the results of the CDF grants for agricultural equipment.

43. The aggregation of CDF agricultural equipment grants represents the most complex part of the analysis, as the conditions in the intervention areas are different (and deserve a disaggregated analysis), and as this investment represents a large share of the Project cost (70%, or 30.0m USD) and benefits.

44. In order to aggregate the benefits of the CDF agricultural equipment grants, the analysis has developed four scenarios (in addition to a base scenario with no shift in cropping pattern), based on the prevailing agricultural patterns. The Project area has been disaggregated by districts, as they present substantially different agricultural patterns. The scenarios entail a shift in cropping pattern, which is comparable across regions. The successful adoption of the CDF investment in agricultural equipment is estimated at a conservative rate of 80%. The five scenarios have the following characteristics.

(a) Base scenario – no change in cropping pattern. The composition of the VO production area remains the same as without the project, but the overall productivity increases. The estimated adoption rate of this scenario is 20%.

(b) Scenario 1 – irrigated crops expansion. A simple shift from the prevailing staple food production (rainfed wheat and potato) to the irrigated ones. Both, output and productivity increase. The estimated adoption rate of this scenario is 15%.

(c) Scenario 2 – expansion of alfalfa. With a slight reduction of the prevailing crop cultivations, alfalfa production increases. This is beneficial especially in areas with high livestock breeding activities, and high demand for nutritious fodder. The estimated adoption rate of this scenario is 20%.

(d) Scenario 3 – orchard expansion. This extreme scenario includes a radical intensification of orchards, where the target area has some comparative advantage due to the prevalence of hills. The estimated adoption rate of this scenario is 5%.

(e) Scenario 4 – reduction of irrigated crop cultivation. Irrigated crops are converted into rainfed ones. This option aims to test the resilience of the agricultural system to climate change and variability and to gradual deterioration of irrigation system efficiency. The net incremental benefits are generally lower than in other scenarios, and in some cases worse than the base scenario. The estimated adoption rate of this scenario is 20%.

45. While aggregating the costs, the stream includes the replacement value of the equipment and goods procured within the CDF grants. An average duration of 10 years was considered sufficiently representative of the possible equipment required for the relevant agricultural operations and related maintenance. Recurrent costs related to the investments are bared by the households beneficiaries and are already included in the underlying production models. The following paragraphs show the net incremental benefits in the three targeted regions.

46. **CDF grants in agricultural equipment in RRS**. The investment demonstrates to have a high potential in increasing farmers' income. Even in the base scenario, with no shift in cropping pattern, the farmers benefit of modern mechanized techniques and enjoy an income increase of about 1,865 TJS (207 US$). When the cropping patterns shift, the net benefits are higher than in the without project situation. The expansion of the irrigated crops (scenario 1) and of the orchards area (scenario 3) generate the highest increase of income for the farmers (respectively 4,625 TJS or 514 US$, and 4,416 TJS or 491 US$). In areas with higher livestock breeding, an increase in Alfalfa cultivation at the expenses of rainfed wheat and potato cultivation (scenario 2) can also be beneficial. An additional scenario (scenario 4) was drawn to take into account the risks of recurrent droughts or the effects of deterioration of the irrigation equipment, leading gradually to a reduction of the irrigated cropping cultivation. Basis for the model is a 50% increase of the wheat and potato rainfed production at the expenses of the rest of the production. The moderate benefits (lower than the base scenario) highlight how *the selection of the alternative cropping pattern needs to be carefully analyzed by the farmer*. Capacity development, extension services and assistance in business decision making process will be of utmost importance, as the consequences of an increase of rainfed cropping have a significant impact on the tiny budget of a farmer. The *most effective preventive solution seems to be maintaining orchards as productive as possible with the limited water available*. In the longer term, the *most effective remedial measure to reduced water or irrigation availability is the conversion of an even tiny proportion of the irrigated land into orchard* (something in the order of few hundreds square meters), which generates the highest income. However, the benefits of this shift are delayed by at least four to six years, therefore shifting towards cash crops may be the most effective and rapid solution. See Tables 20 and 21.

47. **CDF grants in agricultural equipment in Soghd**. Even in a base scenario, with no shift in cropping pattern, the farmers benefit of modern mechanized techniques and enjoy an income increase. The scenario 1 produces significant benefits thanks to a 45% increase of the irrigated wheat and potato production. Doubling the alfalfa production area (scenario 2) seems not to be as beneficial as other shifts of cropping pattern, as shifting to other irrigated crops could generate higher incremental incomes only if accompanied by an increase of vegetable production. The overall irrigation area is greater, hence feasibility of this option need to be thoroughly verified (i.e. whether water sources are available in the area and allow rehabilitating or establishing the irrigation scheme). A five-time increase in the orchard area compared to baseline (scenario 3) with no increase in irrigated land seems to be very profitable (it more than triples the income compared to the without project scenario). This is mostly due to the prevailing rainfed cultivation of staple food such as wheat (63% of the land) and potato (17%). In this area, significant effort needs to be placed on reducing production costs and increasing productivity of these two crops. The reduction of irrigation capacity (scenario 4) in the peculiarity of Soghd context is particularly risky. Significant investments in expanding the irrigation capacity are required to ensure that farms' productivity can experience a significant growth. Only increasing the orchard areas would ensure an incremental income from the investment. See Tables 22 and 23.

