IFAD
Investing in rural people

Republic of Uzbekistan

Dairy Value Chains Development Programme

Design completion report

Main report and appendices

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Currency equivalents

Currency Unit	= UZS
US$1.0	= UZS$2500 (03 April 2015)

Weights and measures

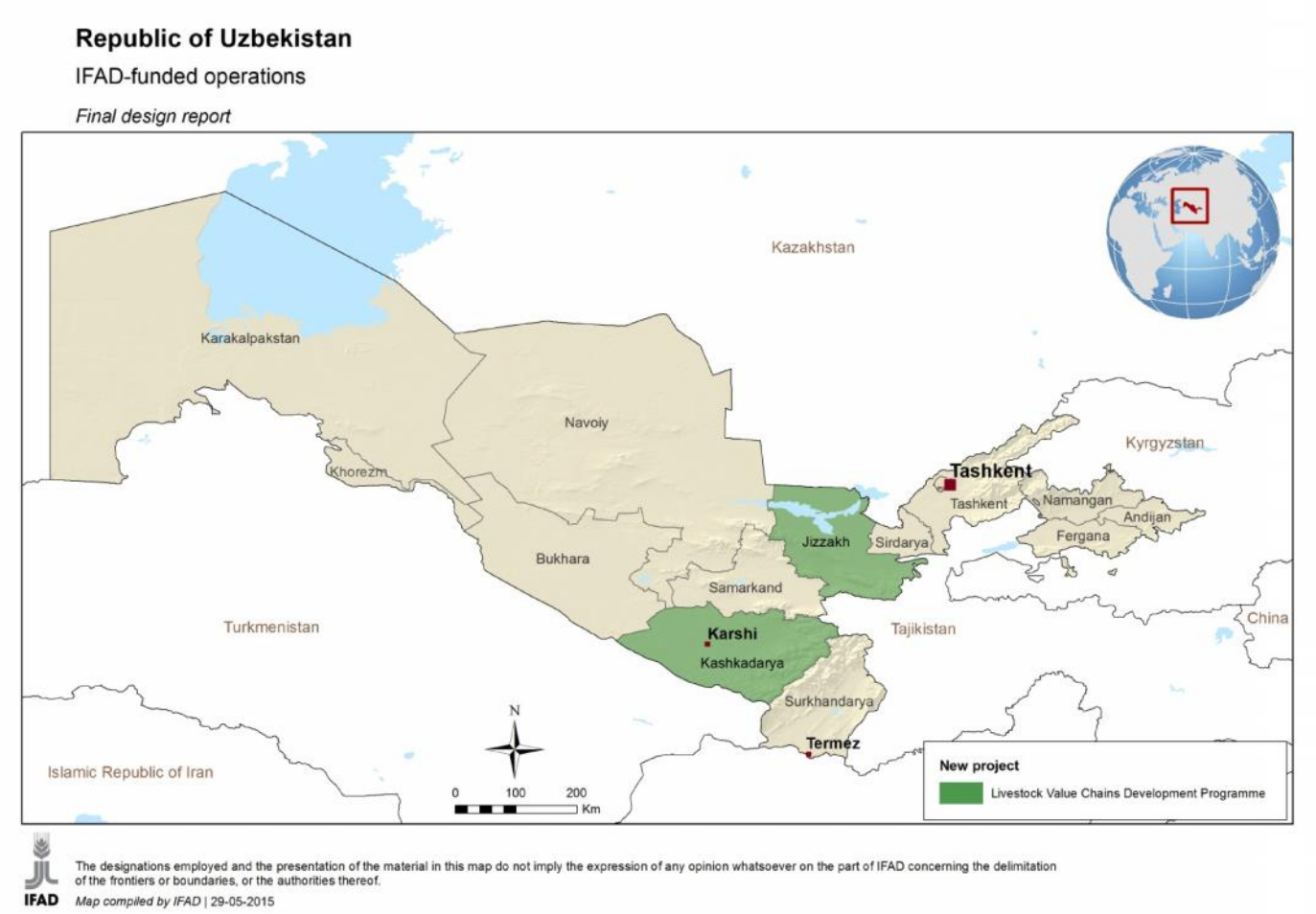
1 kilogram	=	1000 g
1 000 kg	=	2.204 lb.
1 kilometre (km)	=	0.62 mile
1 metre	=	1.09 yards
1 square metre	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

Abbreviations and acronyms

ASDB	Asian Development Bank
AI	Artificial Insemination
BDS	Business Development Services
BWAU	Business Women's Association of Uzbekistan
CBU	Central Bank of Uzbekistan
CCI	Chamber of Commerce and Industry
CSO	Civil Society Organization
CU	Credit union
DF	Dehkan farm
ECA	Europe and Central Asia
EIU	Economist Intelligence Unit
FAO	Food and Agriculture Organisation of the United Nations
FSP	Financial service provider
FY	Fiscal year
GLP	Gross Loan Portfolio
GDP	Gross Domestic Product
GIZ	German Agency for International Cooperation
GNI	Gross National Income
HoReCa	Hotels-Restaurants-Catering sector
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
IRR	Internal Rate of Return
DVCDP	Dairy Value Chains Development Programme
MAWR	Ministry of Agriculture and Water Resources
MCC	Milk Collection Centre
MCO	Microcredit organization
M&E/L	Monitoring and Evaluation/Learning
MIX	Microfinance Information eXchange
MoE	Ministry of Economy
MoF	Ministry of Finance
MoFERIT	Ministry of Foreign Economic Relations, Investments and Trade
MSM	Mechanically Separated Meat
NGO	Non-governmental organization
NPL	Nonperforming loans
NPV	Net Present Value
PAR	Portfolio at risk
PF	Private Farm
PFI	Participating financial institution
PIM	Programme Implementation Manual

PMO	Programme Management Office
PMU	Programme Management Unit
PP	Producer-Processor
PSC	Programme Steering Committee
RRA	Rural Restructuring Agency
SIP	Strategic Investment Plan
SLA	Subsidiary loan agreement
SME	Small and medium-sized enterprise
SNF	Solid Non Fat
SVD	State Veterinary Department
TA	Technical assistance
TBC	Total bacteria count
TMR	Total mixed ration
UNDP	United Nations Development Program
UZS	Uzbek Sum (national currenprogrammecy)
WB	World Bank
WHO	World Health Organisation
WIS	Welfare Improvement Strategy

Map of the programme area



Executive Summary

A. Country context and sectoral strategy

The Republic of Uzbekistan is a land-locked, lower middle-income (GNI per capita: US$1,880 (2013), with a large share of its total population of 30.7 million (2014) living in rural communities (around 60%) and engaged directly in agriculture-related activities (approximately 40%). Agriculture provides around 25 per cent of the country's employment, and its share of the Gross Domestic Product (GDP) is estimated at 17.6 per cent (2014). Whereas Uzbekistan is rather self-sufficient in terms of food production and food trade balance, it relies on imports of certain food products which are not locally produced in sufficient volumes, and the State controls wheat production to ensure food security and cotton as a key export crop and foreign exchange earner. Cotton and grains are the main crops in Uzbekistan, while horticultural products, fruits, vegetables and livestock production are important sources of income for rural families. Livestock alone contributes about 40 per cent of the Gross Agricultural Output.

Rural development and social context. The Human Development Index of 0.661 (2013) places Uzbekistan in the 116 position among 187 countries (i.e., medium human development); and the average life expectancy in the country has increased to 69 years in 2012, approximating the level of developed countries (World Health Organization). Child and maternal mortality rates have decreased correspondingly. Around 16 per cent of Uzbekistan's total population is characterised as poor, based on a unidimensional poverty line established by the government (i.e., the cost of a food basket). Seventy five per cent of the country's poor, under this measure, live in disadvantaged rural communities and regions. The low productivity of agriculture and the high level of informality of rural labour markets are associated with this poverty. Lack of access to productive assets, infrastructure, energy, land and water and technical and financial services, are among the causes of this limited productivity and poverty, which disproportionally affects rural women and young people.

Government priorities/ Welfare Improvement Strategy. The Government of Uzbekistan's main economic growth and poverty reduction goals and plans are outlined in the Welfare Improvement Strategy 2013-2015 (WIS-II). The strategy explicitly seeks to increase the efficiency of the agricultural sector; reduce the levels of poverty, nation-wide and among rural populations; and expand cooperation with international development institutions. Specific objectives for rural development include: (i) deepening of structural reforms within the agrarian sector and the diversification of agricultural production; (ii) accelerating the sector's modernization; and (iii) promoting the development of the food industry while increasing the processing levels of local agricultural raw materials. Financial support to small and medium-sized businesses, including dehkan farmers[1,] is among the priorities for banking sector development.

IFAD country programme. According to the established agreements with Government, the IFAD Country Programme will: (i) support farmers to move towards an improved and sustainable agriculture/livestock production that takes advantage of existing and emerging markets in order to increase their employment, assets base and production incomes; (ii) seek to minimise smallholder production risks through systematic modern technology transfer, support to key elements of profitable agricultural-livestock value chains, and the establishment of appropriate, accessible asset-building finance; (iii) take into account lessons learned from on-going development programmes in the sub region, including the IFAD-financed Horticultural Support Programme; and (iv) focus on sectors and geographical areas where dehkan farms predominate, such as the livestock sector, while placing emphasis, over time, to achieve a long term impact, and scaling-up/ replication of successful results.

B. Justification and rationale

[1] dekhan farmer refers to dekhan (Rus.-деханин). Dehkan farmers manage small household plots up to 0.2[2] Women-borrowers are uncommon because, in Uzbek society, borrowing is considered a risk and traditionally men are those to take such risk.

The livestock sector plays an important role in the economy and society of Uzbekistan, contributing about 40 per cent of the country's agricultural GDP (2013). Most production comes from the 4.7 million small dehkan farms, with the balance from private commercial and a limited number of cooperative (shirkat) farms. Dehkan farmer's own about 95 per cent of cattle and 83 per cent of goats and sheep; and account for 95 per cent of the total production of meat, 96 per cent of milk and 89 per cent of wool. Livestock production contributes substantially to country food security, overall, and as an economic and nutritional safety net for rural households. Livestock production provides regular income to rural households as well as high quality protein, especially for women and children. Livestock also has an impact on the ecology of grasslands, which are a significant part of the economic and agro-ecological landscape of Uzbekistan.

Dehkan farms sustain the Uzbekistan dairy market (85 per cent of milk sales are from such small family producers), however, milk production in Uzbekistan operates well below its potential. Average cow milk yields within dehkan farms rarely exceed six kg per day with lactation periods of just 7 months.

The principal constraints of the livestock sub-sector include the: (i) the limited dehkan farmer access to land; (ii) lack of access to sufficient fresh and conserved forage and the unreliable quality of forage and feed; (iii) limited access to reliable, quality animal health services; (iv) low genetic merit of much of the national herd; (v) inadequate sanitary conditions at farms and processors; (vi) constrained direct access to processors and hence, markets; and (vii) lack of asset-building resources including training / advisory services, accessible financing and business capacity to increase sectoral and microenterprise productivity and efficiency. The development of efficient rural producers and processors and their linkage to existing and emerging markets is central to addressing these constraints.

Regional experience demonstrates that smallholder dairy farmers can move from subsistence household production to market-driven farming and commercialisation once: (i) their access to land and finance improves; (ii) adequate training is provided; (iii) milk collection becomes organised (iv) they establish linkages to local agro-enterprises and (v) financial incentives are provided to supply quality milk. Practical experience dictates that some dehkan farmers can also evolve into processors themselves, scaling-up from cottage / household production through integration into dehkan groups, while building (individual and aggregate) volumes of milk production and improving their collective business management and negotiation skills.

Smallholder market access and financial inclusion require adequate incentives and policy-related and material support. Basic interventions that will be advantageous in supporting organised dehkan and private smallholder farmers and their capacity to produce competitively for the market, include: (i) developing organisational and farming-as-a-business (FAAB) skills; (ii) demand driven technology development and demonstration; (iii) better informed and more available input supply and support services including veterinary and breeding services; and (iv) improved linkages along competitive value chains, improving margins and market share.

Utilizing larger scale farms as the nucleus for service provision represents an entry point. Linking dehkan farmers to existing commercial farms can assist in facilitating: access to quality feeds, access to cold chains and to machinery for making animal feeds and forage, learning and adopting quality procedures, and access to basic inputs and services.

There is a clear need to improve the milk aggregation function within the dairy value chain in order to support dairy processing expansion, while allowing smallholders to be part of — and benefit from it. Partnering with agro-processors is thus imperative, aiming at: setting quality standards for raw milk, ensuring quality control and delivery mechanisms, and achieving a better managed seasonality of supply. Accordingly, the establishment of milk collection centres (MCC) will entail various positive externalities to the value chain development, in general, but primarily and directly to the benefit of smallholder farmers living in the vicinity of agro-processing units. MCCs also constitute a suitable

convergence point for diverse and complementary technical support, advisory interventions and input supply, including concentrated feeds and forage.

C. Programme area and target groups

The programme's principal beneficiary groups consist of: (i) dehkan farmers; (ii) private farmers producing milk and forage; (iii) local entrepreneurs holding small-to-medium dairy processing units; (iv) provincial dairy sector input suppliers and service providers; (v) national scientific and academic institute staff; and (vi) the rural unemployed for whom programme support is expected to create greater decent employment opportunities at farm and processing levels of targeted dairy value chains. Particular attention will be given to the participation of rural women and youth, individually and in groups, as milk producers and as processing and market entrepreneurs.

Based on social, demographic and economic criteria (i.e., livestock population and yield, existence of emerging processing facilities, geographical location, high demand for financial services, entrepreneurial potential among the IFAD target groups, etc.), in addition to the social and economic priorities set by the Government, the programme's intervention area will focus on Jizzakh and Kashkadarya provinces, commencing in the three rayons in each province nominated for livestock and horticulture production diversification from wheat and cotton, together with the two rayons surrounding the provincial capitals of Jizzakh and Karshi respectively, but subsequently covering the whole of each province. These two provinces are located in the southern part of the country – together with Surkhandarya, the targeted area for IFAD's Horticultural Support Programme – thus constituting a geographical-economic and operational cluster close to the major markets of Tashkent and Samarkand, for the new programme and IFAD's action.

Gender mainstreaming. Although women largely drive the dairy sector in Uzbekistan, they tend to be invisible and their participation in the value chain is limited, largely as a result of traditional gender roles. They are currently most active as intermediaries (milking, cattle husbandry, milk supply, dairy re-sellers and market vendors) and micro-processors. They have less opportunity to access necessary resources such as capacity building initiatives, financial support[2], modern technologies and equipment. The DVCDP's gender strategy aims to enhance women's participation and roles along the dairy value chain by increasing their access to credit and empowering them both technically and entrepreneurially as owners and managers of farms and processing units. The strategy is not only to support women in production, but also to move them further up the value chain by engaging them in processing, management, marketing, and ownership. DVCDP will also support women's empowerment at household level by improving intra-household gender relations through transformation in household dynamics.

D. Programme goal, objectives, outcomes and approach

The **Goal** of proposed DVCDP is to improve the livelihood of rural people (women and men) in Uzbekistan. The **Development Objective** of the programme is: productivity, competitiveness, market access and market linkages of smallholder and commercial dairy farms increased.

The Programme's investments and activities will be executed through two outcomes in addition to Programme Management: Outcome 1. Dairy Value Chain Capacity and Innovation Built; and Outcome 2. Dairy Production and Processing Development Financed.

Outcome 1: Dairy Value Chain Capacity and Innovation Built. This component, the objective of which will be *"capacity for sustainable, efficient milk production, processing and marketing developed*" will support increased smallholder famer skills and technology access, the establishment of productive private farmer-dehkan farmer partnerships, and improved dialogue amongst value chain actors.

[2] Women-borrowers are uncommon because, in Uzbek society, borrowing is considered a risk and traditionally men are those to take such risk.

Output 1: Dairy Value Chain Stakeholder Capacity Built Specific activities under this output, to be coordinated by *the* regional Programme Management Office (PMO) and provincial Programme Implementation Teams (PIT) supported by national and international Technical Assistance (TA) and national academic and scientific centres, entails the provision of specialized technical capacity building. This will include:

- **Dehkan farmers and groups** including technical and organisational support for establishing farmer groups/ organisations (including rural women and young people groups) and training/ technical support on FAAB, cattle animal health and husbandry; animal forage feed production and utilization and milk and other produce handling;
- **Private commercial farmers** including training and technical assistance on optimized feed and fodder production (better land use, improved fodder varieties and conservation techniques, animal nutrition, improved feed storage/ handling), cattle health and husbandry, farm business and risk management and waste management.
- **Rural entrepreneurs** including private veterinarians and animal feed and forage producers/suppliers interested in developing/upgrading their businesses to serve communities on a contractual basis.
- **Livestock agro-processors/ entrepreneurs** including: training and technical assistance for agro industries on: business management, installation or upgrading of processing facilities, enhanced raw material procurement, supply chain management, new product development, branding and improved packaging, demand assessment and market prospecting, food safety and alignment with international standards for intra- / extra-regional markets (national demand). The DVCDP will also pay particular attention to the promotion of women entrepreneurs in the dairy sector including MCCs owned and managed by women's groups.

Output 2: Technology Innovation Tested. This output, managed by the PMO/PITs, will support the development of innovative, demand driven milk production and processing and food safety technologies through participatory on-farm/factory applied research and technology demonstration, delivered by national academic/ research institutions, private companies or NGOs. Based on a Forum for Public-Private Collaboration (FPPC) (Output 3) priority needs identification process, the PMO/PITs will establish a competitive applied research support programme to identify bottlenecks in the country's dairy commodity and value chain development. The Programme would fund, *inter alia,* participating institution's non-salary operational costs and field and laboratory equipment requirements, national and international TA, on-farm/enterprise technology testing and demonstration, farmer and scientist capacity building and experiential study tours and, where appropriate, scholarships for post-graduate student coordinators of participatory technology testing and demonstration activities Proposals would be evaluated by an independent expert review panel against selection criteria based on estimated cost and expected economic, environmental, social and gender outcomes. Technology testing and innovation needs would be identified annually over the first four programme years. Dependent on the identified needs, technology testing and innovation program contracts could be awarded for up to 3 years duration.

Output 3: Forum for Private-Public Collaboration (FPPC) Operating Sustainably. The Programme will contribute to the establishment of an iterative process of consultation and permanent learning through Provincial Fora. They will involve male and female stakeholders of all relevant private and public actors engaged in the dairy sector in each targeted district. A contracted private sector service provider will, through a series of periodic meetings, progressively enable stakeholders to: (i) identify, discuss and assess dairy sector's constraints, priorities and build upon opportunities for investments; (ii) become conversant with "Public-Private-Partnership" business models; and (iii) develop value chain business and investment strategies. It is expected that stakeholders will meet quarterly in their respective provinces. The organisation of thematic annual FPPC events at national level on dairy sector development issues is envisaged. Progressively, the provincial fora will engage decision-makers at local, provincial and national levels with the aim of increasing the understanding of dairy development issues and supporting the development of a conducive regulatory and incentive framework for business development. It is expected that toward the end of the programme, the role of

the fora's facilitator will shift from the contracted service provider to local institutions (e.g. Farmers' Council / Business Women's Association of Uzbekistan (BWAU) / Chamber of Commerce and Industry (CCI)) to ensure the sustainability of the consultative and learning process. The Programme will also ensure that the linkage between the fora and the Programme M&E/KM functions for sharing data, knowledge and lessons learnt will be established.

Outcome 2. Dairy Production and Processing Development Financed. This component, the objective of which will be "productivity and efficiency along targeted smallholder-inclusive dairy value chains profitably increased", will enable Participating Financial Institutions (PFI) to increase their investment in profitable dairy value chains and associated support services in the Programme area.

Output 4: Dairy Value Chain Strategic Investment Plans (SIP) Prepared. The Programme would recruit one or more business advisory service providers, who, with PMO/PIT and FPPC support, would invite leading dairy value chain processing enterprises (value chain "gatekeepers") to submit competitive proposals for dairy value chain development. Following a criteria-based evaluation of those Lead Enterprise (LE) proposals, the service providers would prepare SIPs for the selected dairy value chains and assist LEs and associated value chain participants to prepare bankable business plans at key points along the value chain. Entities that are the subject of bankruptcy, criminal investigation, fraud, corruption or are in default of contractual agreements would be ineligible to participate. The dairy value chain SIPs will include all envisaged activities within the value chain, including associated DVCDP financed capacity building. The SIP will list the potential types of investments eligible for DVCDP financing and each type of investment will be accompanied with a realistic business model/financial analysis. SIPs will be ranked on criteria including their profitability, impact area, dehkan farmer and gender inclusiveness, environmental impact, etc. Approved SIPs will be submitted to PFIs that meet IFAD due diligence requirements, who will determine their financing.

Output 5: Dairy Value Chain Investment Fund Profitably Disbursed. This output will co-finance bankable dairy value chain business plans (the result of Output 4 SIPs) according to a competitive and criteria-based selection mechanism. This will include support for Government of Uzbekistan (GoU's) policy for veterinary service privatization. The component will generate investments and job opportunities among dairy value chain participants in the Programme area, paying particular attention to dehkan and women-headed farm households. It will operate through four dedicated financing windows, establishing a loan portfolio that includes a 20 per cent contribution by PFIs and a 20 per cent beneficiary contribution by dehkan farmers, dairy processors and private input suppliers and service providers while, given the high returns to investment in private commercial dairy farming, a 30 per cent contribution has been set for private farms, resulting in an aggregate total investments of USD 27.2 million. The 20% PFI contribution to the Programme lending will be achieved through 20 per cent of the loans being financed by PFIs (including beneficiary contribution) and the balance financed through the DVCDP credit line.The financing windows will comprise:

- **To smallholder dehkan farmers** (USD 8.40 million) for the purchase of improved breeds, small equipment, portable milking machines, etc.
- **To private commercial farmers** (USD 6.0 million) for the financing of investment capital (on-farm equipment, such as harvesters, feed choppers and mixers, manure separation, alternative energy sources, cow sheds renovation, milking equipment, cooling tanks, improved breeds, etc.).
- **To agro-processing entrepreneurs** (US$9.0 million) for the financing of investment capital (MCCs, modernization of milk testing and processing equipment, new filling and packaging lines, cold chain, development of new products, alternative energy supply, etc.).
- **To private veterinaries and input suppliers** (USD 3.5 million) for the establishment/refurbishment of private veterinary services and feed and forage supply enterprises.

E. Expected Results and Benefits

The programme's focus on sustainable dairy production enhancement by dehkan and private farmers together with the promotion of competitive input supply, service provision and processing small and medium enterprises SME), is expected to lead to: increased productivity; expanded employment opportunity; and increased incomes among the targeted users-beneficiaries, while enhancing the social and economic leverage of rural women and reducing migration of young people. At farm level and amongst supporting service/supply/processing enterprises, technical assistance and sound business planning will strengthen the expected financial and economic returns. Consumers will benefit from reduced public health risk due to healthier dairy stock and more sanitary milk production and processing.

F. Cost and financing

Programme costs. For a six-year implementation period, starting in 2016, the total programme cost has been estimated at USD 38.7 million. Physical and price contingencies account for about 1.0 per cent of total programme costs. The total cost will be allocated by component as follows: (i) Dairy Value Chain Capacity and Innovation Built, USD 7.9 million (20.3 per cent of total costs); (ii) Dairy Production and Processing Development Financed, USD27.9 million (72.2 per cent); and (iii) Programme Management, USD 2.9 million (7.5 per cent). **Programme financing:** Programme financing is composed of: (i) an IFAD loan of USD 23.9 million (61.8 per cent); (ii) an IFAD grant of USD 0.7 million (1.8 per cent); (iii) PFI co-financing of USD 5.6 million (14.4 per cent); (iv) beneficiaries' contribution of USD 6.0 million (15.6 per cent); and (v) government contribution for USD 2.5 million (6.4 per cent).

G. Assumptions and risks

Key programme implementation **assumptions** are that the country's economy maintains its stability, and that consistency is established between the stated government policies/ and rural economic reforms aiming at dehkan farmers, private sector development and the livestock sector vis-à-vis the actual implementation of these policies and reforms. Making the latter assumption to hold will require that commitment is maintained on the part of the Government, for which IFAD will continue its country dialogue and study of the impact of government policies at field, IFAD-target group level.

Examples of identified implementation risks comprise: (i) **Programme participation**. A main - implementation risk relates to the potential lack of incentives on the part of the various value-chain actors to participate in the programme's activities and financing. Mitigating measures include an in-depth analysis of production/ business opportunities and constraints, and actual financial risks, based on SIPs. Mitigation in this regard also involves a widespread informational campaign on the programme's objectives and support to farmer group formation; (ii) **Market response**. The risk also exists of the inability of dehkan farmers to respond promptly to market demands, required investments and product quality requirements. This will be mitigated by extensive capacity development for male and female dehkan farmers and their linkage to Lead Enterprises through MCCs; and (iii) **Interference.** The potential risk of political interference in the selection of financial service providers and their actual operations will be addressed by the selection of PFIs already approved to operate with the Horticulture Support Programme (HSP) and the on-going due diligence examination of participating banks.

H. Adherence to IFAD policies and guidelines

The Programme's design is fully in line with the IFAD Strategic Framework 2011-2015, and with IFAD's policies on: Targeting, Gender Mainstreaming, Rural Finance, Climate Change, and Environment and Natural Resource Management. The programme is also aware of the social, environmental and climate change procedures and will seek their compliance at operational and field levels. The programme will promote a gender-sensitive and enabling implementation environment in all its activities.

Environmental classification. The programme is classified as a Category B operation. Investments in improved forage production, climate-smart agriculture/livestock production and green agribusinesses/ green finance are expected to result in positive outcomes. The DVCDP will reduce pressure on natural resources by introducing sustainable NRM practices, e.g., “less animals/ better animal”, increased feed use efficiency, and manure techniques for proper nitrogen cycle management. These developments will enhance the resilience of rural households to climate change.

I. Sustainability, knowledge management and scaling-up

Sustainability. The sustainability of the Programme’s results is, inter alia, based on: (i) the value chain stakeholder business and technical capacity building activities to be promoted; (ii) the self-targeting, demand-driven nature of the intervention; and (iii) the preparation of SIPs as the basis for all investment which should lead to better integrated and more equitable and profitable value chains.

Exit strategy. The programme’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; (iv) the sustainable establishment of the FPPC; (v) limited programme operational, staff, and recurrent costs; and (vi) the establishment of a revolving fund for post-Programme sub-lending to PFIs.

Scaling-up. The Programme takes a pilot approach to the development of efficient, sustainable dairy development in Uzbekistan, 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 Uzbekistan such as the adjacent region of Surkhandarya. This also involves major potential for scaling up and synergies in relation to subsequent donor programmes.

Knowledge management. Generation of relevant experiences derived from the support to be provided to the value chains is at the core of the DVCDP programme’s action strategy. This includes the proposed “producer-processor” partnership model; the practical results that are expected from the technology development programme; and the KM activities associated with the operation of the FPPC. Thus, the systematization, dissemination and experience exchange will be essential activities. Sufficient funds have been allocated to generate knowledge products and their dissemination as well as for experience-exchange study tours in Central Asia and other countries.

Logical Framework

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
Goal:			
To improve the livelihood of rural people (women and men) in Uzbekistan.	▪ 12,000 rural households in the Programme area increase their index of household assets ownership by 30% (disaggregated by gender, farm household and youth categories)[3]. ▪ At least 10% reduction in the prevalence of child malnutrition, as compared to baseline[1]. ▪ Number of households receiving Programme services. ▪ Number of people receiving Programme services.	▪ RIMS baseline and impact surveys ▪ Mid-term review ▪ Implementation completion report	
Programme Development Objective:			
Productivity, competitiveness, commercial farmer linkages and market access of smallholder dairy farms increased	▪ The value of milk sold by dehkan and private commercial farms in Programme districts increased by 40%; ▪ 2.000 decent jobs created (40% women) through dairy-related farm work/ processing-unit expansion and new rural enterprises; ▪ 75% of DVCDP-invested agro-enterprises operating profitably[4] two years post investment. (30 % invested by women[5]) ▪ 6,000 tonne CO2 mitigation impact over 10 years (based on EX-ACT analysis)	▪ Programme baseline study, mid-term review and implementation completion report Specialised (qualitative/ quantitative) thematic studies, andousehold income surveys as agreed at programme supervisions. ▪ Progress in achievement of CO2 mitigation impact calculated at mid-term and completion (EX-ACT analysis)	▪ Government policies/ and rural economic reforms supporting dehkan farmers, private sector development and the livestock sector *are implemented* (A) ▪ Overall political stability, and a conducive macro-economic framework (A) ▪ Regional free trade agreements place pressure on domestic milk price (R) ▪ Epidemic disease situation in the country remains stable (A)

[3] Results and impact management system-RIMS anchor indicator
[4] IRR > 12%
[5] Women-headed households and enterprise owners, women involved in key enterprise management decision-making and small processing units run by women

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
OUTCOME 1: Dairy Value Chain Capacity and Innovation Built Capacity for sustainable, efficient milk production, processing and marketing established.	▪ At least 25% increase in average milk yield from a base of 2.0 tonnes/cow/annum at programme inception to 2.5 tonnes/cow/annum by PY6; ▪ FPPC self-managed and financed under leadership of national and regional farmer and business NGOs and associations.	▪ Programme baseline study, mid-term review and implementation completion report; ▪ Programme's M&E records and reports ▪ Government's national, regional and local production data ▪ Targeted field studies and surveys as agreed at programme supervisions	▪ Lack of incentives on the part of the various value chain actors to participate in the Programme's activities and financing (R) ▪ Effective / timely availability of specialised technical assistance (A) ▪ Producer-Processor contractual obligations not fully observed (R)
OUTCOME 2: Dairy Production and Processing Development Financed Productivity and efficiency along targeted, smallholder-inclusive dairy value chains profitably increased	▪ Portfolio at risk below 10%[6]; ▪ At least 30 profitable[4] milk collection centres (MCCs) operational; ▪ 50 per cent increase in milk sales to commercial processors in programme area.	▪ Programme baseline study, mid-term review and implementation completion report ▪ Commercial Bank records ▪ Central Bank supervision reports ▪ Programme M&E records ▪ Targeted field studies and surveys as agreed at programme supervisions	▪ Banking/ financial market norms and regulatory framework, conducive to expanded rural financial outreach and inclusion (A) ▪ Political interference in the selection of Financial Service Providers (FSPs) (R)

[6] RIMS 1st level indicator

I. Strategic context and rationale

A. Country and rural development context

Country economic situation

1. The Republic of Uzbekistan is a land-locked, lower middle-income (GNI per capita: US$1,880 (2013), with a large share of its total population of 30.7 million (2014) living in rural communities (around 60%) and engaged directly in agriculture-related activities (approximately 40%). The country is divided into 12 regions, the autonomous Republic of Karakalpakstan and the independent city of Tashkent. Agriculture provides around 25 per cent of the country's employment, and its share of the Gross Domestic Product (GDP) is estimated at 17.6 per cent (2014), (down from 25.0 per cent in 2005) reflecting proportional changes resulting from government efforts to expand the industrial and services sectors. The country's GDP growth over the next three years is estimated to average 7.9 per cent (World Bank), which is higher than the expected growth in Central Asia (3.8 per cent).

2. Whereas Uzbekistan is largely self-sufficient in terms of food production and food trade balance, it relies on imports of certain food products which are not locally produced in sufficient volumes, and the State controls wheat production to ensure food security as well as cotton as an export crop and foreign exchange earner. Food imports are often for higher value goods, including meat and dairy products, to meet the increased disposable income/ purchasing capacity of the population, In 2013, Uzbekistan's food imports were 9.7 per cent (US$ 1.34 billion) of country's total imports (USDA).

3. Cotton and grains are the main crops in Uzbekistan, while fruit, vegetable and livestock production are important sources of income for rural families. Livestock alone contributes about 40 per cent of the Gross Agricultural Output (GAO). Government statistics show that the country produced USD 12.9 billion worth of agricultural products in 2013, of which USD 7.7 billion was crop production, and USD 5.2 billion was livestock and poultry production (USDA). Common characteristics for both the horticultural and livestock sub-sectors are that the main actors and producers are small-scale semi-commercial private farms and the dehkan family homesteads; the latter constituting the primary IFADs target group. The current land tenure and allocation structure is the result of the implementation of land distribution and privatization initiatives following the restructuring of large collective and state farms. All land is owned by the State with farmers given leasehold rights that are inheritable, but can be neither mortgaged nor sold.

Rural development and social context

4. **The Human Development Index** of 0.661 (2013) places Uzbekistan in the 116 position among 187 countries (i.e., medium human development), however, the inequality-adjusted HDI of 0.556 and the ratio of labour force participation (female/male) of 0.945 in 2013 indicates the existence of significant income inequality among the population. The corresponding percentage of labour force participation is 47.9 per cent for women and 75.2 per cent for men. The average life expectancy in the country has increased to 69 years in 2012, approximating the level of developed countries (World Health Organization). Child and maternal mortality rates have decreased correspondingly. Uzbekistan's adult literacy level of 99.9 per cent is higher than the average for developed countries and gender parity is nearly achieved in primary education.

5. **Millennium Development Goals (MDG).** Uzbekistan has reached its United Nations' MDG for maternal mortality and is on track for child (under five) mortality. The MDG target for primary and basic secondary education while maintaining universal access is expected to be met by 2015. The country achieved the targets on gender equality in primary and general basic secondary and secondary vocational education in 2005 and is expected to improve gender balance in higher education by 2015. Various poverty reduction strategies and programmes are being implemented to

meet the target of halving poverty by 2015. A 2011 government resolution[7] defined specific measures and responsible ministries for implementing the MDGs

6. **Rural poverty[8].** Around 16 per cent of Uzbekistan's total population are poor, based on a unidimensional poverty line established by the government[9]., having declined from 25.8 per cent in 2005. Despite the significant decline in poverty, the elasticity of poverty reduction to GDP growth, at 0.5, is relatively low. Seventy per cent of the country's poor live in disadvantaged rural communities and regions. The low productivity of agriculture; high level of implicit taxes; the high dependency rate within households[10]; regional divergences (i.e. richer regions growing faster); and the high level of informality of rural labour markets are drivers of this poverty and low poverty elasticity. Limited access to productive assets, infrastructure, energy, land and water, technical and financial services are drivers of the limited rural productivity and consequent poverty, disproportionally affecting rural women and young people. Other vulnerable groups in terms of income poverty include families with many children, lower levels of vocational training, people with disabilities and the unemployed. Poverty levels are lowest in Tashkent City (capital) at 6.7 per cent and highest in the Republic of Karakalpakstan at 44.0 per cent. The Programme regions – Jizzakh and Kashkadarya – have poverty levels of 29.6 per cent and 41 per cent respectively, well above the national average (State Statistics Committee)

7. Factors that place women, especially rural women in disadvantage include: employment among women is lower than among men and there is imbalance in the sectoral distribution of female labour with women's share in the structure of formal employment at only 44 per cent from 2001 to 2006 (Statistical Office, 2007), with a high concentration in low-paid sectors such as health and education; relative dependence on the informal economy and agricultural piecework; limited access to credit and property; the relatively low level of social services provision in rural areas; and increasing cultural conservatism manifested in strengthening trends to early marriage and child-bearing, decreasing engagement with higher education and limited mobility, notwithstanding that women internal migrants are reportedly increasing.

8. **Migration and remittances.** Net remittances from migrant workers have helped thousands of families in Uzbekistan to contain poverty in their communities. The number of Uzbek migrants in Russia and Kazakhstan is currently assessed at about 2 million, or about 12 per cent of the country's working age population. Net remittances were estimated to be around 6.4 per cent of GDP in 2013, these resources help low income families maintain a minimal standard of living. In US dollar terms, the sums sent back to Uzbekistan are significant, at about USD 6.6 billion for 2013 alone. These monetary inflows which tend to be channelled to support household spending, housing construction and the establishment of small businesses, will decrease in 2015 due to the recession/ rouble crisis and the decreased construction, wage cuts and labour lay-offs in Russia. Returning, primarily male workers will have some cash assets, but few job opportunities and limited business skills.

9. **MDGs.** Whereas the government has manifested its decisive commitment towards accomplishing the **Millennium Development Goals**, the targets are being met in terms of maternal mortality, child (under five) mortality and reversing the spread of tuberculosis. The MDG target for improving the quality of primary and basic secondary education, while maintaining universal access, is expected to be met as is the goal of halving poverty from 27.5 per cent in 2001 to 14 per cent in 2015.

10. **Agricultural household income**. There is limited information available on the structure of household income. A 2007 survey of 800 dehkan and private farm households respectively showed that, for dehkan farm households, only one quarter of household income came from agriculture

[7] #2629
[8] In general both the government and ordinary citizens of Uzbekistan do not perceive a relative lack of assets and incomes as being the result of structural 'poverty' but rather a matter of being temporarily 'less advantaged' or 'disadvantaged' in the evolving context of the country's distinctive mix of market and non-market economic policies
[9] The cost of a food basket, based on a minimum food consumption equivalent to 2,100 kilocalories per person per day
[10] the small number of working adults relative to total household members

product sales and self-consumption, with 40 per cent of income derived from off-farm employment and enterprise activities. By contrast, private farmers earned over 60 per cent of household income from produce sales and consumption. This smallholder (dehkan) income distribution is not unusual in central Asian economies and calls into question the importance dehkan households may place on agriculture production as an area of investment and income generation. Europe and Central Asia (ECA) region evidence suggests that a significant number of dehkan farmers may not wish to risk investment in incremental agriculture/livestock production, however, substantial income gains can also be derived from improved agricultural/livestock husbandry and farm business management, with low cost/risk implications, which will be a focus of the proposed Programme.

Income Source	Proportion of the cumulative household income (%)	
	Dehkan farmers	Private farmers
Income earned from sales of agricultural products harvested on dehkan plot	13.8	15.0
Consumption of agricultural products from dehkan plot	11.3	8.6
Income earned from sales of agricultural produce harvested on farm plot	-	39.6
Consumption of agricultural products from farm plot	-	8.4
Incomes from employment in agricultural sector	7.8	1.1
Incomes from employment in non-agricultural sector	30.4	8.0
Incomes from non-agricultural entrepreneurial activity	9.6	3.9
Incomes from labour migration	7.2	0.9
Retirement and disability pensions	10.4	5.5
Allowances to disadvantaged families and disadvantaged families with children	2.8	0.9
Other incomes	6.7	8.1

Country competitiveness

11. **Competitiveness and rural finance.** According to the World Bank's *Doing Business 2015* report, Uzbekistan ranks 141st out of the 189 economies surveyed, down from 149th position in 2014. While the report shows improved business performance, the 2015 "access to credit" indicator dropped by 5 points on 2014 results suggesting mixed results. The country is now in the 104th position concerning credit access, and, indeed, access to formal financial services in the country is remarkably low: only about 1 per cent of people take credit from a financial institution, noting that for the ECA region this indicator is 8 per cent.

12. In Uzbekistan, however, people tend to save more actively than their peers in neighbouring countries —31 per cent of people reported saving in any form in 2011 as compared to 20 per cent in the ECA region. Informal, local forms of rotating savings and credit associations are widely practiced among low-income households across the country. Such schemes are common among members of farmers' associations, handicrafts and artisans' associations, and salaried employees. Similarly, there are various financial arrangements occurring between and among agro-processors, wholesalers, and primary producers in Uzbekistan (i.e., as debtors or creditors) and involving transactions that are carried out either in cash, money transfers, or "in kind." Often, no collateral is required from the producer other than pledging the sale of crops financed exclusively to the processor/ wholesaler.

13. **Agricultural R&D/ Extension**. One critical limitation to rural and agricultural development in Uzbekistan is the lack of modern technology and skills in agriculture production and the inadequate and narrow experience of the present farming population in farm financial planning and management decision-making. Public extension services are almost non-existent and national agricultural research and academic institutions are ill-equipped to fill the knowledge gap, mainly owing to their

organisational set-up and limited government funding. Uzbekistan spent less than 0.5 per cent of the national budget to cover their research & development (R&D) requirements, which is the equivalent of about 0.13 R&D/ GDP ratio. The State Veterinary Department animal health service, delivered through offices at provincial and district levels, is the only effective livestock sector extension service. Some veterinary units are established at community level, but the overall coverage and quality of services is low. It is GoU policy to shift the delivery of veterinary clinical services to the private sector and a private vet service does operate in parallel to State services and is utilized by emerging commercial livestock producers.

14. **Climate change**[11]**.** The risks of climate change for the agricultural sector of Uzbekistan are significant because the majority of the rural population depends on agriculture for their livelihoods, and the rural poor will be disproportionately affected due to: their relatively fewer assets/ lower ability to adapt, and the higher share of income they spend on food. Climate impact could therefore undermine the progress that has been made in the country's poverty reduction, and adversely impact food security in vulnerable rural areas. Recent trends in water availability, changes in precipitation and the presence of drought in Uzbekistan have underscored these risks, as has the presence of agricultural pests that may not have previously been found in the country.

15. The country's main climate hazards involve decreased and more variable precipitation, higher temperatures, reduced river runoff, increased frequency and severity of extreme events; and the environmental impacts of crop failure and reduced, less certain, and lower quality crop and livestock yields. In response, adaptation measures that need to be considered, include: improved water use efficiency and enhanced irrigation/ drainage infrastructure; optimized agronomic inputs, livestock management and health/ nutrition practices at dehkan farm level; improved pasture management and livestock breeds; and increased private sector involvement aiming at overall increased investments, enhanced productivity and resource management strategies. For livestock production, the negative impact of the anticipated rise temperature and consequent increased heat stress will be partially offset by expected increased rainfall in in the Desert and Steppe and Piedmont zones and consequent increased pasture and lucerne production.

Government strategy and priorities

16. **Welfare Improvement Strategy.** The GoU's main economic growth and poverty reduction goals and plans are outlined in the Welfare Improvement Strategy 2013-2015 (WIS-II), which follows the initial WIS-I strategy 2008-2010. The strategy seeks to achieve the sustainable development and welfare of the population on the basis of: institutional reforms designed to continue the liberalization of the national economy, thereby creating a favourable investment and business climate; the modernization of its key production sectors, while increasing the competitiveness of the national economy; the rapid modernization and development of transport and information communication infrastructure; continued education and health sector reform, the balanced development of the nation's territories, thus reducing regional inequalities; increased economic contribution of the small business and services sectors, particularly in rural areas; and improved environment protection including the promotion of a *green economy* including alternative energy sources.

17. The strategy, *inter alia*, seeks to increase the efficiency of the agricultural sector; reduce the levels of poverty, nation-wide, and among rural populations; and expand cooperation with international development institutions.