48. **CDF grants in agricultural equipment in Khatlon**. The investment demonstrates a substantial potential to increase farmers' income. The scenario 1 produces significant benefits with a 45% increase of the irrigated wheat and potato production area. The second scenario generates benefits only if the doubling of alfalfa production area is accompanied by an increase of vegetable production. As noted for the same scenario in Soghd, the overall irrigation area is greater, hence feasibility of this option need to be thoroughly verified. A five-time increase in the orchard area with no increase in irrigated land (scenario 3) is the most profitable one. This is mostly due to the high returns and profits of orchard per hectare. The orchard will reach maturity of productivity after four to six years, hence a thorough analysis will be necessary for the farmers to select this option. The fourth scenario highlights the risks related to the reduction of irrigation capacity. Increasing the rainfed wheat and potato production, at the expenses of the rest of the irrigated land (excluding orchards) generates very limited incremental benefits compared with the situation without intervention. As for the other regions, the reduction of irrigation to the orchard is the scenario that generates the highest risks for the farm's budget. See Tables 24 and 25

49. **Benefits on farmers' incomes**. Through an increased access to productive assets and through the interventions of the Project, the farmers are expected to experience an increase of income. As per latest available statistics, the current share of income generated from agriculture for a rural household in Tajikistan is about 7%. While computing the net incremental income generated by the Project's interventions, such share could double by the end of the Project cycle, for a net incremental increase of 27 TJS (at current prices) per person per month, or 54 TJS at 2021 prices. Such increase represents an average 10% increase of the overall farmers' income.

Table 19. Monetary income of an average rural household.

	2015 [/a]		Estimate: projected values in 2021 [/b]		Including CASP benefits on farming[/b]	
Source of income	**TJS**	**%**	**TJS**	**%**	**TJS**	**%**
Labour activities	122.1	44%	248	44%	248	40%
Social packages	22.41	8%	45	8%	45	8%
From own land plot	20.85	7%	42	7%	87	14%
Other sources	115.31	41%	234	41%	234	38%
Total income	**280.67**	**100%**	**569**	**100%**	**614**	**100%**

a/ Source: Agency for statistics under the President's Office of the Republic of Tajikistan.
b/ Elaboration from the design mission.

Table 20. CDF grants in agricultural equipment in RRS

	Base Scenario (no change in cropping pattern)				First Scenario (irrigated crops expansion)			
	No change in cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes
Cultivated area								
Wheat rainfed	28%	3171	1,516,840	**NIB (TJS)**	10%	1123	537,219	**NIB (TJS)**
Wheat irrigated	7%	763	4,566,351	20,945,034	20%	2246	13,436,854	51,939,808
Potato rainfed	18%	1980	4,312,994	**NIB HH (TJS)**	8%	898	1,957,264	**NIB HH (TJS)**
Potato irrigated	4%	477	8,237,622	1,865	12%	1347	23,294,344	4,625
Vegetables	8%	873	12,249,355	**NIB HH (USD)**	15%	1684	23,628,856	**NIB HH (USD)**
Orchard (w/intercropped vgt.)	16%	1829	55,412,996	207	16%	1797	54,446,041	514
Alfalfa	19%	2138	5,143,951	**0.30**	19%	2134	5,134,303	**0.74**
	100%	**11,229**	**91,440,107**		**100%**	**11,229**	**122,434,881**	**2,760**
Share on CDF benef: (estimated outreach) 28.9%		Financial IRR	**56%**	Adoption %		Financial IRR	**60%**	Adoption %
		NPV (13%) USD	**25,773,721**	20%		NPV (13%) USD	**33,041,547**	15%

Second Scenario (alfalfa expansion)				Third Scenario (orchard expansion)				Fourth Scenario (rainfed cropping expansion)			
New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Incremental /scheme	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Incremental /scheme
15%	1684	805,829	**NIB (TJS)**	20%	2246	1,074,438	**NIB (TJS)**	42%	4716	2,256,320	**NIB (TJS)**
6%	674	4,031,056	27,693,463	6%	674	4,031,056	49,587,345	2%	225	1,343,685	6,231,743
10%	1123	2,446,580	**NIB HH (TJS)**	18%	2021	4,403,844	**NIB HH (TJS)**	27%	3032	6,605,766	**NIB HH (TJS)**
7%	786	13,588,367	2,466	4%	449	7,764,781	4,416	2%	225	3,882,391	555
8%	898	12,602,057	**NIB HH (USD)**	8%	898	12,602,057	**NIB HH (USD)**	4%	449	6,301,028	**NIB HH (USD)**
16%	1797	54,446,041	274	25%	2807	85,071,939	491	16%	1797	54,446,041	62
38%	4267	10,268,607	**0.39**	19%	2134	5,134,303	**0.70**	7%	786	1,891,585	**0.09**
100%	**11,229**	**98,188,536**	**601**	**100%**	**11,229**	**120,082,418**	**2,551**	**100%**	**11,229**	**76,726,817**	**- 1,310**
Financial IRR		**60%**	Adoption %	Financial IRR		**74%**	Adoption %	Financial IRR		**53%**	Adoption %
NPV (13%) USD		**26,986,833**	20%	NPV (13%) USD		**36,947,503**	5%	NPV (13%) USD		**22,730,030**	20%