18. Specific objectives for agricultural/ rural development, within WIS II, include: (i) deepening of structural reforms within the agrarian sector and the diversification of agricultural production, particularly in 30 "diversification raions (districts)" where local administrations are empowered to reduce/cease cotton/wheat production in favour of horticulture and livestock production; (ii) accelerating the sector's modernization and technological renewal; and of the infrastructure and

[11] This discussion on climate change is drawn from the recent World bank publication "Reducing the Vulnerability of Uzbekistan's Agricultural Systems to Climate Change" http://dx.doi.org/10.1596/978-1-4648-0000-9

businesses that process agricultural products; (iii) improving the effective use of land and water resources; (iv) developing and improving the infrastructure of the agro-food market (including science, technology and innovation in key areas such as enhanced animal breeding); (v) increasing the financial stability of farm entities, facilitating the liberalization of agricultural policy, and strengthening the rights of agricultural and rural non-agricultural producers; and (vi) promoting the development of the food industry while increasing the processing levels of local agricultural raw materials. Financial support to small and medium-sized businesses, including farms and dehkan households, has been identified as a banking sector priority.

IFAD Country Programme

19. **Country dialogue.** Development-related dialogue of the International Fund for Agricultural Development (IFAD) with the GoU focuses on opportunities for the improvement in the livelihoods of the less-advantaged rural populations. In this context, the consolidation of an enabling environment for private sector development is among the key elements of IFAD's discussions with the Government and with the principal development partners at country level. On the policy side, this implies: gradual reorientation of export policies from raw materials to products with high value added for the benefit of smallholder producers; continued economic liberalisation, focussing on strengthening private property and protecting ownership rights; agriculture and climate change adaptation; and rural financial sector development. The operational approach to achieving an impact on policy change is to lead by example through the investment programmes that the Fund supports.

20. IFAD Programme. In accordance with established agreements with Government, the IFAD Country Programme, and the proposed investment intervention, will: (i) support farmers to invest in sustainable agriculture/livestock production that takes advantage of existing and emerging markets in order to increase their employment, assets base and production incomes; (ii) seek to minimise smallholder production risks through the comprehensive and systematic transfer of modern technology, support to key elements of profitable agricultural-livestock value chains, and the establishment of appropriate, accessible asset-building financing channels; (iii) take into account lessons learned from ongoing development programmes, including the starting IFAD-financed Horticultural Support Programme; and (iv) focus on sectors and geographical areas where smaller farmers predominate, such as the livestock sector, while placing emphasis, over time, to achieve a long term impact, and scaling-up/ replication of successful results derived from implementation experience.

B. Rationale

Programme justification and rationale

21. The livestock sector plays an important role in the economy and society of Uzbekistan, contributing about 40 per cent of the country's agricultural GDP (2013). Most production comes from the 4.7 million small dehkan farms, with the balance from private commercial and a limited number of cooperative (shirkat) farms. Dehkan farmer's own about 95 per cent of cattle and 83 per cent of goats and sheep; and account for 95 per cent of the total production of meat, 96 per cent of milk and 89 per cent of wool. Livestock production contributes substantially to country food security, overall, and as an economic and nutritional safety net for rural households. Livestock production provides regular income to rural households as well as high quality protein, especially for women and children. Livestock also has an impact on the ecology of grasslands, which are a significant part of the economic and agro-ecological landscape of Uzbekistan. While dehkan farms sustain the Uzbekistan dairy market (85 per cent of milk sales are from such small family producers), milk production in Uzbekistan operates well below its potential. Average cow milk yields within dehkan farms rarely exceed six kg per day and 1,200 kg per lactation.

22. The principal constraints to livestock sub-sector development include the: (i) limited dehkan farmer access to land; (ii) lack of access to sufficient fresh and conserved forage and the unreliable quality of forage and feed; (iii) limited access to reliable, quality animal health services; (iv) low genetic merit of much of the national herd; (v) inadequate sanitary conditions at farms and

processors; (vi) constrained direct access to processors and markets; and (vii) lack of asset-building resources including training / advisory services, accessible financing and business capacity to increase sectoral and microenterprise productivity and efficiency. The development of efficient rural producers and processors and their linkage to existing and emerging markets is central to addressing these constraints.

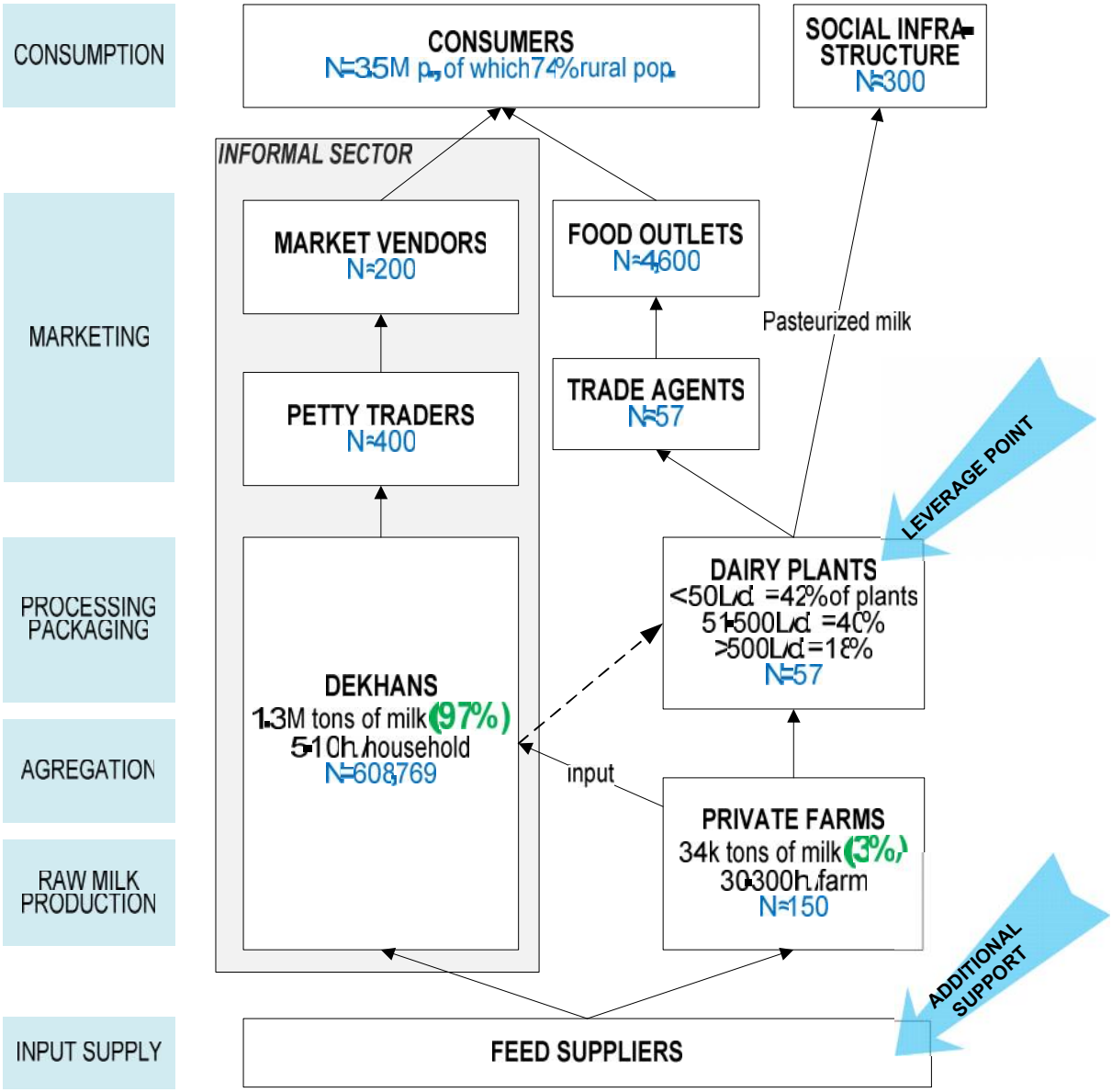
23. Regional experience demonstrates that smallholder dairy farmers can move from subsistence household production to market-driven farming and commercialisation once: (i) their access to land and finance improves; (ii) adequate technical and management training is provided; (iii) milk collection becomes organised; (iv) they establish linkages to local agro-enterprises. Practical experience dictates that some dehkan farmers can also evolve into processors themselves, scaling-up from cottage / household production through integration into dehkan groups, while building (individual and aggregate) volumes of milk production and improving their collective business management and negotiation skills.

24. Smallholder market access and financial inclusion require adequate incentives and policy-related and material support. Basic interventions that will enhance organised dehkan and private smallholder farmer's capacity to produce competitively for the market, include: (i) developing organisational and farming-as-a-business skills; (ii) demand driven technology development and demonstration; (iii) better informed and more available input supply and support services including veterinary and breeding services; and (iv) improved linkages along competitive value chains, improving margins and market share.

25. Utilizing larger scale farms as the nucleus for service provision represents an entry point, in part because dehkan farmers are frequently employed as labourers on private farms, including for forage production and harvesting, where payment is often made in kind. Linking dehkan farmers to existing commercial farms can assist in facilitating: access to quality feeds, access to cold chains and to machinery for making animal feeds and forage, learning and adopting better management procedures, and access to basic inputs and services.

26. There is a clear need to improve the milk aggregation function within the dairy value chain in order to support dairy processing expansion, while allowing smallholders to be part of — and benefit from it. Partnering with agro-processors is thus imperative, aiming at: setting quality standards for raw milk, ensuring quality control and delivery mechanisms, and achieving a better managed seasonality of supply. Accordingly, the establishment of milk collection centres (MCC) will entail various positive externalities to the value chain development, in general, but primarily and directly to the benefit of smallholder farmers living in reasonable proximity of agro-processing units. MCCs also constitute a suitable convergence point for diverse and complementary technical support, advisory interventions and input supply, including concentrated feeds and forage.

Figure 1: Map of the Dairy Value Chain in the Programme Area



Summary of Programme Scope

27. The ***Dairy Value Chains Development Programme (DVCDP)*** will address the aforementioned constraints and opportunities within dairy value chains, by: (i) facilitating access to modern production and processing technologies/ best practices, capacity building through training and on-farm demonstrations; and by an integrated support along key dairy value chains with development potential and comparative advantage at local/ regional levels; (ii) building linkages between knowledge and financial service providers and dairy value chain stakeholders; and (iii) addressing the specific challenges and constraints for efficient production and market access faced by the Fund's target group — dehkan farmers (e.g., access to land and water resources, veterinary services, animal feeds and forage, fresh milk collection, etc.).

28. In this process, the Programme will: (i) build technical and management capacity across all stakeholder groups; (ii) establish innovative partnerships for needs-based technology testing and demonstration; (iii) establish a permanent forum for public-private collaboration dialogue and learning. (iv) support the preparation and prioritization of strategic investment plans (SIP) for dairy value chain

development, paying particular attention to the specific needs of rural women and youth; and (v) provide dairy-sector and beneficiary tailored financing.

II. Programme description

A. Programme area and target group

29. The programme's principal beneficiary groups consist of: (i) dehkan farmers; (ii) private farmers producing milk and forage; (iii) local entrepreneurs holding small-to-medium dairy processing units; (iv) provincial dairy sector input suppliers and service providers; (v) national scientific and academic institute staff; and (vi) the rural unemployed for whom programme support is expected to create greater decent employment opportunities at farm and processing levels of targeted dairy value chains. Particular attention will be given to the participation of rural women and youth, individually and in groups, as milk producers and as processing and market entrepreneurs.

30. Based on social, demographic and economic criteria (i.e., livestock population and yield, existence of emerging processing facilities, geographical location, high demand for financial services, entrepreneurial potential among the IFAD target groups, etc.), in addition to the social and economic priorities set by the Government, the programme's intervention area will focus on Jizzakh and Kashkadarya provinces, commencing in the three rayons in each province nominated for livestock and horticulture production diversification from wheat and cotton, together with the two rayons surrounding the provincial capitals of Jizzakh and Karshi respectively, but subsequently covering the whole of each province. These two provinces are located in the southern part of the country – together with Surkhandarya, the targeted area for IFAD's Horticultural Support Programme – thus constituting a geographical-economic and operational cluster close to the major markets of Tashkent and Samarkand for the new programme and IFAD's action

31. The beneficiary targeting strategy takes into account: (i) the critical role that women play as the pivot of the rural household economy and their direct involvement in cattle husbandry and dairy product processing and marketing; and (ii) Government's concern for the continued development of institutional and human technical capital at provincial and national level and for increased opportunity for rural youth, particularly as entrepreneurs.

B. Development objective and impact indicators

Programme development goal/ objective

32. The DVCDP **Goal** is to improve the livelihood of rural people (women and men) in Uzbekistan. The **Development Objective** of the programme is: productivity, competitiveness, commercial farmer linkages and market access of smallholder dairy farms increased

Impact indicators

33. Programme implementation will be guided by the programme's results management framework. Key performance indicators at Goal level are: (i) 12,000 rural households in the Programme area increase their index of household assets ownership by 30% (disaggregated by gender, farm household and youth categories)[12;] and (ii) At least 20% reduction in the prevalence of child malnutrition, as compared to baseline. Key performance indicators at the development objective level are: (i) The value of milk sold by dehkan and private commercial farms in Programme districts increased by 40%; (ii) 2.000 decent jobs created (40% women) through dairy-related farm work/ processing-unit expansion and new rural enterprises; and (iii) 75 per cent of DVCDP-invested agro-enterprises operating profitably[13] two years post investment. (30 % invested by women[14])

[12] Results and impact management system-RIMS anchor indicator
13 IRR > 12%

C. Outcomes

34. The programme's investments and activities will be executed through two outcomes in addition to Programme Management: **Outcome 1. Dairy *Value Chain Capacity and Innovation Built***; and **Outcome 2. Dairy *Production and Processing Development Financed***.

Outcome I: Dairy Value Chain Capacity and Innovation Built.

35. *This outcome, the objective of which will be "capacity for sustainable, efficient milk production,* processing *and marketing established"* will support improved dairy farmer and processor technical and management skills, enhanced access to demand-driven technology, and improved dialogue and partnerships amongst value chain actors.

36. **Output 1: Dairy Value Chain Stakeholder Capacity Built.** This output, to be coordinated by the regional PMO and provincial PIT supported by national *and* international Technical Assistance (TA) will deliver tailored technical and business management training to (i) dehkan farmers, particularly female livestock owners and managers; (ii) private commercial farmers; (Rural input supply and service providers; and (iv) dairy agroprocessors.

- **Dehkan farmer livestock management training** will be developed as a *mahalla*-based initiative[15], to be implemented in all *mahallas* that fall within the milk collection centre (MCC) catchments identified for investment under strategic investment plans. National and international consultants and staff of national academic institutions will be contracted to identify appropriate existing dairy cattle management training material, both in Uzbekistan and regionally and to fill identified gaps with new learning material (See Appendix 4 for ToRs). Based on this training package, the Programme will implement a training of trainers (ToT) programme for identified private sector and agricultural college trainers based in the Programme provinces. Those trainers that successfully complete the training will be contracted to deliver defined training programmes to dehkan farmers at mahalla level. Female dairy cow owners and managers will be offered separate training programmes that fit with their family and cattle daily work programmes. The women's training will be implemented in close collaboration with Women's Council and BWAU representatives at provincial level and the *Maslahatchis* at mahalla level. The training programme modules will include, *inter alia,* animal primary health care and vaccination; animal feeding, nutrition and condition scoring; animal housing and welfare; milking, milk hygiene and quality; calf rearing; and breeding, heat detection and artificial insemination.

  A separate Farming-as-a-Business training programme will be developed based on existing FAO and other training manuals in this field and delivered by trained trainers as a separate training product at mahalla level following the same approach as the livestock management training. All training programmes will be supported by printed and audio-visual training material.

  Up to 1,500 dekhan farmers will be trained annually in animal husbandry and farming as a business form Programme Year (PY) two onwards.

- **Private farmer livestock management training** will follow similar training themes as that prepared for dehkan farmers, but will address these topics in more detail and include additional training in areas such as mechanised milking and cool storage; and forage production, conservation and storage; and waste management. Private farmers will also receive training in farm business and risk management. Private farmer training material will

[14] Women-headed households and enterprise owners, women involved in key enterprise management decision-making and small processing units run by women

[15] The word '*mahalla*' refers broadly to a neighbourhood or local community. Promoting it as a "traditional institution," the Uzbek government has embraced *mahalla* as a "fundamental unit" of society. *Mahalla* were legitimized into law in 1993 under the Law on Institutions of Self-Government of Citizens, otherwise known as the Mahalla Law. Uzbekistan is divided into an estimated 10,000 *mahalla* of varying population sizes but averaging roughly 2,000 persons

be developed by the international dairy production adviser in partnership with national academic institutions and delivered by those institutions through short residential courses at provincial level during winter months. This training will target private farmers in Programme milk catchment areas, particularly those private farmers borrowing programme funds for farm expansion. Up to 130 private farmers will be trained annually in livestock and farm management form PY2 onwards

- **Young farmer training** will target aspiring young dehkan and private farmers and include both residential training at selected agricultural colleges or institutes and experiential training on private dairy farms. The training material will be drawn from the aforementioned dekhan and private farmer training programmes. This training will particularly target young private farmers being sponsored into dairy farming through Uzbekistan youth group initiatives.
- **Input supplier and service provider training** will be focused on private veterinarians, veterinary drug shop owners and animal feed and forage suppliers. Private veterinarians and public veterinarians wishing to establish private veterinary practices will receive refresher training in dairy cattle disease diagnosis and management, animal breeding and artificial insemination, animal nutrition, animal housing and welfare, milk quality and the national veterinary law. The veterinary training will be delivered in modules by the Veterinary Faculty of the Samarkand Agriculture Institute, in partnership with the Veterinary Institute and will involve both lectures and practical training. Input suppliers and service providers will also have access to training in business management and marketing including business and financial planning, business financing and loan management, record keeping and accounting, stock control, and marketing strategies. This training will be developed by the PMO with national TA support and contracted for delivery in a series of residential courses by a training provider selected through a competitive process. Specialist input suppliers (e.g. forage production and marketing) will receive practical training, including study tours where appropriate, on a needs basis.
- **Women entrepreneur training** will target individuals and women's group members planning to invest in milk production, collection or processing. In addition to formal training in business planning and management, it will support BWAU mentoring for those women who take up investment activities.
- **Dairy Enterprise owners, managers and technicians** will receive training and technical assistance in business management, installation or upgrading of processing facilities, enhanced raw material procurement, supply chain management, new product development, branding and improved packaging, demand assessment and market prospecting, food safety and alignment with international standards for intra- / extra-regional markets (national demand). The Programme will also pay particular attention to the promotion of women entrepreneurs in the dairy sector including milk collection centres (MCC) owned and managed by women's groups. Milk enterprise business management will be integrated into the aforementioned input supplier and service provider input training, but include an additional module on value chain management. Milk processing training will be developed by the international dairy technology specialist (see Appendix 4 for ToRs). Dependent on the Programme assessment of national dairy technology training capacity, this training may be delivered by regional dairy technology specialists.

  Dairy enterprises that borrow Programme finance for improved milk processing will be eligible to apply on a contestable basis for small grants valued at up to USD 4,000 for business advice on product branding, labelling and marketing.
- **Dairy inspector training** will provide refresher training for MAWM and Ministry of Health (MoH) inspectors responsible for farm and dairy processor inspection and for milk product safety testing at markets. The training will also familiarise inspectors with new technology and products expected to be introduced through the DVCDP.

- **Participating Financial Institution (PFI) training**, to be implemented on a cost sharing basis, will focus on building PFI staff capacity to evaluate investment opportunities and risk along dairy value chains. It is anticipated that this training will be delivered by the International Finance Corporation (IFC) TA programme in Uzbekistan.

37. **Household Methodologies (HHM)** is a development approach that encourage participatory household visioning and livelihood planning, and promotes gender-sensitive farm business development (See Appendix 2 for details). The Programme will train trainers, linked to *Mahalla* Committees and NGOs supporting women farmers in business plan development and credit procedures (e.g. BWAU). Trained trainers will further train local mentors who will roll-out the methodologies to the communities employing a group-based approach at the *Mahalla* level whereby the group acts as the entry point for reaching individuals with the HHM tools.

38. **Output 2: Technology Innovation Tested.** This output, managed by the PMO/PITs, will, based on a Forum for Public-Private Collaboration (FPPC) (Output 3 below) priority needs identification process, support the development of innovative, demand driven milk production and processing and food safety technologies through participatory on-farm/factory applied research and technology demonstration, delivered by national academic/ research institutions, private companies or NGOs.

39. The identification of technology constraints to dairy sector development in Uzbekistan will be the starting point for building dialogue and a common vision amongst FPPC members. This dialogue will be guided by private service providers responsible for building capacity and cohesion within the FPPCs. Members will engage in free-ranging discussion with national and international technical specialists about dairy industry constraints and use group priority setting processes to rank constraints by their expected financial impact. Based on that analysis, national and international TA will prepare technology innovation testing and demonstration programmes. The Programme would fund, inter alia, participating institution's non-salary operational costs and field and laboratory equipment requirements, national and international TA, on-farm/enterprise technology testing and demonstration, farmer and scientist capacity building and experiential study tours and, where appropriate, scholarships for post-graduate student coordinators of participatory technology testing and demonstration activities Proposals would be evaluated by an independent expert review panel against selection criteria based on estimated cost and expected economic, environmental, social and gender outcomes. Depending on their nature, technology innovation sub-programmes will be contracted to specialised technical institutions to deliver, or put to national competitive tender. The implementation of these technology innovation programmes will involve public-private partnership and extensive field testing and demonstration.

Box 1: Example of a Technology Innovation Programme

Problem: The Jizzakh and Kashkadarya FPPCs have identified the availability of high quality fresh and conserved fodders as a major constraint to milk production and quality. The DVCDP will finance a three year forage technology development package, commencing in PY 2, that will include the following measures. Resulting farmer investment in fodder production and processing would be financed through the DVCDP credit line.

Measure	Estimated Cost (UZS million)
Provincial administration to review land availability for irrigated and dryland forage production, including contracted GIS mapping of rangelands	60.0
Livestock Institute and Plant Testing Centre to evaluate a range of introduced annual and perennial irrigated and dryland forage varieties including pre-release testing on commercial farms. Evaluation will form basis of post-graduate research programme for up to 5 students.	200.0
Livestock Institute, Plant Testing Centre and Samarkand Agriculture Institute forage specialists undertake study tour to comparable regional centres to inspect forage production and conservation technologies.	50.0
International specialist recruited to support forage development research and technology testing programme: 2 person months over 3 years.	100.0
Samarkand Agriculture Institute specialists prepare a fodder production and conservation training package for private and dekhan farmers and train trainers.	25.0
Laboratory equipment necessary for forage testing and development supplied to Livestock Institute, Plant Testing Centre and Samarkand Agriculture Institute	200.0
Forage conservation equipment provided to Jizzakh and Karshi Agriculture Machinery Parks for province-wide demonstration of new conservation techniques	250.0
Training of private and dekhan farmers in improved forage production, conservation and use by trained trainers	75.0
Independent evaluation of programme impact (PY 6)	40.0
Total Cost (UZS million)	**1000.0**
Total Cost (USD)	**400,000.0**

40. Where technology development involves applied field research suitable for post-graduate degree thesis, the programme could include scholarships for post graduate students to conduct the research work. Each technology innovation testing and demonstration programme, valued up to USD 400,000 and implemented for periods of up to 3 years, will be uniquely designed to address the identified constraint. Possible technology innovation themes could include: fodder variety testing and registration; fodder conservation technology for smallholder farmers; theileriosis control; milk quality including bacterial and somatic cell (from sub-clinical mastitis) contamination; calf rearing using milk substitutes; animal feed quality and nutrition management; dairy processing technologies for product diversification and quality control; and studies on consumer demand/perspectives in the Uzbekistan dairy market. Box 1 describes a possible dairy fodder technology innovation package. In the first year of the programme implementation the Dairy Training Adviser (see Appendix 4 for ToRs) would

coordinate an in-depth study on the feed sector, and, if policy reforms are recommended, include those in the policy dialogue with Government.

41. **Output 3: Forum for Private-Public Collaboration (FPPC) Operating Sustainably.** This output involves the establishment of an iterative process of consultation and permanent learning and partnership through Provincial Fora. It will involve male and female stakeholders of all relevant private and public actors engaged in the dairy sector in each targeted oblasts.

42. A contracted private sector service provider will, through a series of periodic meetings, progressively enable stakeholders to: (i) identify, discuss and assess dairy sector's constraints, priorities and build upon opportunities for investments; (ii) become conversant with "Public-Private-Partnership" business models; and (iii) develop value chain business and investment strategies. It is expected that stakeholders will meet quarterly in their respective provinces. The organisation of thematic annual FPPC events at national level on dairy sector development issues is envisaged. Progressively, the provincial fora will engage decision-makers at local, provincial and national levels with the aim of increasing the understanding of dairy development issues and supporting the development of a conducive regulatory and incentive framework for business development. It is expected that toward the end of the programme, the role of the fora's facilitator will shift from the contracted service provider to local institutions (e.g. Farmers' Council / BWAU / CCI) to ensure the sustainability of the consultative and learning process. The Programme will also ensure that the linkage between the fora and the Programme M&E/KM functions for sharing data, knowledge and lessons learnt will be established.

Outcome II: Dairy *Production and Processing Development Financed*

43. This outcome, the objective of which will be "p*roductivity and efficiency along targeted smallholder*-inclusive dairy value chains profitably increased", will enable Participating Financial Institutions (PFI) to increase their investment in profitable dairy value chains in the Programme area.

44. **Output 4: Dairy Value Chain Strategic Investment Plans (SIP) Prepared**. The Programme would recruit one or more business advisory service providers, who, with PMO/PIT and FPPC support, would invite dairy value chain "Lead Enterprise" processors (value chain "gatekeepers") to submit competitive proposals for dairy value chain development. Following a criteria-based evaluation of those Lead Enterprise (LE) proposals, the service providers would prepare strategic investment plans for the selected dairy value chains and assist LEs and associated value chain participants to prepare bankable investment proposals at key points along the value chain. In addition, once appointed, the Dairy Value Chain specialist would carry out a study on the future demand for dairy products (volume, product types, location, competitiveness with imports) and, if needed, adjust scope and volume of the investment in this sector accordingly.

45. The DVCDP preparation process has broadly identified key milk processing enterprises in both Jizzakh and Kashkadarya regions that could act as Lead Enterprises (LE) in the development of dairy value chains that better link medium-scale processors with private and dehkan farmers, with a view to achieving production and efficiency gains and increased market share, benefiting all value chain participants. For each DVCDP identified LE interested to build his/her business, a value chain SIP would be prepared by experienced private sector business specialists, including all envisaged activities within the value chain. The SIP analysis would include: (i) a situation analysis including a detailed assessment of expected dehkan farmer participation; (ii) opportunities to upgrade; (iii) constraints to upgrading; and (iv) recommendations on what can be done practically and what instruments to use. The SIP would list the potential types of investments eligible for DVCDP support and each type of investment would be accompanied by a realistic business model/financial analysis and a business plan to obtain financing from a bank and the Programme. Associated value chain capacity building investments, e.g. technology innovation, training of farmers or milk enterprise staff/management, organizing farmers into groups, etc., would also be identified and financed directly by the DVCDP(see Appendix 4 for SIP details).

46. Only legally registered milk processing cooperative societies and companies (LLC or LTD) of at least 24 months standing and BWAU supported women's groups would be eligible to act as LEs for DVCDP supported dairy value chain development. Due diligence would be performed and entities that are the subject of bankruptcy, criminal investigation, fraud, corruption or are in default of contractual agreements would be ineligible. Value chain investments are likely to include improved livestock (for private and dehkan farmers supplying milk to processors), civil works, equipment (farming, processing, packaging, energy generation or environment protection), transportation and marketing, related directly to the core activity of the investor. The Programme will not finance integrated milk production/processing enterprises. Incremental household income and jobs, value added products, and productivity and market access and gender equality would be important criteria in investment proposal evaluation, together with commercial viability, environment impact and cost effectiveness assessments. The dairy value chain investment programme would be underpinned by a technical, business management, accounting and Information Communication Technology (ICT) capacity building program for participating enterprises with a view to improving their farmer service capacity, profitability and enterprise linkages, both at local level and to upstream quality suppliers and markets. It is recommended that the provincial Chamber of Commerce and Industry mentors this programme.

1. **Output 5: Dairy Value Chain Investment Fund Profitably Disbursed**. This output will co-finance bankable dairy value chain business plans identified through SIPs (Output 4) according to a competitive and criteria-based selection mechanism. This will include support for GoU's policy for veterinary service privatization. Activities under this sub-component will increase the outreach of rural finance in the programme area and enable programme target beneficiaries to finance the working capital and/or the investments related to their activities, thereby improving the livelihoods of rural residents' households, productivity, competitiveness and market access of livestock products through better organised value chains, including improved smallholder – commercial farm linkages, while facilitating the creation of employment and increased incomes in the identified intervention area. Particular attention will be given to assure participation of rural women, labouring in specialised processing facilities, and in their support as production, commercialisation and processing agents, and thus to the value chains that are of relevance to consolidating their position at household and community levels. It will operate through an investment fund with four dedicated financing windows, establishing a loan portfolio that includes a 20 per cent contribution by PFIs and a 20 per cent beneficiary contribution by dehkan farmers, dairy processors and private input suppliers and service providers while, given the high returns to investment in private commercial dairy farming, a 30 per cent contribution has been set for private farms, resulting in an aggregate total investments of USD 27.2 million. The four investment fund windows include:

- **Dehkan farms** (USD 8.4 million) to borrow funds to buy more productive local dairy cattle and some small equipment (portable milking machines, grain mill, etc.) as well as for working capital. The loan size will be up to UZS 25 million (approx. USD 10,000), allowing to reach at least 840 dehkan farms.
- **Private farms** (USD 6.0 million) for the financing of investment capital (on-farm equipment, such as harvesters, feed choppers and mixers, manure separation, biogas lines, alternative energy sources, cow sheds renovation, milking equipment, cooling tanks, improved breeds etc.) and working capital. The loan size will be up to UZS 250 million (approx. USD 100,000), allowing to reach at least 60 private farms.
- **Dairy processors** (USD 9.0 million) for the financing of investment capital (modernization of processing equipment, new filling and packaging lines, cold chain, new products, etc.) and working capital. The loan size will be up to UZS one billion (approx. USD 250,000), allowing to reach up to 36 dairy processors.
- **Private Input suppliers and service providers** (USD 3.8 million) to borrow funds to establish/refurbish veterinary clinics, purchase veterinary equipment, drugs, artificial insemination equipment, establish forage production systems, etc. The loan size will be up to UZS 25 million) (USD 10,000) for private veterinarians and UZS 250 million (approx. USD 100,000) for irrigated forage production/other input supply. An estimated

60 private veterinarians and 33 forage producers/other input suppliers are expected to benefit from these loans.

47. Financial services will be delivered through the same PFIs approved for the HSP, provided that they continue meeting the eligibility requirements developed for the programme. These PFIs, which also manage the World Bank Horticulture Development Programme have undergone due diligence and selection by an independent international bank assessment consultant (See Appendix 4 for details).

D. Lessons learned and adherence to IFAD policies

Lessons learned

48. As the lending presence of IFAD in the country is recent, there is no first-hand implementation experience, beyond that related to the start-up of the HSP. Nevertheless, during the DVCDP field design mission, consultations with the main development partners in Uzbekistan, and a review of experiences from neighbouring countries, provided the following lessons to consider: (i) investment interventions are likely to be more successful in the areas where common ground and understanding of development paths exists between the financing institution and the government; (ii) the use of pilots, demonstration of practical farm-level results, and the dissemination of these outputs, are appropriate vehicles for the spread of potential sources of innovation/ productivity; (iii) identified beneficiaries should be incorporated into clusters and production/ processing value chains to reduce costs and to take advantage of group formation/ training, collective market links/ outlets, and economies of scale; (iv) commercial PFIs need to be supported in order to incentivise their expanded coverage/ outreach in rural areas, for which capacity building should not only focus on head office credit staff but also on field-level operational staff; and (v) there is a need to tackle the current limited programme implementation capacity and identify the proper structures and mechanisms to create these capacities. These initial lessons have been taken into account in the design of the DVCDP.

Alignment and harmonization

49. Seeking to avoid duplication of efforts, foster complementarities, while taking advantage of livestock and business-related best practices and technological innovation, the overall intervention strategy will be based on: (i) partnership building with the country's private, commercial sector, sectorial stakeholders; and local R&D institutions and universities, particularly for expanding technical assistance services and market channels; (ii) harmonization with initiatives from development partners present in the country, such as the Food and Agriculture Organization, the Asian Development Bank, the United Nations Development Programme, the World Bank and the German Agency for International Cooperation (GIZ). The latter has been involved in livestock subsector pilot initiatives on which the IFAD programme has drawn some lessons for this proposal while the World Bank is currently planning a new USD 150 million livestock development programme for Uzbekistanthe – the World Bank programme is likely to be national in scope and will address such issues as pasture land management, animal health and commodity chain development not included in DVCDP, there has been exchanges between the two design teams which discussed opportunities for synergies at implementation level; and (iii) overall adherence to the principles of the Paris Declaration on aid effectiveness. In practice, harmonization and sectorial coordination will be provided in the context of the proposed FPPC for country dialogue on private-public partnership.

Adherence to IFAD policies and guidelines

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

51. Accordingly, the Programme, which is based on key training, technical assistance, educational and technological development and dissemination activities and investments, will promote a gender-sensitive and enabling implementation environment through its farming and processing promotion 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 programme's activities. Land-related issues will be partially addressed through an initial focus on "diversification raion" where land allocation to private and dehkan farmers is occurring and through strengthened private-dehkan farmer relationships for fodder production; The FPPC will provide a fora for discussing IFAD and government policies.

Environmental and social safeguards

52. Dairy production intensification challenges environmental sustainability, as intensification of dairy farming raises methane production and increases the risk of nitrate pollution and land degradation through pasture grazing and soil cultivation for fodder production, including on sloping land. To address these issues the Programme would promote the "less animals, better animals" concept, while the technology innovation sub-programmes are expected to address environmental issues related to fodder production including pasture monitoring, management and reinforcement and manure management for nitrogen cycle control and potential additional on-farm income.

53. To address this and other possible environmental impacts, the Programme will formulate an Environmental and Social Management Plan that will comprise: adequate mitigation measures; climate-smart agriculture practices and adaptation to climate change activities; and the necessary compliance with IFAD environmental, social and climate change safeguard procedures whilst seeking a sustainable management of natural resources in the targeted regions.

54. **Environmental classification.** The programme is classified as a Category B operation. This rating results from the few, identified negative environmental impacts that are expected from the programme's field activities. Investments in improved forage production, climate smart agriculture/ livestock production and green, more energy efficient agribusinesses are expected to result in positive outcomes. The programme is expected to reduce pressure on natural resources by introducing more environmentally sound natural resource management practices and by diversifying livelihoods. These developments will also enhance the resilience of rural households to climate change and reduce their vulnerability to extreme weather events.

III. Programme implementation

A. Approach

55. The DVCDP seeks to improve the assets and incomes of dairy value chain stakeholders including dehkan and private farmers, dairy processing enterprises, input suppliers and service providers and the rural unemployed by modernising dairy production in terms of technical and managerial efficiency and effectiveness gains at key points of the dairy value chain, namely: (i) capacity development of value chain stakeholders, especially women stakeholders; (ii) innovative technology testing and development; (iii) establishing sustainable dairy value chain stakeholder fora; and (iv) technical and financial support to primary producers and small-scale market services and input supply entities. Programme support would be delivered in the context of a management approach that is targeted, demand-driven and participatory.

56. The DVCDP will be executed through a demand-driven approach in which the incentives to participate will be promoted by the Programme, providing the *pushing factor* while seeking the initiative and direct investment of private agroindustry entrepreneurs ─ the *pulling factor*. To this effect, the Programme explicitly incorporates the following actions:

- Facilitating 'small farmer-to-commercial farmer' and 'small farmer-to-agribusiness entrepreneur' (formal or informal) agreements for access to land, organised produce collection, technical mentoring, etc.;

- Fomenting the development/ consolidation of inclusive value chains (e.g., relevant to rural women as producers and commercial agents); supporting 'semi-commercial' farmers and processors; and providing the technical services required to formulate SIPs for access to the programme's financing lines;
- Supporting and utilising the channels of commercial PFIs while facilitating access to asset-building finance, i.e., most DVCDP loan funds will reach the intended beneficiaries through four financing windows, which together, include 60 per cent of total Programme costs;
- Supporting complete value chains (downstream and upstream linkages);
- Contributing to overall government's priorities and efforts to increase participation of private sector actors in economic and financial activity;
- Through the FPPC, encouraging and supporting country dialogue on private-public partnership, whilst: (i) seeking the open societal awareness that would support the establishment of a financial, social and economic environment conducive to private sector development; and (ii) espousing solutions to prioritized dairy industry development concerns from the "bottom of the pyramid" upwards;
- Establishing and supporting, both: (i) the 'brokerage' function, through an efficient DVCDP PMO (i.e., business technical adviser, rural finance programme coordinator, dairy value chain coordinator, et al); and (ii) a suitable M&E/Learning system that will follow-up on the key outcome-output performance indicators

B. Organizational framework

57. The MAWR will be the implementing agency for the Programme. Day-to-day oversight of the programme's management will rest with a PMO, operating under the auspices of the MAWM RRA, a state entity that has extensive experience in the implementation of programmes by other international development and financial institutions, and which is also responsible for the implementation and operational support to the IFAD-financed HSP. PITs will be established in both Kashkadarya and Jizzakh from PY1. Under similar arrangements to those of the HSP, overall management oversight will rest with a programme steering committee consisting of representatives from key ministries, regional authorities and other relevant stakeholder organizations.

Programme management

58. The Minister of Agriculture and Water Resources would be the *ex officio* Chairperson of a DVCDP **Programme Steering Committee** (PSC). Other members would include representatives of: the MoF, the Ministry of Economy (MoE), the Ministry of Foreign Economic Relations, Investments and Trade (MoFERIT; the Central Bank of Uzbekistan (CBU); the Women's Committee under the Deputy Prime Minister for Social Protection of the Family, Maternity and Childhood; the General Director of MAWR‟s RRA; representatives of the local government of the Programme area regions – Jizzakh and Kashkadarya − and representatives from other programme stakeholders, including Government agencies, organisations (public and private) and private dairy value chain stakeholders. It is recommended that private sector representatives form at least 40% of the PSC. The PSC membership may be amended depending on programme requirements, with the prior approval of IFAD. The DVCDP Programme Director (see below) would act as Secretary to the PSC. The PSC would meet every six months to: (i) at alternate meetings, review and approve the Programme's Annual Work Plans and Budgets (AWPBs) including related procurement plans; (ii) review progress and other monitoring and evaluation reports; and (v) advise and initiate action on matters arising relative to ensuring the efficient and effective implementation of the Programme in line with the provisions, terms and conditions of the Programme Financing Agreement

59. The Programme Management function, assigned to the PMO, will be founded on a consistent results-based management framework which will facilitate: effective execution of Programme activities; the monitoring of progress made; and the systematization of programme implementation experiences. Principal PMO activities comprise: the establishment, staffing and operation of the PMO;

accounting and financial administration; planning, monitoring and evaluation (M&E); socioeconomic and baseline studies (RIMS system); gender and legal advisory; and knowledge management. The PMO will also assume the role of implementation "broker".

60. The RRA/DVCDP PMO would be headed by a Programme Director and comprise in addition: a Chief Accountant; a Procurement Officer; a Dairy Value Chain Coordinator; a Rural Finance Programme Coordinator; a Monitoring and Evaluation Officer; a Gender specialist; an Administrative Assistant/Translator and a Driver. The DVCDP PMO will not have its own lawyer. The GDCDP PMO Gender specialist will support HSP implementation, while the HSP PMU (Programme Management Unit) lawyer will support DVCDP implementation.

61. The Programme Director (PD), who should have solid experience in working for a previous International Financial Institution (IFI)-supported Programme, would lead the PMO. The PD, as the Head of PMO, will work full-time for the Programme, and will have no additional responsibilities within any other government agency. The major responsibilities of the PD will be to ensure that the involved provinces, private service providers, PFIs, institutes and universities deliver activities in line with the Programme approach, operating schedules and procedures. The PD will be provided with adequate executive authorities and accountabilities through a Decision of the MAWM RRA. The PD will also act as Secretary of the PSC.

62. The key functions of the PMO would be: (i) programme planning; (ii) financial administration, including budgeting, procurement, accounting and disbursement; (iii) monitoring and evaluation; and (iv) providing, as appropriate, implementation support to the Programme's PITs, implementing partners and PFIs, programme-supported LEs and other entities active in the dairy value chain and, ultimately, to the Programme's primary target groups of dehkan and private dairy farmers.

63. Programme PITs will be established in Jizzakh and Kashkadarya provinces from PY1. The PIT would comprise: and a Dairy Processing Officer (PIT Coordinator), a Dairy Production Officer, a Value Chain Finance Officer and a Driver. The PITs will be responsible for day-to-day implementation in the field of all aspects of the Programme, with the exception of financial administration and procurement, which will be managed entirely by the relevant personnel of the RRA/DVCDP PMO at central level.

Implementation strategy

64. The PMO/PIT will coordinate the work of competitively selected private service providers and participating financial institutions (PFIs) who will interact with value chain actors on planning and financial matters. SIPs will be prepared by these private service providers working with value chain "gatekeepers" and other value chain actors. The programme design team assessed a number of potential private service providers and confirmed that sufficient capacity exists in the private sector for SIP preparation.

65. The Programme's implementation aims at achieving the following two outcomes, through their corresponding outputs: **Outcome 1.** ***Dairy Value Chain Capacity and Innovation Built*****;** ***and Outcome 2. Dairy Production and Processing Development Financed.***

Outcome 1. ***Dairy Value Chain Capacity and Innovation Built***

66. **Dairy Value Chain Stakeholder Capacity Built.** Under this output the Programme will seek to achieve increased technical and managerial capacity of: (i) dehkan and commercial private farmers, including young farmers, for enhanced, climate-smart and sustainable dairy production and productivity; (ii) dairy enterprise owners, managers and technicians in improved, diversified and more efficiently manufactured milk products; (iii) input suppliers and service providers, as will women's groups investing in milk collection and local processing, in strengthened business management and targeted technical skills; (iv) public health inspectors in milk and dairy premises hygiene and regulatory control; and PFIs in financial and risk management for dairy value chains.

67. The Mahalla will provide the institutional framework for male and female dekhan farmer group training, while agricultural colleges and institutes will be used to train private farmers, milk processors and dairy inspectors. PFI training will be delivered through the IFC financial services TA in Uzbekistan.

Appropriate training modules will be prepared by national experts, overseen by international advisors, drawing, wherever possible on existing nationally and regionally available training material. Where technical gaps occur, new training material will be developed. Formal training will be supported by regional study tours to expose trainees to best practices most relevant to local conditions (e.g., Iran, Kazakhstan), and experiential farm, factory and laboratory training where appropriate. Training programmes will be supported with training brochures, educational videos and television and radio programmes.