Table 21. RRS / CDF – Aggregated net incremental benefits

	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10-20
Incremental benefits										
Base Scenario (no change in cropping pattern)	- -	46,227.43	383,195.97	634,606.23	687,520.00	779,904.77	996,037.40	1,513,365.31	1,705,515.68	1,681,228.66
First Scenario (irrigated crops expansion)	- -	246,831.67	319,830.44	696,361.93	783,730.76	851,526.57	1,011,081.10	1,392,306.51	1,533,904.52	1,515,723.42
Second Scenario (alfalfa expansion)	- -	6,993.53	429,413.53	685,542.91	740,684.91	806,837.84	1,043,818.69	1,552,119.23	1,740,916.58	1,692,433.64
Third Scenario (orchard expansion)	-	28,281.26	126,105.11	183,810.05	195,490.11	234,209.38	313,901.74	512,456.64	586,205.61	580,145.24
Fourth Scenario (rainfed cropping expansion)	-	16,177.95	354,992	538,846	558,931	664,636	862,065	1,370,365	1,559,162	1,550,231
Total Incremental benefits	**- -**	**255,593**	**1,613,537**	**2,739,167**	**2,966,357**	**3,337,114**	**4,226,903**	**6,340,613**	**7,125,705**	**7,019,762**
Net incremental benefits	**- 993,781**	**- 2,469,222**	**- 928,531**	**1,734,093**	**2,647,214**	**3,238,145**	**4,226,903**	**6,340,613**	**7,125,705**	**7,019,762**

FIRR	**49%**
NPV (13%) USD	**20,626,463**
NPVb	**27,002,769**
NPVc	**6,376,307**
B/C ratio	**4.2**
Switching values Benefits	**-76%**
Switching values Costs	**323%**

Sensitivity analysis

FIRR	No delay	1 Yr delay	2 Yrs delay
Base scenario	**49.3%**	**38.4%**	**31.7%**
Costs overrun by 10%	45.9%	36.0%	29.9%
Costs overrun by 20%	42.9%	34.0%	28.3%

Estimated outreach:		**TOTAL Ag. Equip CDF outreach:**	
Villages	**52**	Villages	**180**
Households	**11,229**	Households	**38,700**

Table 22. CDF grants in agricultural equipment in Soghd

	Base Scenario (no change in cropping pattern)				First Scenario (irrigated crops expansion)			
	No change in cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes
Cultivated area								
Wheat rainfed	63%	8050	3,851,433	**NIB (TJS)**	55%	7078	3,386,298	**NIB (TJS)**
Wheat irrigated	17%	2153	12,880,233	15,328,195	26%	3346	20,019,444	26,272,999
Potato rainfed	6%	763	1,662,221	**NIB HH (TJS)**	2%	257	560,790	**NIB HH (TJS)**
Potato irrigated	2%	204	3,526,823	1,191	4%	515	8,898,981	2,042
Vegetables	2%	275	3,857,813	**NIB/HHs (USD)**	2%	275	3,857,813	**NIB HH (USD)**
Orchard (w/intercropped vgt.)	5%	678	20,542,174	132	5%	678	20,542,174	227
Alfalfa	6%	746	1,796,152	**0.47**	6%	746	1,796,152	**0.80**
	100%	**12,869**	**48,116,848**		**100%**	**12,895**	**59,061,652**	**850**
Share on CDF benef: (estimated outreach) 33.3%		Financial IRR	**24%**	Adoption % 20%		Financial IRR	**26%**	Adoption % 15%
		NPV (13%) USD	**7,425,211**			NPV (13%) USD	**9,464,863**	

Second Scenario (alfalfa expansion)				Third Scenario (orchard expansion)				Fourth Scenario (rainfed cropping expansion)			
New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Incremental /scheme	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Incremental /scheme
58%	7464	3,571,005	**NIB (TJS)**	45%	5791	2,770,607	**NIB (TJS)**	75%	9652	4,617,679	**NIB (TJS)**
17%	2188	13,089,637	16,636,760	15%	1930	11,549,679	89,873,021	5%	643	3,849,893	11,304,994
4%	515	1,121,581	**NIB HH (TJS)**	6%	763	1,662,221	**NIB HH (TJS)**	7%	901	1,962,766	**NIB HH (TJS)**
2%	204	3,526,823	1,293	2%	204	3,526,823	6,984	2%	204	3,526,823	878
2%	275	3,857,813	**NIB HH (USD)**	2%	275	3,857,813	**NIB HH (USD)**	2%	275	3,857,813	**NIB HH (USD)**
5%	678	20,542,174	144	25%	3217	97,498,379	776	7%	837	25,349,579	98
12%	1544	3,716,381	**0.51**	6%	746	1,796,152	**2.74**	3%	386	929,095	**0.34**
100%	**12,868**	**49,425,413**	**102**	**100%**	**12,927**	**122,661,674**	**5,792**	**100%**	**12,898**	**44,093,647**	**- 313**
Financial IRR		**25%**	Adoption % 20%	Financial IRR		**57%**	Adoption % 5%	Financial IRR		**26%**	Adoption % 20%
NPV (13%) USD		**7,474,160**		NPV (13%) USD		**36,478,097**		NPV (13%) USD		**8,177,013**	

Table 23. Soghd / CDF – Aggregated net incremental benefits

	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10-20
Incremental benefits										
Base Scenario (no change in cropping pattern)	-	(479,354.70)	98,921	437,693	453,507	488,278	567,878	759,657	830,889	822,409
First Scenario (irrigated crops expansion)	-	(491,110.93)	64,733	413,983	425,844	451,922	511,622	655,456	708,880	702,520
Second Scenario (alfalfa expansion)	-	- 460,879	107,117	437,596	453,411	479,116	567,781	759,560	830,792	813,246
Third Scenario (orchard expansion)	-	(18,661.19)	103,603	176,760	175,423	224,623	311,131	538,688	623,210	621,090
Fourth Scenario (rainfed cropping expansion)	-	- 288,436	148,931	378,523	393,016	442,003	534,153	770,813	858,715	854,328
Total Incremental benefits	**-**	**- 1,738,442**	**523,305**	**1,844,554**	**1,901,201**	**2,085,942**	**2,492,565**	**3,484,174**	**3,852,486**	**3,813,592**
Net incremental benefits	**- 1,146,671**	**- 4,292,629**	**- 2,409,850**	**684,854**	**1,532,960**	**1,971,747**	**2,492,565**	**3,484,174**	**3,852,486**	**3,813,592**

FIRR	**23%**
NPV (13%) USD	**6,387,456**
NPVb	**13,744,733**
NPVc	**7,357,277**
B/C ratio	**1.9**
Switching values Benefits	**-46%**
Switching values Costs	**87%**

Sensitivity analysis

FIRR	No delay	1 Yr delay	2 Yrs delay
Base scenario	**23.4%**	**19.9%**	**17.1%**
Costs overrun by 10%	21.7%	18.4%	15.8%
Costs overrun by 20%	20.1%	17.0%	14.6%

Estimated outreach:		**TOTAL Ag. Equip CDF outreach:**	
Villages	**60**	Villages	**180**
Households	**12,869**	Households	**38,700**

Table 24. Khatlon – Benefits of CDF grants in agricultural equipment

	Base Scenario (no change in cropping pattern)				First Scenario (irrigated crops expansion)			
	No change in cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes
Cultivated area								
Wheat rainfed	21%	3007	1,438,381	**NIB (TJS)**	8%	1168	558,861	**NIB (TJS)**
Wheat irrigated	27%	4007	23,975,552	45,677,507	35%	5111	30,577,208	66,538,207
Potato rainfed	3%	422	920,056	**NIB HH (TJS)**	2%	292	636,285	**NIB HH (TJS)**
Potato irrigated	4%	563	9,729,769	3,128	10%	1460	25,242,445	4,557
Vegetables	22%	3256	45,681,581	**NIB/HHs (USD)**	22%	3212	45,064,682	**NIB/HHs (USD)**
Orchard (w/intercropped vgt.)	10%	1442	43,708,564	348	10%	1460	44,249,514	506
Alfalfa	13%	1904	4,582,468	**0.54**	13%	1898	4,568,078	**0.79**
	100%	**14,602**	**130,036,371**		**100%**	**14,602**	**150,897,071**	**1,429**
Share on CDF benef: (estimated outreach) 37.8%		Financial IRR	**44%**	Adoption %		Financial IRR	**48%**	Adoption %
		NPV (13%) USD	**29,667,231**	20%		NPV (13%) USD	**35,288,561**	15%

Second Scenario (alfalfa expansion)				Third Scenario (orchard expansion)				Fourth Scenario (rainfed cropping expansion)			
New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Scenario outcomes	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Incremental /scheme	New cropping pattern	Total Ha WP	Benefits WP-1 (TJS)	Incremental /scheme
15%	2190	1,047,864	**NIB (TJS)**	15%	2190	1,047,864	**NIB (TJS)**	32%	4673	2,235,443	**NIB (TJS)**
27%	3942	23,588,132	40,977,176	13%	1898	11,357,249	174,101,102	20%	2920	17,472,690	18,750,746
2%	292	636,285	**NIB HH (TJS)**	3%	438	954,427	**NIB HH (TJS)**	8%	1168	2,545,140	**NIB HH (TJS)**
12%	1752	30,290,934	2,806	4%	584	10,096,978	11,923	2%	292	5,048,489	1,284
8%	1168	16,387,157	**NIB/HHs (USD)**	5%	730	10,241,973	**NIB/HHs (USD)**	20%	2920	40,967,892	**NIB/HHs (USD)**
10%	1460	44,249,514	312	50%	7301	221,247,569	1,325	7%	1022	30,974,660	143
26%	3796	9,136,155	**0.49**	10%	1460	3,513,906	**2.06**	11%	1606	3,865,296	**0.22**
100%	**14,602**	**125,336,040**	**-** **322**	**100%**	**14,602**	**258,459,966**	**8,795**	**100%**	**14,602**	**103,109,610**	**-** **1,844**
Financial IRR		**46%**	Adoption %	Financial IRR		**119%**	Adoption %	Financial IRR		**39%**	Adoption %
NPV (13%) USD		**29,337,370**	20%	NPV (13%) USD		**86,365,246**	5%	NPV (13%) USD		**22,028,912**	20%