68. **Technology Innovation Tested.** FPPC members will prioritize dairy industry technology innovation needs, which will be translated into technology testing and development sub-programmes by the PMO/PITs, supported by nationally and internationally recruited DVCDP technical advisors. Dependent on the nature of the sub-programme, implementing agencies will be selected through competitive national bidding, or single sourced where there is only one relevant national institution e.g. forage varietal testing. The PMO will be responsible for sub-programme procurement and financial management, while PITs will oversee their field implementation.

69. **Forum for Private-Public Collaboration (FPPC) Operating Sustainably.** One or more private sector service providers will be competitively recruited to support the development of the FPPCs in Kashkadarya and Jizzakh provinces respectively and to manage the annual, national dairy value chain conference. A critical performance indicator for those private sector service providers will be the progressive transfer of FPPC's governance to its members, particularly national NGOs, Associations and Chambers (e.g. Farmer's Council, BWAU and CCI) that broadly represent the membership. By end-PY4 the FPPCs are expected to be self-governing.

70. **Outcome 1 management**. Value-chain capacity building and innovation activities will be executed under the umbrella of the PMO and PITs based in Tashkent and the Programme provinces respectively. A PMO-based Dairy Value Chain Coordinator will support PIT-based Dairy Production and Dairy Processing Officers who will coordinate capacity building and technology innovation initiatives. They will be supported by internationally recruited dairy production, dairy processing and gender development specialists and nationally recruited private and public technical specialists responsible for preparing training modules and ToT programme delivery. Trained trainers will deliver the dekhan farmer capacity building and HHMs programmes, Technical faculty and institute staff will train private farmers, milk processing stakeholders, input suppliers, service providers and dairy inspectors.

Outcome 2. Dairy Production and Processing Development Financed

71. **Dairy Value Chain Strategic Action Plans (SIP) Prepared**.The SIP analysis that underpins Programme value chain investment will be prepared by competitively selected local business development service providers Each SIP will include: (i) a value chain analysis including a detailed assessment of expected dehkan farmer participation and mechanisms for improved milk collection; (ii) an assessment of opportunities to upgrade; (iii) the identification of constraints to upgrading; and (iv) recommendations on what can be done practically and what instruments to use. The SIP will list the potential types of investments eligible for DVCDP support and each type of investment will be accompanied with a realistic business model/financial analysis. Associated value chain capacity building investments financed, e.g. technology innovation, training of farmers or milk enterprise staff/management, organizing farmers into groups, etc., would also be identified and financed directly by the DVCDP. The development of a SIP would not be a guarantee of DVCDP financing. SIPs would be ranked by the PMO against key programme indicators and only those SIPs meeting minimum DVCDP requirements would be used as a framework for inviting PFIs to finance all or part of the SIP private good investment. Criteria for ranking SIPs would include, inter alia, the number of dehkan and private farmers in the milk collection scheme; the scale and focus of LE investment including level of own capital contribution, the profitability of the proposed investments, the milk purchase price schedule, level of gender inclusion, decent job creation, the participation of input suppliers and service providers, and the potential for future upscaling (see Appendix 4, Annex 4 for a detailed description of the SIP process).

72. **Dairy Value Chain Investment Fund Profitably Disbursed.** Under this output the Programme will, with the support of competitively hired business development service providers, enable Lead Enterprise-driven integration of smallholders into the value chain by providing a set of incentives to value chain actors —beyond expectations of direct economic profitability— such as access to technology innovation and knowledge and targeted loans to agribusinesses entering into partnership with smallholders. The shift to a demand-driven economy offers Uzbekistan the opportunity to develop enhanced production systems of the rural farms by involving private enterprises as agribusiness drivers. This model, which has proven to be successful elsewhere, is being encouraged by the government's current sectorial policies. Under this approach, the proposed IFAD-financed programme aligns with the country's agricultural and livestock intensification and diversification agenda, while ensuring that the resulting agricultural/ livestock production growth is inclusive, market-driven and environmentally sensitive.

73. The programme will promote milk aggregation through investment in MCCs, with the modality of MCC ownership (LE owned, co-owned by processor and dehkan groups or entirely owned by dehkans, particularly women's groups) determined during the development of the SIP and associated bankable business plans. While groups of dehkans, e.g., civil society organisations; cooperatives- all bankable entities- will likely initially refrain from taking a loan for MCC development, they will have a better negotiation position if they own the collection centre.

74. To achieve the expected outcomes in rural financing, the programme will support the establishment of four (4) targeted financing windows through subsidiary agreements/ sub-lending to selected PFIs for: 1. dehkan farmers; 2. private commercial farmers; 3. agroprocessors; and 4. service providers and input suppliers. Both PFIs and targeted beneficiaries are expected to each contribute 20 per cent of the investment capital, which, for dehkan farmers can be contributed in-kind.

75. **Subordinate Documents.** Implementation arrangements for the outcome will be stipulated in a number of subordinate documents. The Programme budget makes provision for technical assistance in the drafting of these documents (budgeted under the DVCDP PMO). The documents will be subject to "no objection" by IFAD and are expected to include:

76. **A Subsidiary Loan Agreement** (SLA): To be signed between GoU, represented by Ministry of Finance, the MAWR/RRA DVCDP PMO, and PFIs describing the terms, conditions and procedures for PFIs participation on the programme; and Investment Guidelines: (forming an integral part of the Subsidiary Loan Agreement).

77. **Interest Rates**. PFIs will apply interest rates per their internal interest rate policies for similar types of loans. Interest rates on loans to end borrowers funded from the programme funds should be the same as those on loans with similar risk profiles within each PFI.

78. **PFI Failure to Disburse.** If a PFI is unable to disburse the refinancing funds available under the DVCDP Dairy Production and Processing Development Financed outcome to eligible clients for approved purposes, the MAWR/RRA DVCDP PMO as approved by MoF shall be entitled to reallocate such funds to other interested and eligible PFIs, which are able to make use of and disburse the funds. Furthermore, the MAWR/RRA DVCDP PMO shall be entitled to exclude a commercial bank from participation in the programme in any case where it has acted against and in conflict with the conditions and procedures stipulated in the SLA and the Investment Guidelines.

79. **Sub-borrower Eligibility Criteria.** Detailed eligibility criteria for sub-borrowers, terms and conditions for borrowing under the Dairy Production and Processing Development Financed outcome, and on-lending to sub-borrowers will be specified in the SLA. The set of guidelines to be established will form an integral part of SLAs and adherence to these eligibility criteria will be monitored throughout programme implementation.

80. **Sub-Borrower Loan Approval.** Loan applications under the four financing windows will be evaluated by the credit committees of the respective PFIs (commercial banks). If approved by them, the application will be forwarded to the Value Chain Finance Programme Officer in the Programme's

PIT accompanied by all required details for approval. Subject to the Officer's review, applications will be sent on to the Rural Finance Programme Coordinator in the RRA DVCDP PMO for final review and approval. It is to be noted that applications for refinancing of loans exceeding USD 250 000 will require a "no objection" from IFAD. After approval by RRA and, for applications exceeding USD 250 000 also by IFAD, the required refinancing may be executed and released by the respective commercial bank.

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

Planning, M&E and learning

81. The Programme's Logical Framework would form the basis for the overall results-based monitoring and evaluation (M&E) system and comprise performance monitoring and impact assessment. The DVCDP PMO Monitoring and Evaluation Officer would have lead responsibility for all internal M&E of the Programme.

82. **Performance monitoring** will concentrate on the financial and physical outputs and the outcomes of Programme activities and be based upon semi-annual and annual progress reports. The RRA/DVCDP PMO would submit progress reports in English to Government (MAWR and MoF via the PSC) and IFAD.

83. **Impact assessment** will be a function of concurrent Participatory Impact Monitoring (PIM) and evaluation based on quantitative repeater surveys combined with interviews to capture qualitative aspects.

84. Provision has been made for appropriate international and/or national TA to assist the RRA/DVCDP PMO, principally the M&E Monitoring and Evaluation Officer and the Gender Equality and Social Inclusion Officer, with both the initial design of the progress reporting and participatory impact assessment and evaluation systems and follow-up M&E.

85. A set of indicators, include IFAD Results and Impact Management System (RIMS) 1st and 2nd level indicators, have been provided in the Programme's Logical Framework. In line with RIMS, two anchor indicators are identified for assessing the impact of the Programme: household asset ownership and child malnutrition. Data sources for these two main indicators will probably include: (i) the State Committee on Statistics; (ii) the Centre for Economic Research; (ii) the Ministry of Health; and (iii) the Programme M&E database.

86. The indicators will shape the Programme's Baseline Survey. The objective of the baseline survey will be to establish benchmarks for time-series comparisons between Programme beneficiaries and non-beneficiary "control" populations. The DVCDP M&E Officer would thereafter carry out repeater surveys. Survey data would be mutually supplemented as appropriate through regular exchange with Government's State Committee on Statistics, and World Bank-supported Living Standards Measurement Surveys (LSMS). All M&E data will be disaggregated by sex and assessed relative to the Programme's targeting and gender checklists (see Appendix 2).

87. A **Mid-Term Review** (MTR) would be carried out towards the end of the Programme's third year. The MTR would cover, among other things: (i) physical and financial progress as measured against Programme Annual Work Plans and Budgets (AWPBs); (ii) performance and financial management of PFIs and non-financial implementing partners, e.g. private sector service providers, institutes and universities; and (iii) an assessment of the efficacy of technical assistance, training programmes and Programme-supported rural finance and of their delivery of Programme benefits to the Programme's target group of LEs, dehkan and private farmers, input suppliers and service providers and rural unemployed. In addition, it is expected that the Review would look at the effectiveness and sustainability of the FPPC; the provision of rural finance; the socio-economic status of less advantaged rural women and men; and environmental impact. Review findings on implementation progress would inform decision-making, as appropriate, on adjustments to the content, financing and targeting of the Programme's components. The findings and recommendations

of the MTR would feed into any subsequent scaling up analysis and any further expansion of Programme modalities in support of modernisation of Uzbekistan's dairy sector.

88. **Thematic studies**: The PMO M&E Officer would contract or carry out thematic impact studies that will look at the impact of activities under Programme Outcomes. Such impact assessment would include an analysis of the effectiveness of: partnerships between LEs and dehkan and private farmers; the rate of adoption of technology innovation; stakeholder perspectives of FDDC effectiveness; or specific studies of dairy product markets. The topics for these thematic studies will be identified in consultation with relevant MAWM departments during Programme implementation.

89. Progress reports, concurrent participatory impact monitoring and evaluation, Participatory (Rapid) Rural Appraisals (PRAs) and the findings of ad hoc special studies would be compiled by the PMO M&E Officer into Annual Programme Performance Reports. Data sources for the annual performance reports will include: Programme baseline survey; semi-annual physical and financial progress reports for each component; PFI records and Programme-related reports including borrowers "business plans; the M&E Officers" qualitative interviews and case studies with targeted beneficiaries; and reports by DVCDP PMO staff and technical advisors on challenges and Programme facilitation strategies for their respective component implementation responsibilities. Annual Programme Performance Reports would feed into Annual Stakeholder Review and Planning Workshops, feedback from which will be factored into the Programme AWPB for the succeeding year, thus closing a circle of participatory, demand-driven planning and implementation.

90. During the final year of Programme implementation, as part of the preparation of the IFAD-required **Programme Completion Report/Impact Assessment** (PCR/IA), the M&E data collected over the Programme implementation period will be used as part of a thorough assessment of Programme achievements, in terms particularly of changes in the livelihoods of beneficiaries that relate to the implemented Programme activities, and the sharing of lessons learned and development experience. The Programme completion process will include stakeholder workshop(s) to give Programme stakeholders the opportunity to: (i) evaluate the performance of the Programme; (ii) promote accountability; and (iii) identify factors and re responsibilities to increase the likelihood of sustainability, together with key success factors and shortcomings.

91. In addition to the M&E arrangements described above, Programme external monitoring will comprise: IFAD supervision, including operational reviews of the Programme, covering a random sample of Programme activities, to be carried out in Programme Years (PYs) 2 and 4 by independent auditors and under Terms of Reference acceptable to IFAD and also risk-based financial management supervisions (see Appendix 7 for further details); ad hoc thematic/diagnostic studies; yearly audits; and a self-assessment Programme Completion Evaluation conducted by the RRA/DVCDP PMO in cooperation with IFAD.

Learning and Knowledge Management

92. The DVCDP is centred on improving the productivity and efficiency the dairy sector in Jizzakh and Kashkadarya provinces in a manner that particularly improves the welfare of dehkan farmers and the rural unemployed by supporting key links in the dairy value chain, specifically: increasing efficiency and production diversifying amongst leading milk processors, improving milk collection and quality, raising dehkan and private farmer production and productivity, expanding the capacity of input suppliers and service providers to meet value chain demands and strengthening the capacity of scientific and academic institutions to provide needs-based technology solutions to the sector.

93. To assure capture of experience gained (learning), comprehensive provision has been made for M&E of Programme activities and for a participatory approach to the operation of the Programmes proposed Management Information System (MIS). The FPPC is expected to play a major role in consolidating Programme learning.

94. With regard to knowledge management, the PMO would be responsible for jointly developing a Communication Strategy for the Programme and, thereafter, documenting the technical content

(outputs) of Programme activities and the institutional arrangements for their delivery. Provision has been made under the Programme's budget for: media production; the development, printing and dissemination of training materials for dairy modernisation; and setting up a Programme web page. Towards the end of the Programme PMO staff, beneficiary representatives and representatives of PFIs and non-financial implementing partners (e.g. Institute and Universities) would review the incremental documentation with the objective of up-dating and expanding formalised technical extension media and producing an associated Management Handbook for milk production and processing. These would be made available in "hard" and electronic formats and disseminated among Programme stakeholders and fed into the publication systems of organisations with an interest in the development of the dairy industry.

D. Financial management, procurement and governance

95. The RRA/DVCDP PMO Chief Accountant, in close collaboration with the RRA/DVCDP PMO Procurement Officer, would be responsible for overall Programme financial management. The RRA General Director would have oversight responsibility for the Programme's financial management and for ensuring compliance with established procedures to guard against breach of these procedures.

96. **Accounts.** The RRA on behalf of the Borrower would open and maintain a Designated Account in USD in a commercial bank acceptable to IFAD. The RRA/DVCDP PMO Programme Director would be authorised to operate this Account in order to make disbursements. Once the Designated Account has been opened and upon the Borrower's request, the Fund shall make one (or more) withdrawal(s) of up to USD 2.0 million in the aggregate (equivalent to the requirements for the first six months of implementation, the Authorised Allocation). Thereafter, payments into the Designated Account would be made on the basis of Annual Work Plans and Budgets for the Programme, acceptable to IFAD. The RRA/DVCDP PMO would also open three accounts in Uzbekistan Som (UZS) in one or more commercial banks acceptable to IFAD. These three accounts would be: (i) a Programme Operating Account to allow the RRA/DVCDP PMO to make disbursements in UZS as allowed by the Programme Financing Agreement; (ii) a Counterpart Account to receive contributions to the Programme from GoU; and (iii) a Rural Finance Reflow account as the basis for a revolving fund under the Rural Finance component.

97. **Flow of** Funds. A chart of the anticipated flow of funds under the Programme is provided in Appendix 7, Annex 1.

98. **Financial Statements**. The RRA/DVCDP PMO Chief Accountant would prepare financial statements of the operations, resources and expenditures as required by IFAD's General Conditions on Financial Statements in respect to each six-month period during each Fiscal Year and deliver such financial statements to the Fund within two months after the end of each such period.

99. **Internal Control and Internal Audit**. The RRA has a manual of financial procedures and internal control mechanisms to be followed with respect to Programmes for which the agency has overall implementation responsibility. As a public sector entity, internal audit of the RRA takes the form of regular inspections by the State's Control and Revision Unit (CRU), however, this internal audit procedure is more forensic and does not provide the kind of operational control reviews needed for this DVCDP. As such, the Programme will contract a qualified private sector internal auditor for the first three programme years, after which an internal auditor will be appointed to the RRA/DVCDP PMO..

100. **External Audit**. The Borrower (i.e. the GoU), through the RRA, shall appoint independent auditors acceptable to IFAD, under terms of reference cleared by IFAD, and in line with the current IFAD Guidelines for Audit. The auditors would give a separate opinion on each Programme account with respect to the funding mechanism, the use of Programme resources, the adherence to procurement rules, and the accountability of Programme participants. The auditors would also provide a "Management Letter" addressing the adequacy of the accounting and internal control systems. The Borrower, through the RRA, would submit the above-mentioned certified items to IFAD not later than six months after the end of the fiscal year to which they relate. The Borrower, through the RRA, shall submit to the Fund the reply to the management letter of the auditors within one (1) month of receipt thereof.

101. **Procurement**. Uzbekistan currently has no comprehensive public procurement law based on international models or practice. The country procurement system is accordingly assessed as non-consistent with the IFAD Procurement Guidelines adopted by the Executive Board of IFAD in September 2010. However, an assessment by the World Bank of the Rural Restructuring Agency (RRA), based on its performance under previous Programmes financed by the Bank and the Asian Development Bank, determined that the RRA has adequate procurement capacity in terms of qualified staff and established procedures to undertake procurement of goods and services on a competitive basis. An assessment of the RRA using the IFAD tool for Assessment of Agency Capacity to

Implement Procurement was undertaken at final HSP design. It found RRA practices to be consistent with current IFAD Procurement Guidelines (see Annex 8). At the same time, it is anticipated that procurement of goods and services financed by the IFAD Loan and Grant for the HSP will be required to be in accordance with relevant provisions of Section III and the Annex of IFAD"s Programme Procurement Guidelines (2010) and IFAD's Procurement Handbook (2010) and shall be carried out by the RRA. The General Director of RRA shall be delegated the authority to initiate procurement and to sign contracts. Further details are provided in Appendix 8.

102. **Governance**. DVCDP design incorporates a number of measures to assure good governance as indicated by democratic accountability, transparency of financial management, gender equitability and mechanisms for complaints and remedies. These include: (i) the terms and conditions of Subsidiary Loan Agreements with PFIs; (ii) consistent stakeholder representation, through the FPPC, in the Programme's planning, monitoring, evaluation and impact assessment cycle, affording mechanisms for complaints and remedies; (iii) quotas for women beneficiaries; (iv) application of guidelines and procedures for procurement consistent with current IFAD Procurement Guidelines; (v) application of initially low procurement thresholds; (vi) intensive direct supervision by IFAD including risk-based financial management supervision and Operational Reviews (see Section E below); and (vii) provision for regular external audit.

E. Supervision

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

F. Risk identification and mitigation

104. Key programme implementation **assumptions** are that the country's economy maintains its stability, and that consistency is established between the stated government policies/ and rural economic reforms aiming at dehkan farmers, private sector development and the livestock sector *vis-à-vis* the actual implementation of these policies and reforms. Making the latter assumption to hold will require that commitment is maintained on the part of the Government, for which IFAD will continue its country dialogue and sustained study of the impact of government policies and programmes at IFAD target group level.

Value chain risks and mitigation

105. **Programme participation.** A main programme implementation risk relate to the potential lack of incentives on the part of the various value chain actors and beneficiaries —dehkan and commercial private farmers and agroindustry entrepreneurs— to participate in the programme's activities and financing. Mitigating measures include an in-depth, participatory analysis of production/ business opportunities, input and other constraints, and actual financial risks, based on formulated bankable business plans. Mitigation in this regard also involves a widespread informational campaign on the programme's objectives/scope and initial support to farmer group formation at *Mahalla* level. Regarding macro and institutional constraints, these will be addressed in the context of Programme of work formulation and through the early establishment of the FPPC.

106. **Market response**. The risk also exists of the inability of smallholder farmers to respond promptly to market demands, required investments and product quality requirements. This will be mitigated by the contemplated farmer-to-farmer and farmer-to-processor partnerships by which

dehkan farmers associate themselves with LEs. In this context, the lack of capacities of dehkan farmers to negotiate fair deals with private investors will be addressed by targeted support towards an enhanced governance of formal and informal contracts, e.g., in the operation of MCCs.

107. **Market prospects**. All value chains face market and commercial risks such as price fluctuations and competition from imports and from competing value chains. In the case of milk, market analysis indicate that there is growing demand in the domestic market, strongly linked to economic and population growth. Any risk of limited demand of the programme's supported enterprises will be mitigated by the specialised training/ technical support that the producers, aggregators and processors will receive on product positioning (price, quality, timing, etc.); and product diversification.

108. **Contracts**. The risk exists that contractual obligations, e.g., for milk delivery to MCCs, will not be fully observed and that informal/ formal contracts will break down. For instance, a group of farmers supplying milk to MCCs may prefer to sell milk, occasionally, to other buyers seeking a higher price and thus breaching the contract with the processor. Likewise, a processor may prefer to buy milk, occasionally, from other suppliers at a lower price. Remedial measures will include the establishment of proper contracts, training on business management, and regular monitoring by the Programme's management.

109. **Power supply**. A key cause of the inability of processors to buy more milk from MCCs is the risk of spoilage that is a consequence of unstable electricity supply impacting the cold chain in Uzbekistan's rural areas. The same constraint applies to retail outlets who tend to opt for UHT milk or small procurement quantities, which limit local processors' sales. This risk will be minimised by raising this issue with the government and the promotion of alternative power supplies.

Rural finance risks

110. **Interference.** The potential risk of political interference in the selection of PFIs and their actual operations will be addressed by close Programme monitoring of rural finance implementation.