Table 25. Khatlon / CDF – Aggregated net incremental benefits

	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10-20
Incremental benefits										
Base Scenario (no change in cropping pattern)	-	- 680,548	311,072	950,332	1,192,471	1,262,863	1,435,823	1,843,880	1,995,444	1,973,808
First Scenario (irrigated crops expansion)	-	- 653,698	274,886	901,468	1,080,387	1,134,086	1,265,160	1,574,990	1,690,070	1,673,894
Second Scenario (alfalfa expansion)	-	- 644,970	380,675	1,062,162	1,141,167	1,191,198	1,387,530	1,800,638	1,954,077	1,910,941
Third Scenario (orchard expansion)	-	119,204	242,981	322,681	321,717	434,028	629,672	1,146,056	1,337,855	1,333,708
Fourth Scenario (rainfed cropping expansion)	-	- 581,917	261,783	784,001	1,003,416	1,050,383	1,175,871	1,465,046	1,572,453	1,554,204
Total Incremental benefits	**-**	**- 2,441,929**	**1,471,396**	**4,020,644**	**4,739,158**	**5,072,559**	**5,894,055**	**7,830,609**	**8,549,900**	**8,446,554**
Net incremental benefits	**- 1,299,560**	**- 5,336,675**	**- 1,852,846**	**2,706,317**	**4,321,818**	**4,943,138**	**5,894,055**	**7,830,609**	**8,549,900**	**8,446,554**

FIRR	**41%**
NPV (13%) USD	**24,150,600**
NPVb	**32,488,847**
NPVc	**8,338,247**
B/C ratio	**3.9**
Switching values Benefits	**-74%**
Switching values Costs	**290%**

Sensitivity analysis

FIRR	No delay	1 Yr delay	2 Yrs delay
Base scenario	**41.4%**	**34.2%**	**29.0%**
Costs overrun by 10%	39.1%	32.3%	27.5%
Costs overrun by 20%	3690.0%	30.6%	26.0%

Estimated outreach:		**TOTAL Ag. Equip CDF outreach:**	
Villages	**68**	Villages	**180**
Households	**14,602**	Households	**38,700**

Table 26. Infrastructure Models – Estimated Net Benefit stream

Investment Costs (USD) WoP	**PY1**	**PY2**	**PY3**	**PY4**	**PY5**	**PY6**	**PY7**	**PY8**	**PY9**	**PY10-20**
Component 1.1 (community mobilization)	55,944	107,822	111,084	57,148	40,258	35,488				
Component 2.1 (CDF grants)	733,470	1,711,430	1,955,920	638,980	150,000	-				
Project management (35% for CDF)	70,589	96,389	132,862	173,647	85,923	50,158				
Total Costs	**860,003**	**1,915,640**	**2,199,866**	**869,775**	**276,181**	**85,646**	**-**	**-**	**-**	**-**

Rural Infrastructure Incremental benefits	**PY1**	**PY2**	**PY3**	**PY4**	**PY5**	**PY6**	**PY7**	**PY8**	**PY9**	**PY10-20**
Adoption progression	0%	30%	70%	90%	100%	100%	100%	100%	100%	100%
Drinking water	-	176,997	412,992	530,990	589,989	589,989	589,989	589,989	589,989	589,989
Electricity lines	-	169,608	395,751	508,823	565,359	565,359	565,359	565,359	565,359	565,359
Rural Roads	-	47,601	111,069	142,803	158,670	158,670	158,670	158,670	158,670	158,670
Irrigation expansion	-	87,316	203,738	261,949	291,054	291,054	291,054	291,054	291,054	291,054
Sub-total Benefits	**-**	**481,522**	**1,123,550**	**1,444,565**	**1,605,072**	**1,605,072**	**1,605,072**	**1,605,072**	**1,605,072**	**1,605,072**
Net incremental benefits	**- 860,003**	**- 1,434,119**	**- 1,076,316**	**574,790**	**1,328,891**	**1,519,426**	**1,605,072**	**1,605,072**	**1,605,072**	**1,605,072**

FIRR	**28%**
NPV (13%) USD	**3,352,070**
NPVb	**8,870,028**
NPVc	**5,517,958**
B/C ratio	**1.6**
Switching values Benefits	**-38%**
Switching values Costs	**61%**

Sensitivity analysis:

FIRR	**No delay**	**1 Yr delay**	**2 Yrs delay**
Base scenario	**27.5%**	**20.7%**	**16.6%**
Costs overrun by 10%	24.1%	18.3%	14.6%
Costs overrun by 20%	21.1%	16.2%	12.9%

Estimated outreach HHs:	
Drinking water	**5,321**
Electricity lines	**1,935**
Rural road rehabilitation	**1,451**
Irrigation expansion	**968**

Table 27. AMSC and MRW Models - Estimated Net Benefit stream

Summary Model - LARGE AMSC		With Project									
		1	2	3	4	5	6	7	8	9	10-20
Revenues from Service Provided	USD		**94,576**	**132,407**	**189,152**	**189,152**	**189,152**	**189,152**	**189,152**	**189,152**	**189,152**
Investment costs - full costs	USD	431,500							19,500		57,000
Operating costs	USD	14,188	44,699	56,903	75,210	75,210	75,210	75,210	75,210	75,210	75,210
Net Income		-445,688	49,877	75,503	113,942	113,942	113,942	113,942	94,442	113,942	56,942

Summary Model - SMALL AMSC		With Project									
		1	2	3	4	5	6	7	8	9	10-20
Revenues from Service Provided	USD		**57,328**	**80,260**	**114,657**	**114,657**	**114,657**	**114,657**	**114,657**	**114,657**	**114,657**
Investment costs - full costs	USD	296,500							11,500		80,000
Operating costs	USD	10,813	29,345	36,758	47,878	47,878	47,878	47,878	47,878	47,878	47,878
Net Income		-307,313	27,983	43,502	66,779	66,779	66,779	66,779	55,279	66,779	-13,221

MRW Model	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Revenues	100	150	200	250	300	300	300	300	300	300
Four wheel drive front Axle	24,656	36,984	49,313	61,641	73,969	73,969	73,969	73,969	73,969	73,969
Six-cylinder Engines	71,700	107,550	143,400	179,250	215,100	215,100	215,100	215,100	215,100	215,100
	96,356	**144,534**	**192,713**	**240,891**	**289,069**	**289,069**	**289,069**	**289,069**	**289,069**	**289,069**
Costs										
Investment costs	**(639,380)**									
Subsidised investments	(397,190)									
Salaries (full time employees)	59,400	59,400	59,400	59,400	59,400	59,400	59,400	59,400	59,400	59,400
Running costs (lumpsum)	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
	77,400	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**
Costs	**716,780**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**	**77,400**
FULL INVESTMENT COST										
Net benfits - Full Investment	(620,424)	67,134	115,313	163,491	211,669	211,669	211,669	211,669	211,669	211,669
Cash flow - Full Investment	(620,424)	(553,289)	(437,977)	(274,486)	(62,818)	148,851	360,520	572,189	783,858	995,526
SUBSIDIZED INVESTMENT (50%)										
Net benfits - Subsidized	(378,234)	67,134	115,313	163,491	211,669	211,669	211,669	211,669	211,669	211,669
Cash flow - Subsidized	(378,234)	(311,099)	(195,787)	(32,296)	179,373	391,041	602,710	814,379	1,026,048	1,237,716

50. Economic **Analysis**

51. The objectives of the economic analysis are: (i) to examine the overall Project viability, and (ii) to assess the Project's impact and the overall economic rate of return; and (iii) to perform sensitivity analyses upon risks and variables affecting Project's results.

52. **Key Assumptions**. Production and activity models considered in the financial analysis are used as building blocks for determining the viability of the whole Project, once addressing for market distortion and opportunity costs for inputs and outputs. The economic analysis of the Project hinges on the following assumptions: (i) Project life has been assumed at 20 years in light of investments lifecycle; (ii) Project inputs and outputs are valued at their economic parity prices estimated upon international prices as reported by the World Bank commodity outlook (January 2017), and on the basis of custom duties and taxes rates at the time of design; (iii) the financial discount rate used for the analysis is 12.5%, the same as the refinancing rate of the NBT, while the economic discount rate is set at 10%[69]; (iv) the opportunity cost of rural labour was estimated considering the long term unemployment rate (11.3%), as such the shadow wage rate factor is equal to 0.9, or TJS 11.1; (v) the shadow exchange rate factor (SERF) is 1.03 and the shadow exchange rate (SER), estimated upon international trade data, is equal to 9.3 TJS per 1 USD.

53. **Project Economic Costs**. The incremental costs in economic prices have been calculated by the removal of price contingencies and taxes/duties. There are no recurrent and replacement costs after the CASP completion. O&M costs have been counted in the calculation of the net incremental benefits of the value chain models. The total economic cost of the project amounts to about US$ 37.7 million.

54. **Benefits Estimation**. The illustrative models described above have been used for the calculation of the overall benefit stream of the various investment models above, on the basis of economic prices. The model specific benefits are then aggregated following the inclusion phasing foreseen for targeted households and *dehkan* farms.

Results of the Analysis

55. **Overall Estimated Return of the Proposed Project.** The Project is a technical and economically viable investment to the economy as a whole. The Project economic NPV of the net benefit stream, discounted at 10%, is TJS 252.0 million (USD 28.0 million) producing an ERR of 18.7% for the base case scenario. The cost and benefit streams and other key economic profitability indicators are presented in Figure 2.