111. **Interest rates.** Government intervention to establish (explicit or implicit) interest rate caps on loans to be **awarded** to end-users beneficiaries is a potential risk. This threat is difficult to mitigate as most microcredit and agricultural credit programs are subsidized in Uzbekistan. IFAD will ensure that the SLAs are based on the principles outlined in the DVCDP design and do not contain provisions limiting PFIs interest rates.

112. **Low PFI skills** and capacity in agricultural lending and value chain finance. This risk will be addressed by the provision of relevant capacity building services to PFIs by a qualified provider (e.g. IFC which has a specialized advisory capacity both in value chain finance and agriculture).

IV. Programme costs, financing, benefits and sustainability

A. Programme costs

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

a. The Programme costs are based on March 2015 prices.

b. The proposed Programme will be financed over a six-year period.

c. Inflation. The Economist Intelligence Units (EIU) estimates for the consumer price inflation are just under 12% in 2014, and an average of 10.3% in 2015-19, GoU estimates are between 7 per cent and 9 per cent. A rate of 10 per cent has set as a base for the analysis for the Programme costs over the period 2016-2021.

d. Exchange Rate. The Base Exchange rate for this analysis has been set at UZS 2,500 to USD 1 as an official exchange rate prevailing in March 2015 (rounded).

e. The Programme costs are presented in both UZS and USD. Conversions from current USD values into Som use constant purchasing power exchange rates:

f. Taxes and Duties. There is value added tax (VAT) of 20 per cent levied on all imported and locally procured goods and services. Vehicles have a tax of up to 25 per cent depending on an engine power. International technical assistance does not carry any taxes. For directly recruited local staff the Programme will cover the social insurance charges of 25 per cent.

g. The Government will finance PMO recurrent costs and the cost of all taxes on goods and services procured under the Programme.

114. The total investment and incremental recurrent Programme costs, including physical and price contingencies, as detailed in Table 1, are estimated at about USD38.7 million (UZS 101.3 billion). Physical and price contingencies make up about 1% of the total Programme costs. The foreign exchange component is estimated at USD 21.2 million or about 55 per cent of the total Programme costs. Taxes and duties make up approximately USD 0.21 million (0.6%). Funds allocated to the Programme Management are about 7.5 per cent of the total Programme costs.

Table 1: Programme Costs by Outcome

	IFAD Grant		*IFAD Loan*		*GOU*		*PFI*		*Ben*		*Total*	
	Amount	*%*	*Amount*	*%*	*Amount*	*%*	*Amount*	*%*	*Amount*	*%*	*Amount*	*%*
A. Dairy Value Chain Capacity and Innovation Built												
1. Dairy Value Chain Capacity and Innovation Built	-	-	3 423.6	96.2	0.0	-	133.7	3.8	-	-	3 557.3	9.2
2. Technology Innovation Tested	-	-	3 600.0	100.0	0.0	-	-	-	-	-	3 600.0	9.3
3. Forum for Private-Public Collaboration Sustainably Operational	699.3	98.3	-	-	11.8	1.7	-	-	-	-	711.1	1.8
Subtotal Dairy Value Chain Capacity and Innovation Built	699.3	8.9	7 023.6	89.3	11.8	0.2	133.7	1.7	-	-	7 868.4	20.3
B. Dairy Production and Processing Development Financed												
1. Dairy Value Chain Strategic Investment Plans Prepared	-	-	733.7	100.0	0.0	-	-	-	-	-	733.7	1.9
2. Dairy Value Chains Investment Fund Profitably Disbursed	-	-	15 720.0	57.8	-	-	5 440.0	20.0	6 040.0	22.2	27 200.0	70.3
Subtotal Dairy Production and Processing Development Financed	-	-	16 453.7	58.9	0.0	-	5 440.0	19.5	6 040.0	21.6	27 933.7	72.2
C. Programme Management	-	-	423.0	14.6	2 471.6	85.4	-	-	-	-	2 894.6	7.5
	699.3	1.8	23 900.3	61.8	2 483.4	6.4	5 573.7	14.4	6 040.0	15.6	38 696.7	100.0

B. Programme financing

115. An IFAD Loan of USD 23.9 million (63.4% of the total Programme costs) will finance 89 per cent of the Dairy Value Chain Capacity and Innovation Built Outcome (USD 7.02 million) and 61 per cent of the Dairy Production and Processing Development Financed Outcome (USD 16.45 million) and 414.6 per cent of the Programme Coordination Outcome (USD 0.42 million). An IFAD grant of USD 0.7 million will cover the full cost of the FPPC.

116. Beneficiaries will contribute approximately USD 5.24 million (13.9%) as co-financing of the rural finance investments (at least 20% contribution). PFIs will contribute approximately USD 5.37 million of the rural finance investments (20% contribution).

117. The Government contribution will cover all taxes and duties on all Programme inputs that involve funding from the IFAD Loan/Grant (USD 0.2 million). In addition, the Government is expected to contribute from its budget about USD 2.47 million to cover PMO salary and operating costs.

118. Table 2 provides a summary by the Programme financing plan by outcomes. Table 3 shows the financing plan by expenditure categories.

Table 2: Financing Plan by Outcome and Output (USD'000)

	IFAD Grant		IFAD Loan		GOU		PFI		Beneficiaries		Total			Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	For. Exch.	Taxes)	Taxes
A. Equipment and Goods	59.0	50.2	37.4	31.8	21.2	18.0	-	-	-	-	117.6	0.3	49.3	47.1	21.2
B. Vehicles	-	-	121.3	75.0	40.4	25.0	-	-	-	-	161.8	0.4	89.0	32.4	40.4
C. Technical Assistance	328.8	22.7	1,121.1	77.3	-	-	-	-	-	-	1,449.9	3.7	386.3	1,063.6	-
D. Training	311.5	8.3	3,300.4	88.1	0.0	-	133.7	3.6	-	-	3,745.7	9.7	1,123.7	2,622.0	-
E. Demand-driven Technology Development	-	-	3,600.0	100.0	0.0	-	-	-	-	-	3,600.0	9.3	2,520.0	1,080.0	-
F. Dairy Value Chains Financing															
1. Dekhan Farmer Finance	-	-	5,040.0	60.0	-	-	1,680.0	20.0	1,680.0	20.0	8,400.0	21.7	3,360.0	5,040.0	-
2. Private Farmer Finance	-	-	3,000.0	50.0	-	-	1,200.0	20.0	1,800.0	30.0	6,000.0	15.5	4,800.0	1,200.0	-
3. Private Service and Input Supplier Finance	-	-	2,280.0	60.0	-	-	760.0	20.0	760.0	20.0	3,800.0	9.8	1,520.0	2,280.0	-
4. Dairy Processor Finance	-	-	5,400.0	60.0	-	-	1,800.0	20.0	1,800.0	20.0	9,000.0	23.3	7,200.0	1,800.0	-
Subtotal Dairy Value Chains Financing	-	-	15,720.0	57.8	-	-	5,440.0	20.0	6,040.0	22.2	27,200.0	70.3	16,880.0	10,320.0	-
G. Salaries	-	-	-	-	1,505.6	100.0	-	-	-	-	1,505.6	3.9	-	1,505.6	-
H. Recurrent Costs	-	-	-	-	916.2	100.0	-	-	-	-	916.2	2.4	190.1	573.4	152.7
Total PROJECT COSTS	699.3	1.8	23,900.3	61.8	2,483.4	6.4	5,573.7	14.4	6,040.0	15.6	38,696.7	100.0	21,238.4	17,244.0	214.3

Table 3: Financing Plan by Expenditure Accounts (USD '000)

	IFAD Grant		IFAD Loan		GOU		PFI		Beneficiaries		Total			Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	For. Exch.	Taxes)	Taxes
I. Investment Costs															
A. Equipment and goods	59.0	50.2	37.4	31.8	21.2	18.0	-	-	-	-	117.6	0.3	49.3	47.1	21.2
B. Vehicles	-	-	121.3	75.0	40.4	25.0	-	-	-	-	161.8	0.4	89.0	32.4	40.4
C. Technical Assistance															
International Technical Assistance	-	-	386.3	100.0	-	-	-	-	-	-	386.3	1.0	386.3	-	-
National Technical Assistance	328.8	30.9	734.8	69.1	-	-	-	-	-	-	1,063.6	2.7	-	1,063.6	-
Subtotal Technical Assistance	328.8	22.7	1,121.1	77.3	-	-	-	-	-	-	1,449.9	3.7	386.3	1,063.6	-
D. Training	311.5	8.3	3,300.4	88.1	0.0	-	133.7	3.6	-	-	3,745.7	9.7	1,123.7	2,622.0	-
E. Demand-driven Technology Development	-	-	3,600.0	100.0	0.0	-	-	-	-	-	3,600.0	9.3	2,520.0	1,080.0	-
F. Dairy Value Chains Financing															
1. Dekhan Farmer Finance	-	-	5,040.0	60.0	-	-	1,680.0	20.0	1,680.0	20.0	8,400.0	21.7	3,360.0	5,040.0	-
2. Private Farmer Finance	-	-	3,000.0	50.0	-	-	1,200.0	20.0	1,800.0	30.0	6,000.0	15.5	4,800.0	1,200.0	-
3. Service Provider and Input Supplier Finance	-	-	2,280.0	60.0	-	-	760.0	20.0	760.0	20.0	3,800.0	9.8	1,520.0	2,280.0	-
4. Dairy Processor Finance	-	-	5,400.0	60.0	-	-	1,800.0	20.0	1,800.0	20.0	9,000.0	23.3	7,200.0	1,800.0	-
Subtotal Dairy Value Chains Financing	-	-	15,720.0	57.8	-	-	5,440.0	20.0	6,040.0	22.2	27,200.0	70.3	16,880.0	10,320.0	-
Total Investment Costs	699.3	1.9	23,900.3	65.9	61.6	0.2	5,573.7	15.4	6,040.0	16.7	36,274.9	93.7	21,048.3	15,165.0	61.6
II. Recurrent Costs															
A. Salaries /a	-	-	-	-	1,505.6	100.0	-	-	-	-	1,505.6	3.9	-	1,505.6	-
B. Operation and Maintenance	-	-	-	-	297.6	100.0	-	-	-	-	297.6	0.8	148.8	99.2	49.6
C. Other Operating Costs	-	-	-	-	618.6	100.0	-	-	-	-	618.6	1.6	41.3	474.2	103.1
Total Recurrent Costs	-	-	-	-	2,421.8	100.0	-	-	-	-	2,421.8	6.3	190.1	2,079.0	152.7
Total PROJECT COSTS	699.3	1.8	23,900.3	61.8	2,483.4	6.4	5,573.7	14.4	6,040.0	15.6	38,696.7	100.0	21,238.4	17,244.0	214.3

C. Summary benefits and economic analysis

Expected results and benefits

119. The Programme's focus on sustainable milk production of dehkan and private farmers, together with the improvement of local milk processing enterprises and supporting input suppliers and service providers, is expected to lead to the transformation of existing low productive activities (dairy production and processing) into competitive and financially-viable businesses with access to technology, markets, investment resources, and technical assistance. Since most programme financing will reach the beneficiaries, directly, through the four dedicated financing windows and targeted technical capacity building and technology development, the benefits accruing to these primary target groups will be reflected in physical productive assets and built knowledge capacities.

120. **Programme results.** Expected results include: increased farm-level milk production/ productivity; higher quantity and quality of milk input to processing and consumption; reduced milk losses during storage and transportation; flatter seasonal supply and more stable prices to producers and produce collectors; enhanced overall processing quality and efficiency; greater product diversification; and increased commercialisation of the sector providing expanded employment and increased incomes among the beneficiaries. These results also include the enhanced social and economic leverage of rural women in their communities while preventing migration of young people to towns and regional countries. At farm and processing unit/ enterprise levels, dedicated financial business plans and technical assistance will support the expected financial and economic returns.

121. **Benefits mechanisms.** The proposed support to the establishment of "dehkan farmer/private farmer-agroprocessor" partnerships are expected to reduce the bottleneck of the limited access to forage among dehkans, hence achieving higher productivity; and to expand the organized collection of raw milk thus enabling dehkan farmers to enter into structured local markets, thus benefiting from higher milk prices. Similarly, along with the financing lines and dedicated technical assistance, agro-business entrepreneurs will also benefit from the lower transaction costs (shorter supply chain, lower transport cost) and stable raw material base as the programme will work with dehkan and private farmers on better milk quality, higher yields and flatter inter-seasonal supply.

122. **Household impact.** From food security, economic inclusiveness and risk mitigation perspectives, the increased volumes, more reliable and higher-quality milk production will reduce the dilemma now faced by smaller/ poorer dehkan farmers of: either selling a quantity of the daily yield for cash or consuming it at household level. The programme will facilitate the security of both: increased year-round cash income and stable family consumption. In addition to supporting women dehkan farmers and cattle managers in milk production, the Programme will also move them further up the value chain by engaging them in processing, management, marketing, and ownership. DVCDP will also support women's empowerment at household level by improving intra-household gender relations through transformation in household dynamics.

Beneficiaries

123. The programme is expected to reach approximately 12,000 households, with various and complementary activities and investments. This includes: (1) an estimated 9,000 members of household-farms that will participate in the more than 30 programme-supported MCCs, and in training and technical advice on animal health, feeding and welfare, and milk hygiene and handling, and who will be exposed to the DVCDP-disseminated technology innovations. This number of users-beneficiaries will be reached, in incremental groups, throughout the programme's investment cycle (PY6); and (11) an estimated 9,000 dehkan farms that will have access to improved animal health and input supply services, including improved access to quality forages, with significant incremental impact by the end of the investment cycle (PY6). This latter is a very cost-effective, on-demand, and affordable manner to address the needs of smallholders. These two types of users-beneficiaries are expected to overlap.

124. The total estimated 12,000 household beneficiaries also comprise 880 direct (farming/ processing) beneficiaries of the financing windows, composed of: (i) at least 700 dehkan farmers (inclusive of an estimated 200 women heads of dehkan farms); (ii) at least 60 private commercial farmers; (iii) at least 60 private veterinarians and more than 30 other service providers and input suppliers; (iv) about 30 agroindustry entrepreneurs who will seek to modernise existing milk processing facilities or create new enterprises. As a result of these expanded investments, approximately 1,000 full-time jobs (equivalent) will be created in farming/ processing activities.

125. Similarly, as part of the total number of direct beneficiaries: (i) up to 30 post-graduate students will receive scholarships and educational support through their engagement in the technology testing and demonstration programme; (ii) bout 20 university teachers and 20 institute scientists will participate in in thematic research and associated study tours; (iii) at least 150 stakeholders will be involved in specific study tours; and (iv) at least 60 private veterinarians will benefit from the programme's continuous education/ professionalization activities as well as from targeted financing for private veterinary practice consolidation.

126. In line with the Programme's targeting, gender and governance strategy, the Programme will ensure that rural women and young people participate, directly, and take advantage of its farm/ processing support activities, financing windows and other support investments.

Economic benefits

127. The programme is expected to lead to increased incomes for dehkan and private commercial farmers; as well as to significant returns to household and agroindustry entrepreneurs. Benefits would accrue from: (i) increased fodder crop yields and livestock productivity due to the application of improved inputs/ technology and enhanced husbandry; (ii) an increased proportion of marketed farm produce; (iii) reduced losses during production, processing and transportation of milk; (iv) improved quality of products, thus attracting higher prices as a result of the demand by processors for more reliable inputs; (v) enhanced access to longer-term credit; (vi) increased employment, either for hired or family labour, applied to both on-farm and off-farm activities; and (vii) tax revenues as a result of higher profitability at all levels of dairy value chains.

Economic analysis

128. A comprehensive set of financial analyses of the programme's investment activities have been undertaken, including the preparation of four (4) farm and two (2) agro-enterprise models along dairy value chains. The financial analysis presents typical dairy sub-sector farm and enterprise models, which, in turn, compose a representative model of a milk production/collection/ processing value chain.

129. The main result of the financial analysis include: (i) a significant increase in gross and net returns from each model when compared to the without programme situation; and (ii) substantial benefit/cost ratios illustrating the financial worth of the investments. The net present values (NPV) range from USD 3,350 to USD 307,254, while the internal rates of return (IRRs) range from 20 per cent to more than 92 per cent. These results are robust and highly comparable to those estimated for similar operations in neighbouring Tajikistan, Kyrgyzstan and South Kazakhstan.

130. **Value chain model.** An indicative dairy production/ processing value chain prototype was modelled, involving farming/ processing inputs, labour (family and hired) and overall incremental investments, in the context of the programme-promoted asset-building investments (PFIs loans). About two-third of the overall incremental benefits would flow to the smallholder farmers, and the share of their marketed produce would grow by at least 50%. A key result of the improved animal breeding/ feeding activities is that milk yields will increase by at least 25 per cent, representing potential additional milk supply to MCCs/processors and overall aggregate production. It is also estimated that, at investment completion, the programme will annually generate around USD 0.75 million of additional government's fiscal revenue from incremental taxable production.

Economic justification

131. The economic analysis of the overall DVCDP Programme indicates that the gains of the total investments, under the programme, are significant and robust in economic terms. The analysis results in an internal **economic rate of return (IERR) of 18 per cent** and a NPV of USD 24 million taken over 20 years with the benefit stream based on the quantifiable benefits that relate directly to the activities undertaken by the Programme.

132. **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 below. A fall in total programme benefits by 20% and an increase in total programme costs by the same proportion would reduce the base IRR to about 12%.

133. The switching value for total programme benefits is about 47%; while for programme costs it is approximately 88%. A one-year delay in programme benefits reduces the IRR to 16%. With a two-year delay in programme benefits, the IRR falls to approximately 13%.

D. Sustainability

134. The sustainability of the Programme's results —to be achieved through an effective implementation of the outlined activities and investments—, is based on: (i) the capacity building activities having an expected perennial impact on the formation of social and human capital among the identified target groups. This includes: farmer-group formation at *mahalla* level, the development of entrepreneurial capacities among the target groups and the enhanced operational capacity of private veterinarians, other service providers and input suppliers, and financial service providers. This human and social capital development represents a tangible outcome and impact of programme investments; (ii) the self-targeting, demand-driven nature of the intervention; and (iii) the anticipated on-going investment in viable agribusinesses and consolidated dairy value chains through the facilitation of financial access. Viable, competitive private enterprises created through the Programme can be expected to succeed and expand.

Exit strategy

135. The programme's sustainability is also based on: an "exit" strategy that comprises: (i) ensuring ownership by beneficiaries of the initiatives funded during the investment cycle; (ii) the consolidation of innovative, needs-based technology testing and demonstration activities and a professional system of private veterinary service providers in the Programme area; (iii) increased association and partnership along the value chain and sustainable establishment of the FPPC; (iv) limited programme's (operational, staff, and recurrent) costs; and (v) the establishment of a revolving fund that will be used towards further sub-lending to PFIs once the initial programme funding has been utilised. In sum, the dairy sub-sector will become more competitive in local, domestic and, potentially, export markets and thus a vehicle for sustained economic growth, beyond the DVDCP investment cycle, particularly among dehkan farmers and dairy processors and market service providers.

Scaling-up

136. The Programme represents a pilot dairy value chains and technology development investment in two provinces of Uzbekistan. Experience/ lessons learned through programme implementation will facilitate scaling up/ replicated —in its opportunity—, in other parts of Uzbekistan, such as the adjacent region of Surkhandarya. The Programme also offers potential for scaling up and synergies in relation to subsequent donor programmes.

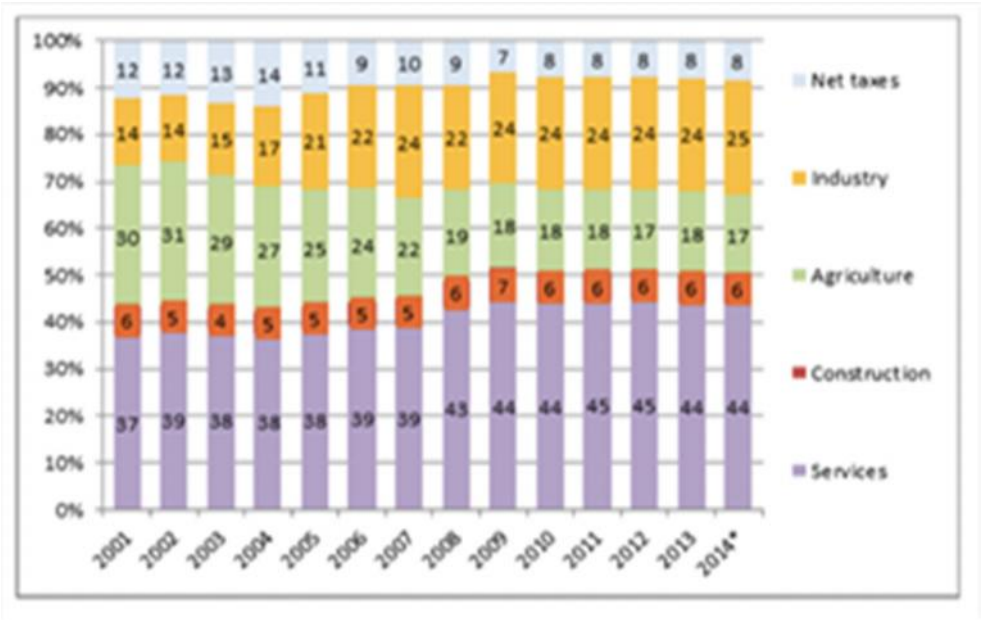
Appendix 1: Country and rural context background

A. Country and rural development context

Country economic situation

1. The Republic of Uzbekistan is a land-locked, lower middle-income (GNI per capita: US$1,880 (2013), with a large share of its total population of 30.7 million (2014) living in rural communities (around 60%) and engaged directly in agriculture-related activities (approximately 40%). Agriculture provides around 25 per cent of the country's employment, and its share of the Gross Domestic Product (GDP) is estimated at 17.6 per cent (2014), reflecting proportional changes that result from government efforts to expand the industrial and services sectors. The country's GDP growth over the next three years is estimated to average 6.0 per cent (EIU), which is higher than the expected growth in Central Asia (3.8 per cent); and overall growth is programmed to continue around 5-6 per cent, annually, during 2015-20, supported by net exports and a large capital investment program (EIU).