56. **Sensitivity Analysis.** Sensitivity analysis assessed the effect of variations in benefits and costs and for various lags in the realisation of benefits. The results are presented in Figure 2. Sensitivity analysis assessed the effect of variations in benefits and costs and for various lags in the realisation of benefits. A fall in total project benefits by 20% or an increase in total project costs by the same proportion would reduce the base ERR to about 15.8%. The switching value for total project benefits is about 33%; while for Project costs it is approximately 49%. A one-year delay in project benefits reduces the ERR to 15.9%. The project is profitable even in case of a one-year delay of the benefit stream and 20% increase of costs (ERR at 13.4%), but it is not if the delay is prolonged for two years (EIRR at 11.4%).

Table 28: Sensitivity Analysis

EIRR	No delay	1 Yr delay	2 Yrs delay
Base scenario	**18.7%**	**15.9%**	**13.7%**
Costs overrun by 10%	17.2%	14.6%	12.5%
Costs overrun by 20%	15.8%	13.4%	11.4%

[69] The social discount rate used for the economic analysis is calculated as an average of the World Bank long term deposit interest rates with an additional coefficient due to the remoteness of the areas and the general difficulty of access to financial services for the project's beneficiaries and stakeholders.

57. **Risk Analysis**. The main risk of the Project is associated with the delayed operationalization of the investment. Particularly high is the risk associated to delayed operationalization of the agricultural mechanization services, both from the CDF-funded machineries and from the AMSCs' ones (see above). Appropriate technical assistance to the *dehkan* farmers beneficiaries, and awareness and marketing campaigns to stimulate the demand for agricultural mechanization services are extremely important for the success of the intervention. Drought and climate variability are also a factor of risk. Several options to stimulate resilience and to cope with climate variability have been analysed. Market risks associated with the Project may lead to the reduced economic returns. Lack of capacity in implementing agencies and beneficiaries to effectively participate in Project may result in the delay of realization of benefits. Despite various benefits were not accounted for in the analysis (such as the improved productivity of the farms served by the AMSC, or other social benefits such as improvement of nutritional levels or environmental benefits), especially in its innovative component, the Project has a tiny margin of error and requires an attentive implementation.

Figure 2. CASP - Estimated Net Benefit stream

TAJIKISTAN - COMMUNITY BASED AGRICULTURE SUPPORT PROJECT (CASP)

FINANCIAL ANALYSIS

CATEGORY	Estimated Investment Costs (US$)			Annual Net Benefits (US$)			Incremental annual net benefits per 1US$ of investment	IRR (%)	NPV (US$)	Return to family labour, US$/day
	IFAD	Beneficiary Contribution	Total	Without Project	With Project - Full Development	Incremental				
PRODUCTION (values per HH)										
Rainfed wheat	400	22	422	197	298	101	0.2	52%	450	103
Rainfed potato	400	22	422	260	502	242	0.6	28%	741	48
Irrigated wheat	400	667	1,067	229	580	352	0.3	29%	949	109
Irrigated potato	400	667	1,067	581	1,501	920	0.9	51%	3,858	91
Vegetable (onion)	400	667	1,067	563	1,220	656	0.6	36%	2,165	147
Orchard (apple)	400	3,902	4,302	249	2,511	2,262	0.5	20%	3,381	210
Fodder (Alfalfa)	400	196	596	132	212	80	0.1	31%	119	493
SOCIAL INFRASTRUCTURES (values per HH)										
Drinking water	348	17	366	0	107	107	0.3	23%	4,309	
Electricity line	562	28	590	0	283	283	0.5	40%	16,073	
Rural roads	344	17	362	0	106	106	0.3	23%	3,354	
Irrigation expansion	1,067	53	1,120	0	291	291	0.3	21%	6	

SENSITIVITY ANALYSIS

	Δ%	Link with the risk matrix	ERR
Base scenario			18.7%
Project benefits	-10%	Combination of risks affecting output prices, productivity and adoption rates	17.0%
Project benefits	-20%		15.2%
Project benefits	-30%		13.1%
Project costs	10%	Increase of goods costs	17.2%
Project costs	20%		15.8%
1 year lag in ben.		Risks affecting adoption rates and low implementation capacity	15.9%
2 years lag in ben.			13.7%

MAIN ASSUMPTIONS & SHADOW PRICES

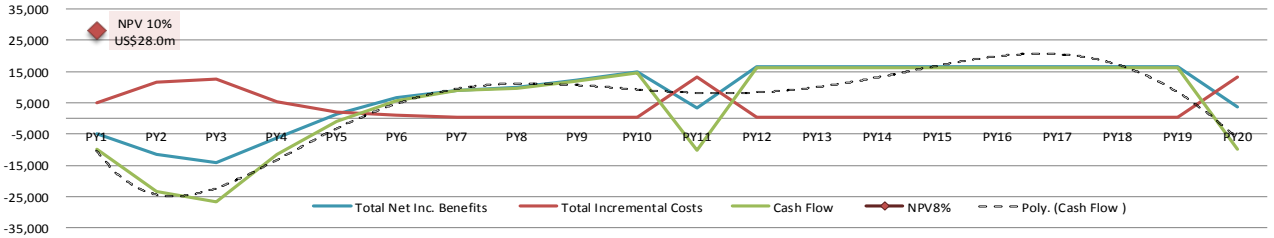
Official Exchange rate (OER)	9.0	Discount rate	12.5%
Shadow Exchange rate (SER)	9.3	Social Discount rate	10%
Standard Conversion Factor	1.03	Output conversion factor	1
Labour Conversion factor	0.89	Input Conversion factor	0.9

PROJECT COSTS AND INDICATORS FOR LOGFRAME

TOTAL PROJECT COSTS	**43.5 M / Base 43.2 m**	1.9M PM
Beneficiaries (direct & indirect)	**330,000 people**	55,900 HH
Cost per beneficiary	**128 USD x person**	750 USD x HH

Adoption rates **80%**

Components and Cost (USD million)		Outcomes and Indicators	
Comp. 1. Strengthening Rural Institutions	3.3 M	Increased effectiveness and outreach of rural institutions and service agencies (including governmental)	70% Percent of beneficiaries satisfied with the services provided by rural institutions and service agencies
Comp. 2. Improvement of agricultural productivity and business linkages	38.5 M	Increased farm productivity through adoption of improved agricultural technologies and productive infrastructure	At least 20% increase in agricultural productivity (by main commodities). 44,000 hectares under improved environmentally sustainable management practices.



ECONOMIC ANALYSIS

Values in '000 USD	Total Net Inc. Benefits	Total Incremental Costs	Cash Flow
PY1	- 4,949	4,949	- 9,899
PY2	- 11,657	11,657	- 23,314
PY3	- 14,025	12,710	- 26,735
PY4	- 6,398	5,269	- 11,667
PY5	1,269	2,144	- 875
PY6	6,672	1,041	5,631
PY7	9,058	270	8,788
PY8	10,005	270	9,735
PY9	12,075	270	11,805
PY10	14,735	270	14,465
PY11	3,164	13,244	- 10,080
PY12	16,378	270	16,108
PY13	16,436	270	16,166
PY14	16,475	270	16,205
PY15	16,416	270	16,146
PY16	16,376	270	16,106
PY17	16,462	270	16,192
PY18	16,545	270	16,275
PY19	16,503	270	16,233
PY20	3,489	13,244	- 9,755
	NPV at 10 % ('000 USD)		28,000
	ERR		18.7%

Appendix 11: Draft project implementation manual

Table of contents

III. Annual work plan and budget

IV. Financial management procedures

V. Procurement procedures

VI. Adherence to ifad and government policies, guidelines and safeguards

A. Project-related Government Procedures

B. Beneficiary Targeting and Gender Mainstreaming

C. Environmental Management and Climate Change

- Environmental Management Plan

PART C: PROJECT MONITORING, SUPERVISION AND EVALUATION

I. Project performance monitoring

A. Project Implementation Principles and Tasks

B. Monitoring, Evaluation/Learning and Knowledge Management

- M&E/Learning System Profile
- Results Management Framework

C. Knowledge Management, Innovation and Learning Processes

II. Project supervision and follow-up

A. Supervision and Implementation Support

B. Project Reporting

C. Annual Project Implementation Performance Report

III. Project evaluation readiness and impact

A. Project Learning Tools and Results Assessment

- Mid-term Review
- Project Completion Report

B. Project Sustainability and Exit Strategy

C. Strategy for Replication and Scaling up

Attachments: Project Organigramme; other figures, charts and tables

Appendix 12: Compliance with IFAD policies

A. Adherence to IFAD policies

1. The CASP is closely aligned with IFAD's strategic framework 2016 – 2025, in particular Strategic Objective 2: Increase poor rural people's benefits from market participation, and the associated areas of thematic focus: (i) diversified rural enterprise and employment opportunities, (ii) rural investment environment, and (iii) rural producers' organizations.

2. The Project is also aligned with: (a) the new IFAD Policy for Environment and Natural Resource Management, which proposes greater attention to risk and resilience in order to manage environmental and natural resource-related shocks, and promotes livelihood diversification to reduce vulnerability and build resilience for sustainable natural resource management; and (b) the IFAD Strategy on Climate Change, which is articulated around three objectives: (i) support the innovative approaches in order to assist the small producer (women and men) to increase their resilience to climate change; (ii) assist these small agriculturists to take advantage of available financing and incentives for mitigation; and (iii) promote a documented and more coherent dialogue on climate change, rural development, agriculture, and food security. Similarly, the design of the CASP is fully compliant with IFAD's policies on: Targeting, Gender Mainstreaming, Rural Finance, Climate Change, etc., and it is fully aware on the new Social, Environmental and Climate Assessment Procedures, and therefore will seek their compliance in programme implementation at operational and field levels.

B. SECAP Note

Please refer to a separate file

Appendix 13: Contents of the Project Life File

A. Project design cycle: key meetings and events

IFAD Project ID Number:

Project Design and Learning Cycle

B. Project design documents

C. CASP working papers

Working Paper No. 1

CASP Cost Tables: Attachment 1 – Summary Cost Tables, Attachment 2 – Detailed Cost Tables (set of Excel files)

CASP COSTAB Tables File

Working Paper No. 2

Economic and Financial Analysis (set of Excel files)

Working Paper No. 3

Rural Finance Sector Assessment

D. Extended Project Logical Framework (Excel file)

E. 18-month Procurement Plan (Excel file)

F. Relevant country strategy and government documents