Figure 2: Contribution in GDP by sector from 2001- 2014 Source: WB



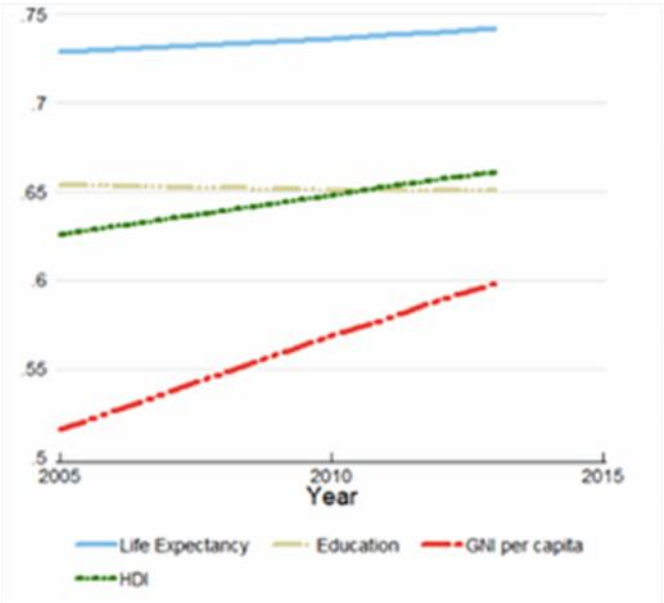
2. Uzbekistan is relatively self-sufficient in terms of food production and food trade balance, and the State controls wheat production to ensure food security. Food imports meet the country's growing demand and the increased disposable income/ purchasing capacity of the population, which is increasingly applied to higher value goods, particularly meat and dairy products. In 2013, Uzbekistan's food imports were 9.7 per cent (US$ 1.34 billion) of the country's total imports (USDA).

3. Cotton and grains are the main crops in Uzbekistan, while horticultural products, fruits, vegetables and livestock production are important sources of income for rural families. Livestock alone contributes about 40 per cent of the Gross Agricultural Output (GAO). According to government statistics, the country produced USD 12.9 billion, of agricultural products in 2013, of which USD 7.7 billion was crop production, and USD 5.2 billion was livestock and poultry production (USDA). Common characteristics for both the horticultural and livestock sub-sectors are that the main actors and producers are small-scale semi-commercial private farms and the smallholder dehkan, family homesteads. The current land tenure and allocation structure is the result of the implementation of land distribution and privatization initiatives following the restructuring of large collective and state farms.

Rural development and social context

4. The Human Development Index of 0.661 (2013) places Uzbekistan in the 116th position among 187 countries (i.e., medium human development). Between 2005 and 2013[16], Uzbekistan's HDI value increased from 0.626 to 0.661, an increase of 5.6 percent or an average annual increase of about 0.68 percent, however, the inequality-adjusted HDI of 0.556 and the ratio of labour force participation (female/male) is 0.945 in 2013, which indicates the existence of significant income inequality among the population. The corresponding percentage of labour force participation is 47.9 per cent for women and 75.2 per cent for men. Trends in Uzbekistan's HDI component indices from 2005 to 2013 are shown in Figure 3. The average life expectancy in the country has increased to 69 years in 2012, approximating the level of developed countries (WHO). Child and maternal mortality rates have decreased correspondingly. Uzbekistan's adult literacy level of 99.9 per cent is higher than the average for developed countries and gender parity is nearly achieved in primary education. Currently, an estimated 35 per cent of the national budget goes to education expenditures.

Figure 3: Uzbekistan HDI trend



5. **Rural poverty.** In 2013, around 14 per cent of Uzbekistan's total population were characterised as poor, based on a unidimensional poverty line established by the government (i.e., the cost of a food basket, based on a minimum food consumption equivalent to 2,100 kilocalories per person per day). Nevertheless, 70 per cent of the country's poor under this measure live in rural areas.

6. The low productivity of agriculture; rural populations being subject to numerous implicit taxes; the high dependency within households (i.e. the small number of working adults relative to total household members); regional divergences (i.e. richer regions growing faster); and the high level of informality of rural labour markets are associated with this poverty. Lack of access to productive assets, infrastructure, energy, land and water, technical and financial services, are among the causes of this limited productivity and poverty, affecting disproportionally rural women and young people. Other vulnerable groups in terms of income poverty include families with many children, people with disabilities, the unemployed, and people with lower levels of education.

7. Factors that place women, especially **rural women**, in disadvantage, include: a relatively low (44 per cent) share of formal employment with a high concentration in low-paid sectors such as health and education; relative dependence on the informal economy and agricultural piecework; limited access to credit and property; the relatively low level of social services provision in rural areas; and

[16] UNDP Human Development Report 2014

increasing cultural conservatism manifested in strengthening trends to early marriage and child-bearing, decreasing engagement with higher education and limited mobility, notwithstanding that women internal migrants are reportedly increasing.

8. **Migration and remittances.** Net remittances from migrant workers have helped thousands of families in Uzbekistan to contain poverty in their communities. The number of Uzbek migrants in Russia and Kazakhstan was assessed in 2014 at about 2 million, or about 12 per cent of the country's working age population. Net remittances were estimated to be around 6.4 per cent of GDP in 2013, and these resources help low income families maintain a minimal standard of living. In US dollar terms, the sums sent back to Uzbekistan are significant, at about USD 6.6 billion in 2013. These monetary inflows, which tend to be channelled to support household spending, housing construction and the establishment of small businesses, will decrease in 2015 due to the recession/ rouble crisis and the decreased construction, wage cuts and labour lay-offs in Russia.

9. **MDGs.** The government has manifested its commitment towards accomplishing the **Millennium Development Goals** and targets are being met in terms of maternal mortality, child (under five) mortality and reversing the spread of tuberculosis. The MDG target for improving the quality of primary and basic secondary education, while maintaining universal access, is expected to be met as is the goal of halving poverty from 27.5 per cent in 2001 to 14 per cent in 2015.

Country competitiveness

10. **Competitiveness and rural finance.** According to the World Bank's *Doing Business 2015* report, Uzbekistan ranks 141st out of the 189 economies surveyed. This represents an improvement when compared to the 2014 ranking where Uzbekistan was placed in the 149th position. While the report shows that the country is improving its business performance, the "access to credit" indicator implies mixed results as Uzbekistan's 2015 ranking dropped down by 5 points from the year before. The country is now in the 104th position according to this latter indicator, and, indeed, the access to formal financial services in the country is remarkably low: only about 1 per cent of people take credit from a financial institution, noting that for the Europe and Central Asia (ECA) region this indicator is 8 per cent.

11. In Uzbekistan, however, people tend to save more actively than their peers in neighbouring countries —31 per cent of people reported saving in any form in 2011 as compared to 20 per cent in the ECA region. Informal, local forms of rotating savings and credit associations are widely practiced among low-income households across the country. Such schemes are common among members of farmers' associations, handicrafts and artisans' associations, and salaried employees. Similarly, there are various financial arrangements occurring between and among agro-processors, wholesalers, and primary producers in Uzbekistan (i.e., as debtors or creditors) and involving transactions that are carried out either in cash, money transfers, or "in kind." No collateral is required from the producer other than pledging the sale of crops financed exclusively to the processor/ wholesaler.

12. **Agricultural R&D/ Extension.** One critical limitation to rural and agricultural development in Uzbekistan is the lack of modern skills in farm production and the inadequate and narrow experience of the present farming population with farm planning and decision-making. Whilst agricultural research institutions and agricultural extension services are underlined as a vector between the generators and users of agricultural knowledge, these support institutions can hardly fill the knowledge gap of farmers, mainly owing to their organisational set-up and limited government resources. Uzbekistan spent less than 0.5 per cent of the national budget to cover their research & development (R&D) requirements, which is the equivalent of a 0.13 R&D/ GDP ratio.

13. R&D linkages are weak: (i) Uzbekistan has a large pool of human and scientific resources but few innovations are implemented by the newly established farmers. Uzbek farmers/ livestock producers and experts do not communicate; and extension services are limited, e.g., limited to livestock vaccination in the dairy sector; (ii) farmers, in general, face saline, polluted and impoverished soils, advancing soil degradation and the loses of top soil due to wind erosion. They also assume livestock production-based livelihoods without access to the suitable breeds, production inputs and

know-how, in addition to reductions in forage crop yields, altogether resulting in low livestock productivity; and (iii) the lack of a national policy framework on extension services is a main hindrance to conduct effective extension and obtain farm-level results.

14. In practice, veterinary services are provided by the State Veterinary Department, with offices at provincial and district levels. Some veterinary units are established at community level, but the overall coverage and quality of services is low. A private vet service operate in parallel which is utilized by emerging commercial farmers and livestock producers (e.g., artificial insemination) Government policy is to transfer clinical veterinary services to private veterinary practices.

15. **Climate change.** Because the majority of the rural population depends on agriculture for their livelihood, the risks of climate change for the agricultural sector of Uzbekistan are significant, and the rural poor will be disproportionately affected due to: their relatively fewer assets/ lower ability to adapt, and the higher share of income they spend on food. Climate impact could therefore undermine the progress that has been made in the country's poverty reduction, and adversely impact food security in vulnerable rural areas. Recent trends in water availability, changes in precipitation and the presence of drought in Uzbekistan have underscored these risks, as has the presence of agricultural pests that may not have previously been found in the country.

16. The country's main climate hazards involve decreased and more variable precipitation, higher temperatures, reduced river runoff, increased frequency and severity of extreme events; and the environmental impacts of crop failure and reduced, less certain, and lower quality crop and livestock yields. In response, adaptation measures that will need to be considered, include: improved water use efficiency and enhanced irrigation/ drainage infrastructure; optimized agronomic inputs, livestock management and health/ nutrition practices at dehkan farm level; improved pasture management and livestock breeds; and increased private sector involvement aiming at overall increased investments, enhanced productivity and resource management strategies.

17. A recent World Bank report on climate change in Uzbekistan revealed a number of challenges and opportunities, including:

- Temperature will increase and precipitation will become more variable in Uzbekistan as a result of climate change;
- The direct temperature and precipitation effect of future climate change on irrigated crops will be a reduction in yields for most crops but an increase in yields for grasslands and alfalfa;
- Water shortages could severely limit irrigation water availability;
- Farmers in Uzbekistan are not adequately adapted to current climate, particularly regarding efficient use of irrigation water;
- Although precipitation is on average likely to increase in Uzbekistan, climate change will worsen current competition over water resources because irrigation water demands will increase with higher temperatures;
- Direct effects of climate change could be negative for the livestock sector, particularly beef cattle, chickens, and even sheep;
- National-level adaptation and capacity building is a high priority, and many measures are "win-win" in nature;
- At the AEZ and farm levels, high-priority adaptation measures include optimizing water application efficiency, particularly for vegetable crops, and providing more climate-tolerant and pest-resistant seed varieties and the know-how to cultivate them effectively for high yield.

B. National development policies and strategies

The Welfare Improvement Strategy-II

18. The GoU vision is for the country to become an industrialized, high middle-income country by i2050. Critical elements for such a transformation include: (i) increasing the economy's efficiency and

competitiveness and reduced dependency on a few commodity exports; (ii) strengthening the financial sector to support private entrepreneurial activity; (iii) diversifying production towards higher value-added activities with demonstrated comparative advantage; (iv) creating jobs for the rapidly growing population of young educated people; and (v) improving governance, including access to information on government policies and their outcomes. The authorities' approach towards achieving these goals is to continue the gradual transition to a more market-oriented economy, to ensure equitable distribution of growth between regions, and to maintain infrastructure and social services.

19. The GoU's main economic growth and poverty reduction goals and plans for agriculture and the rural populations are outlined in the **Welfare Improvement Strategy 2013-2015 (WIS-II)**, following the implementation of the initial WIS-1 strategy during 2008-2010. The strategy seeks to achieve the sustainable development and welfare of the population on the basis of: institutional reforms designed to continue the liberalization of the national economy, thereby creating a favourable investment and business climate; the modernization of its key production sectors, while increasing the competitiveness of the national economy; the development of the nation's territories, thus reducing regional inequalities; the increased economic contribution of small private businesses, by increasing their share in national production and the financing by commercial banking.

20. The strategy, *inter alia*, explicitly seeks to increase the efficiency of the agricultural sector; reduce the levels of poverty, nation-wide, and among rural populations; and expand cooperation with international development institutions.

Agriculture and rural development

21. Specific objectives for agricultural/ rural development, within WIS II, include: (i) deepening of structural reforms within the agrarian sector and the diversification of agricultural production; (ii) accelerating the sector's modernization and technological renewal; and of the infrastructure and businesses that process agricultural products; (iii) improving the effective use of land and water resources; (iv) developing and improving the infrastructure of the agro-food market (including science, technology and innovation in key areas such as enhanced animal breeding); (v) increasing the financial stability of farm entities, promoting the liberalization of agricultural policy, and strengthening the rights of agricultural and rural non-agricultural producers; and (vi) promoting the development of the food industry while increasing the processing levels of local agricultural raw materials. Financial support to small and medium-sized businesses, including farms and dehkan households, has been identified amongst the priorities for banking sector development.

International cooperation

22. Increased cooperation with international development organizations is an important activity in ensuring the success of the WIS-II, according to the government's plans. In this regard, the task includes the expansion of cooperation with bilateral and multilateral development and financial institutions as well as with those of the international agricultural research and the United Nations system. These include: the Asian Development Bank, the United Nations Development Programme, the Food and Agriculture Organisation, the World Bank, the Global Environment Facility, and many others.

23. The main areas of cooperation with the international organizations include: (i) the technical and technological modernization of industrial infrastructure and industry and the development of high-tech and labour-intensive activities; (ii) the development of rural infrastructure, and the modernization and improvement of the mechanisms of the agro-food sector; (iii) the development of the small businesses and services' sectors; (iv) the development of human capital and the social sector; and (v) addressing environmental challenges and the de identification of the required responses to climate change.

C. Country strategies of development partners

24. **Summary of development assistance.** Development assistance and technical cooperation with the GoU includes some principal bilateral and multilateral organisations. The Asian Development Bank (ASDB) has expanded its development assistance to Uzbekistan in support of transport, energy,

water, finance, rural infrastructure, and regional cooperation programmes. The World Bank's approved Country Partnership Strategy for Uzbekistan (2012–2015) provides support for economic diversification, education, human development, infrastructural and agriculture development. The IFC supports private sector investments in petrochemicals and other sectors. United Nations agencies support access to education and health, environmental sustainability, and governance. The Islamic Development Bank (IsDB) assists with infrastructure and agriculture development. The Japan International Cooperation Agency (JICA) supports human resource and infrastructure development. German development cooperation supports microfinance, agribusinesses, and healthcare development. An Interagency Council on Cooperation on implementation of large and strategically important investment programmes under the Cabinet of Ministers and the Department on Coordination and Control of Purposeful Utilization of Humanitarian Aid and Technical Assistance Funds of the Ministry of Finance coordinate development assistance.

UNDAF framework

25. The **United Nations Development Assistance Framework 2010-2015** is the result of a consultative process to analyse how the United Nations can most effectively respond to Uzbekistan's national priorities and needs. The exercise and resulting document are guided by the goals and targets of the Millennium Declaration, which has been endorsed by the Government, as well as by the national Welfare Improvement Strategy. The UNDAF translates these into a common operational framework for development activities upon which individual United Nations organizations will formulate their actions for the period 2010–2015.

26. Complementing national aspirations for economic competitiveness with the urgency of achieving the Millennium Development Goals in Uzbekistan, four inter-related priority areas emerged as particularly critical. In all four, a capacity development paradigm is at the centre of what the United Nations will do, anchored by human rights norms and values, and the principles of gender mainstreaming and inclusiveness. Likewise, the increased involvement of civil society with regard to policymaking processes will be paramount. The four priority areas are: (i) Economic well-being, with particular attention to vulnerable groups; (ii) Social services, emphasizing increased access to and use of quality services; (iii) Environment, encompassing integration of the principles of sustainable development into national policies and programmes; and (iv) Governance, focused on enhanced effectiveness, inclusiveness and accountability at central and local levels.

27. A crosscutting issue that underpins the interventions in all priority areas is the explicit focus on vulnerable groups, defined as residents of economically underdeveloped, mainly rural, areas; women, particularly home-based workers; labour migrants and their families; children, particularly most-at-risk adolescents; the elderly; HIV-positive people; refugees and people with disabilities. Other crosscutting issues include gender, young people's development, human rights; the development of enhanced legal frameworks; data strengthening; conservation of national heritage; environment and climate change; and gender, age and diversity mainstreaming. Advocacy with regard to the MDGs will also be addressed under all UNDAF Outcomes. Alignment of UNDAF with the IFAD Strategic Framework and the IFAD programme in Uzbekistan is particularly relevant in relation to the following two outcomes:

- **UNDAF Outcome 1: Economic well-being:** Economic well-being of vulnerable groups is improved (residents of economically underdeveloped, mainly rural areas; women, particularly home-based workers; labour migrants and their families; children, particularly most-at-risk adolescents; the elderly; HIV-positive people; and people with disabilities). **National Priorities:** Nationalized MDG Target 1: Reduce poverty by half by 2015; Welfare Improvement Strategy of Uzbekistan: Improve living standards based on robust and inclusive economic growth; form a modern and diversified economy able to compete in world markets; comprehensively develop the whole country; ensure a fair distribution of income.

- UNDAF **Outcome 3: Environment:** Integrate the principles of sustainable development into country policies and programmes.
  National Priorities: Nationalized MDG Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources by 2015.

FAO Country programming framework

28. The Country Programming Framework (CPF) sets out the priority areas that guide the existing partnership of the FAO with the GoU, and their shared commitment to bringing together: relevant technical assistance; innovative international best practices; and global normative work standards with national and regional expertise in the 2014-2017 period. The CPF was formulated in cooperation with the MAWR and in consultations with stakeholders of the agriculture and food processing and trade sectors; national institutions and the country's development partners, including the UN Country Team. The intervention priorities that were proposed by the Ministry for FAO assistance include:

- Diversification and intensification of farming systems in irrigated areas and intensive fruits and vegetables production;
- Conservation Agriculture, Integrated Pest Management technology and other good agriculture practices in crop protection and assistance for conservation of biodiversity, biosafety and biotechnologies;
- Development of livestock production and elimination of animal diseases;
- Support to preparations for membership of Uzbekistan in the World Trade Organization;
- Aquaculture and development of inland fisheries;
- Forestry; and
- Beekeeping and poultry production.

29. The government is particularly interested in the above priority areas, indicating that increasing exports of higher value-added products fresh fruits and vegetables (in addition to the traditional cotton), is a priority, and that pilot programmes should be promoted to introduce new intensive production technologies having as a component new irrigation methods. The CPF states that technical assistance from Technical Cooperation Programme (TCP) programmes would include, in addition to production technology assistance for: sustainable management of land and water resources; disaster risk management; and a strong marketing component. The government indicated that, to the extent possible, TCP programmes should include a pilot programme investment component, serving to identify present novel production and marketing solutions and approaches that could be replicated.

30. The IFAD intervention strategy, through the HSP and the DVCDP, also directly fulfil the government's concerns and priorities as outlined in the FAO-GoU country programming framework

AsDB Country strategy

31. **Strategy 2020.** The Strategy 2020 of the AsDB shares with WIS II the principal, long-term goal of promoting sustained and inclusive growth, in which infrastructure is a core investment priority for the GoU. Strategy 2020's focus on regional cooperation is also consistent with the country's strategy to strengthen transport connectivity and trade links with regional countries. Strategy 2020's focus on environment and climate change mitigation through renewable energy development is aligned with the government's priority on clean energy development. Private sector and financial sector development, along with gender equity, are common drivers of change in ASDB and government strategies.

32. The **Country Partnership Strategy** of ASDB for Uzbekistan 2012–2016 supports the country's transformation into a modern industrial and service economy through sustained and inclusive growth, a reduction in poverty, and expanded regional cooperation. Strategic assistance to be provided under the CPS is expected to catalyse industrial development, accelerate economic diversification, promote private sector development, ensure climate-resilient investment, and create new jobs for women and men. This CPS prioritizes transport, energy, municipal services, water, and access to finance.

Governance and demand-led reforms, regional cooperation and integration, knowledge management, private sector development, gender equity, and climate change and environment are its key drivers. Disaster risk management will be an important consideration in the planning and implementation of infrastructure programmes in Uzbekistan.

33. Two areas are of particular interest for IFAD coordination with ASDB, according to comparative advantage and economic and geographic targeting strategies:

- **Outcome 1. Agriculture and Natural Resources** (Infrastructure, Environment): Sustained increase in agricultural production and rural incomes in an energy-efficient manner. Focus on Irrigation infrastructure rehabilitation; Irrigation systems management; Agricultural productivity of water improved and sustained at the river basin level
- **Outcome 2. Finance** (Finance Sector Development): Increased financial stability and improved access to finance. Focus: Increased and more effective financial access for SMEs and other non-State borrowers.

World Bank Country Partnership Strategy

34. The Country Partnership Strategy (CPS) provides the framework for World Bank Group assistance to Uzbekistan between 2012 and 2015. The Strategy proposes a program linked to Uzbekistan's development vision to reach high-middle-income status by mid-century; and in support of the Government's objective to diversify the country's economy. The CPS is designed to support the implementation of infrastructure efficiency, economic competitiveness, diversification, and social inclusion elements as part of the Government's medium-term development strategy. The CPS financial envelope is US$1.35 billion for approximately 15 new programmes.

35. The CPS 2012–15 supports selected value chains in agriculture and livestock by continuing to provide financing with a particular focus on non-cotton-related activities. In addition, it supported the formulation of a horticultural strategy (FY13), paving the way for the horticultural programme (FY14). In order to achieve the strategic goals, the Bank and the Government joined efforts to implement a USD 74.55 million *Drainage, Irrigation and Wetlands Improvement Phase-I Programme*, a USD 107.96 million *Rural Enterprise Support Phase-II Programme,* a USD 81.85 million *Ferghana Valley Water Resources Management Phase-I Programme. T*he USD 150 million *Horticulture Development Programme*, and the USD 260 million *South Karakalpakstan Integrated Water Resources Management Programme* were approved in June 2014. A USD 12.7 million GEF grant approved in 2013 supports the *Sustainable Agriculture and Climate Change Mitigation Programme*. This GEF grant complements the ongoing second phase of the *Rural Enterprise Support Programme*. It promotes the introduction of renewable energy and energy-efficiency technologies of relevance to agribusinesses and farms and strengthens the capacity for improving degraded irrigated land and water conservation in the selected regions. The Bank-financed programmes are also designed to improve agricultural production in areas affected by waterlogging, and to reduce damage to housing and infrastructure from rising groundwater levels and salinity in the programme-covered areas.

36. The World Bank is currently preparing a new Livestock Development Programme and the DVCDP has met with the Bank's preparation team. The livestock programme will cover (i) veterinary services improvement; (ii) food safety systems improvement; (iii) livestock sector value chain development; (iv) pasture management improvement; and (v) access to finance. The Bank and IFAD have agreed to share documents on their respective programmes, avoid overlaps and seek synergies in their implementation.

37. **Private and financial sector development.** The collaboration with the GoU on private and financial sector development is transitioning to a more integrated, strategic, and programmatic dialogue on the identification of existing barriers to a conducive business environment. Over the past year, the World Bank has been collaborating with the authorities on the identification of bottlenecks in the business environment to inform policy options that support private sector growth and economic diversification. Leveraging the previous year's discrete tasks with multiple government agencies, the Bank is aiming to expand the scope of its dialogue with the authorities to include the broad

identification of impediments to private sector growth beyond *Doing Business* and the development of a supportive financial sector.

38. The World Bank has developed a good dialogue with the CBU through technical assistance on strengthening bank supervision and regulation, and financial reporting and auditing. The Bank, through its budget and FIRST Initiative funding, has been supporting two areas of focus: (i) the improvement and implementation of select elements of the bank regulatory framework; and (ii) the revision and implementation of a more risk-oriented bank assessment and a prompt remedial action framework. At the same time, the Bank is also implementing a FIRST Initiative programme on financial reporting and auditing, with its main goal to create an adequate policy environment and improve institutional capacity for financial reporting in the banking sector, in line with accepted international practice.

Dairy Value Chains

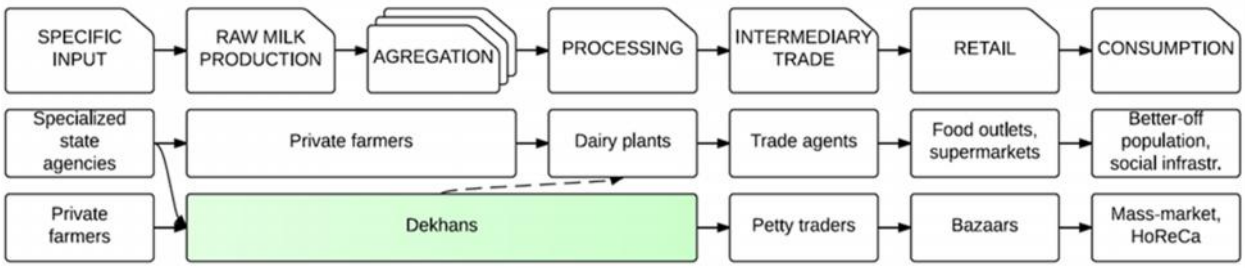
39. A DVCDP Detailed Design Mission rapid dairy value chain analysis was conducted to decide what Programme interventions are realistic in the sense that there is a genuine possibility of implementing such interventions, and what the timeframe of implementation could be.

40. As in all Central Asian countries, in Uzbekistan there are two parallel dairy value chains:

- **non-corporate** (or informal) milk flow composed of cottage industry and currently involving dehkans, roaming traders and market vendors; and
- **corporate** sector operated by private livestock farmers, dairy processors and organized retail.

41. While there is no consistency in the sector across the country, main processes of the dairy value chain are: inputs provision, raw milk production, aggregation, processing.

Figure 4: Dairy value chain in rural Uzbekistan



42. Production: small-scale livestock farmers (dehkans) with few cattle are the principal source of domestic meat and raw milk in Uzbekistan, although there are a handful of large-scale (>100 heads) livestock farms. Ninety per cent of dehkans own between three and ten head of cattle (another 10% own less than 2) and are individually responsible for milking operations and the overall performance of their livestock (taking care of animal health, nutrition and reproduction). Private dairy farms usually operate on a contractual basis with dairy processors supplying 2-50 tons of milk per day. The price and payment scheme is set in the contract between the farm and processor.

43. Aggregation: the bulk of milk sourced by dairy processors is private farms milk. Transactions are done on annual agreement basis with down-payment schemes, usually by bank transfer. Processors often pre-finance the installation of a cooling tank on-farm, some also provide technical assistance and training. The average radius of milk collection is 30-40 km, however greater distances were reported (up to 70 km) because of low milk availability, especially in winter. Nestlé, for examples, sources from about 125 privates farmers, 20 of which are large farms (supplying > 300 L/day each, some even several tons a day), while the remainder are small and medium size farmers with 20 to 300 L/day. The situation varies from district to district: farmers either bring their milk to the processor or their milk is collected by bigger farmer(s). Organized collection in the Programme area is absent, however, there is some positive experience in Samarkand and Tashkent provinces thanks to a UNDP programme.

44. Processing: some 700 dairy factories operate in Uzbekistan[17] producing 300-350 thousand tons of packaged milk and dairy products per year. Processors are located all across the country and only 3-4 districts (out of 168 in total) still lack industrial dairy processing capacity.

45. Marketing includes intermediary trade and retail. Nestlé (based in Namangan, Samarkand province) is by far the biggest dairy processor in Uzbekistan followed by Agro Bravo, Group Siyob (Pure Milky™) and several medium-size regional companies. Dairy industries and traders govern the value chain setting the price and overall sector dynamic. Supporting market functions and actors are described in Working Paper 1.

46. In terms of location, raw milk producers are located across the programme area, while there is some geographic concentration of dairy plants: in Kashkadarya corporate dairy processors are located in 7 out of 13 districts (concentration in Sharisabz), while Jizzakh has a more homogeneous distribution of milk processing infrastructure: in 10 out of 12 districts (concentration in Jizzakh). See Annex 1 for details.

47. Services feeding the value chain are present only in its upstream parts: private farmers receive some, yet insufficient, extension services from champion farmers and/or private vets. In some cases, milk processors interested in larger milk volumes also provide advisory services to dairy farmers.

48. Information and knowledge flows are governed by larger farmers and dairy processors to some extent.

49. The corporate dairy industry has been selected as the entry point to the value chain development to make the chains work better for the smallholders.

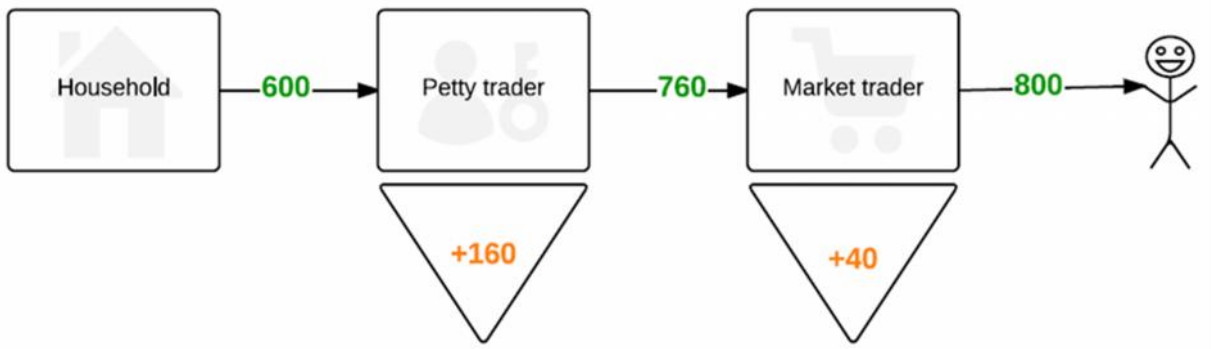
50. Over the last two decades, while Uzbekistan has made considerable progress in opening its livestock sector to private capital, local farmers capitalized on these opportunities. A multitude of households with small stocks of animals and private commercially-oriented farms were shaping the sector setting up horizontal linkages.

51. Since 2009, in the aftermath of the President's Degree offering revenue tax exemption[18] to farming enterprises with processing facilities, some dairy farms have invested into dairy processing. These form 16% of all dairy plants in Kashkadarya and 19% in Jizzakh. Along with urbanization, intensification policy and changes in consumption patterns, this trend on a large scale will become the dominant driver of structural transformation in Uzbek dairy value chains affecting costs and prices, but against the background of very low technical capacity (in programme area in particular) such vertically integrated companies are condemned to be uncompetitive unless they become specialized either in farming or in milk processing and marketing.

52. The value of milk changes differently within each flow. In case of the informal market, where most of dehkans milk goes, the smallholder gets about 75% of the end value of a product, but it's a small amount and volumes are very limited. Typically, a petty trader would buy chakka from a dehkan at UZS 3000/kg and sell it to market traders at 3,800, who in terns sells chakka for UZS 4,000 /kg (5 L of raw milk are needed to produce 1 kg of chakka). Below is the example of chakka (CF = 5, e.g. 5 L of raw milk yield 1 kg of *chakka*).

[17] Association of Food Industries of Uzbekistan (Posheprom)
[18] Such vertically integrated companies are exempt from 20% net profit tax.

Figure 5: Change of value of 1 litre of cow milk (equivalent) on informal market.



53. In case of corporate milk flow, value addition is significantly higher. While milk producer gets just 38% of the final value, this is more than a double in money equivalent than in case of cottage industry. To illustrate, a bottle of *kefir* sold at a grocery store at UZS 3,000/L gives UZS 1,100 of cash to a dairy farmer (CF = 1).

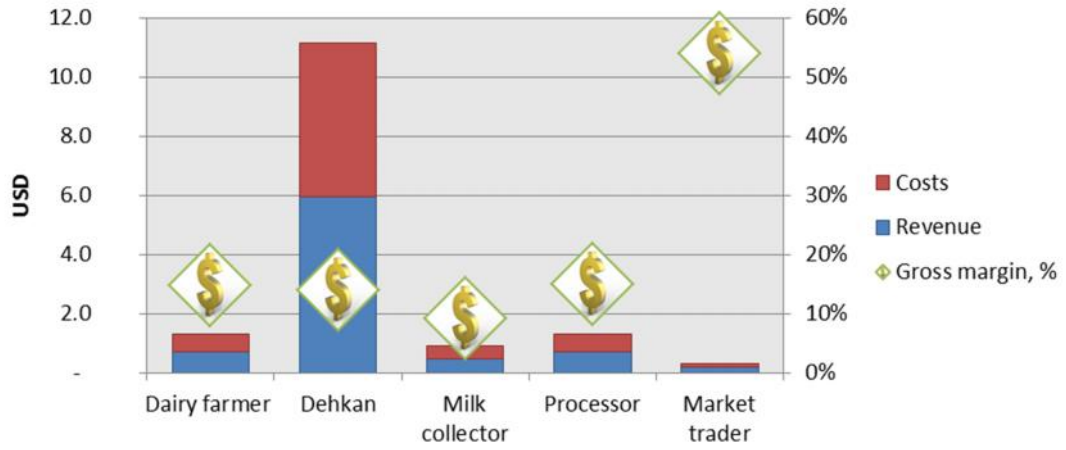
54. With regards to ***margin distribution***, the highest profits are obtained by petty cash traders and market vendors whose costs are only procurement of re-sold products and risks are minimal. Processing plants generate fair margins (ranging from 15 to 20%) in spite of significant raw milk prices and losses (about 10-15% because of unstable energy supply). It should be noted that most of processors are either out of business or operate with zero and even negative margin in winter months when milk is expensive and insufficient. That's why many processors have other business lines like confectionary or beyond agriculture. Raw milk production in Uzbekistan has marginal profitability**.** While local farmers receive fair farm-gate prices compared to their colleagues in other Central Asian countries (about USD 0.5/L), production parameters are very low, mainly because of expensive feed (takes 70-80% of all costs), unbalanced rations and the poor dairy genetics of local breeds.

Table 1: Margin distribution along the dairy value chain (in USD per 1 L of milk equiv.)

VC Actor	Revenue	Costs	Gross margin	Gross margin, %
Dehkan	5.9	5.2	0.7	**14%**
Dairy farmer	0.7	0.6	0.1	**15%**
Milk collector	0.5	0.4	0.0	**9%**
Processor	0.7	0.6	0.1	**15%**
Market trader	0.2	0.1	0.1	**54%**

Source: field interviews March 2015
Note (*): calculations take into account sold milk only (10% of produced quantity)

Figure 6: Distribution of costs, revenues and gross margin along the value chain



55. The objective of the intervention is, therefore, not only to increase the total amount and value of milk that dehkans sell in the value chain, but, most importantly, to increase the margins and generate higher incomes for smallholders as well as for the other actors in the value chain.

56. Milk and dairy products quality norms and enforcement mechanism. Raw milk quality is regulated by the national Law on Veterinary, while the industry has to comply with the National Food Safety Requirements for Dairy Processors (СанПин № 0281-09) set by the Ministry of Health. Raw milk is tested by collectors (if any) or directly by the processing plant. Medium-scale processors test milk against three parameters: water content, pH and fat content.

57. Milk quality constitutes the pricing mechanism: raw cow milk accepted by dairy plants should have zero water content and max pH of 7.4 [19]. Should these two parameters be within the norm, procurement milk price is directly related to fat content.

Table 2: Milk procurement prices

Fat content	Winter months (Nov – March)	Summer months (April-Oct)
< 3%	not accepted (*)	not accepted
3%	1,200	1,000 (even 800)
3.5%	1,300	1,100
4% (4.3% max)	1,700	1,500

Source: Jizzakh processor, March 2015.
Note: informal market buys low fat milk (< 2.5%) at 1000/800 UZS/L.

58. With regards to finished products, the situation is very different for industry and homemade products. Twice a month, the State Sanitary and Epidemiological Authority pays a visit to each dairy plant to conduct random sampling of finished products in view of the renewal of their Product Conformity Certificate (3 years validity, UZS 120,000). Inspections test products for acidity, fat content, water content, carbohydrates, solid non-fat content, and brucellosis. This certificate, along with the company registration documents and tax payer number are mandatory to sell products to the public.

59. The situation with the home-made products is a conundrum. While food products manufacturing for public consumption is open only to legal entities in Uzbekistan, the reality is that all that one can find on the bazaar is homemade. The State provides for laboratory tests done on-spot (at the market premises), yet permission to sell on the market and negative lab tests are enough to sell homemade dairy products to the public. This situation is unlikely to change in the next five-seven years as there are insufficient volumes of packaged dairy to ensure food security of the population.

[19] Acid milk (suitable for some products like *brynza*) enters informal sector and is sourced at half normal price.

Key constrains of dairy value chain development

60. Constrained by the limited access to land and low (cash) incomes, dehkans have difficulty improving their cattle stocks (quantity- and quality-wise), accessing adequate veterinary and breeding services, and, most importantly, sufficient volumes of fodder for their animals. Because dehkans are the principal producers of raw milk in Uzbekistan, closing this gap is viewed as a prerequisite for value chain growth and sustainability

61. The main bottleneck of the dairy sector is therefore located at the very beginning of the supply chain: feed production, storage and distribution. Since the country's independence, food security became a top priority and fodder crops are not allowed to compete for land with staples. This limiting factor will become even more critical as dairy farming intensifies. The sharp growth of stocks and feeding needs associated with highly productive dairy breeds requires better and more meadow pastures and hay-fields and second seeding after main crops, particularly June/July harvested wheat.

62. Smallholders also lack access to land for fodder and, since many dehkans work for a local farmer-entrepreneur, the latter usually (partly) pays in kind, providing fodder to landless dehkans and/or providing land itself. According to field visits, such type of informal relationship is very common. Supporting this type of cooperation modality might be considered an optional programme intervention. However, an in-depth analysis is required to define support mechanisms to this cooperation modality (e.g. land use, preparation of land for the next cropping, access to machinery, etc.). Knowledge transfer is another important gain from such partnership: examples show that dehkans learning from their employer (commercial farmer) have improved their milk yields by a factor of five[20] thanks to better feeding, artificial insemination and good animal care practices.

63. Compound feed production and distribution system are insufficient. The main reason is the lack of ingredients (feed grains[21,] etc.) as sales from peasant farms growing wheat and cotton are largely state-controlled.

64. In the aftermath of massive investments into dairy farming, mostly private, the sub-sector is experiencing significant production issues. Highly productive imported dairy cattle breeds (Holstein and Simmental) need significant quantities of carefully balanced feed and specific care. Most of commercial farmers met during the visit invested into pedigree cattle, but still run their business with simple cow-sheds, poor milking parlours and unorganized fodder conservation and storage. Some have even invested into expensive biogas installations and vermicomposting, both (especially the former) have limited functionality because of the lack of technology and knowledge.

65. Dehkans are trapped into the informal market channels dictating low milk prices, limited marketed quantities and limited access to fodder.

66. As is shown on the value chain map, dehkans are almost entirely disconnected from the growing dairy industry. Successful experience of other countries[22] and UNDP-supported organized milk collection in Tashkent and Samarkand provinces prove that smallholders can move from subsistence to market-driven farming if linked to agro-enterprises provided that (i) milk collection is organized and (ii) adequate training is provided. Some dehkans can even develop into businesses (farmers or processors).

[20] Private farm in Tashkent Province: interviewed *dehkans* reported milk yields increase from 4 L/day to 20.
[21] About 10% of grains are used for livestock feeding.
[22] Improving milk supply in Northern Ukraine. The FAO-EBRD technical assistance project.

67. Dairy processors in turn are challenged by two major issues undermining their sector development and growth:

- **unfair competition from the informal sector**: if quality standards of competitors for raw milk are lower than the quality standards of participating dairy processor, it is not easy to compete on price. Actors of this chain do not pay taxes and can therefore offer cheaper products (can afford higher milk sourcing price);
- **milk payment modality**: availability of cash for payment is a big issue in Uzbekistan. Payment by bank transfer to the plastic cards of smallholders could be implemented, but it also costs at least an additional 15%. Part of amount due could, however, be paid on cards to be used to pay for fodder and other inputs.

68. The **sanitary condition of processing plants** in the programme area is deplorable. In contrast with Tashkent and Samarkand companies, where the biggest actors of the sector set the scene, Jizzakh and Khashkadarya needs a serious upgrading of premises. Visited plants had missing tiles on the floor, grabby walls, machines had milk stone and milk fat deposits, sometimes even running water was missing. In addition to investment into facilities, processors badly need investment into modern technologies (equipment and know-how) and capacity (technical and managerial, including marketing).

69. Marketing skills of local processors also required support. Most of labels and brands were designed by owners themselves looking for inspiriting on the Internet. To win the market and promote product, dairy processor need good support in marketing, especially when their volumes will grow as a result of Programme intervention. Already today, sales during hot months (May to September) is a serious problem. The main reason is the unstable power supply: national standards for dairy products allow for 72 h shelf life at 4-6 C. In some cases rural food outlets opt for UHT milk that can be stored without a cold chain for at least one month.

70. Using large scale farms as nucleus for service provision. Linking smallholders to larger farms can assist in mitigating access to quality feeds; access to a cold chain; access to machinery for making animal feeds; learning quality procedures; nucleus farms could provide inputs (like heifers and feed) and services (like bulking and extension). It has to be taken into account that there usually is a big distance between the large scale farmer and small scale farmer (economically, socially and culturally) that result in different interests and incentives.

71. In addition to tax incentives, low margins on raw milk production push milk producers into the processing business. On becoming a processor, they are often unable to secure sufficient raw material base and thus invest into more milk production. The organizational structure of such vertically integrated companies does not promote competitiveness as each production stage is not a separate business unit.

72. Technical knowledge on modern dairy farming and “farming as a business" skills are required for improvement of both input- and outputs markets, including issues like access to land (for fodder), quality of feed, access to AI, veterinary services, and milk quality assurance.

73. There is clear need to improve milk aggregation function of the value chain to support dairy processing growth and allow smallholders to benefit from it. Partnering with industrial processors is also important, to set standards for milk products, ensure quality control and incentivise better milk quality and better managed seasonality of supply.

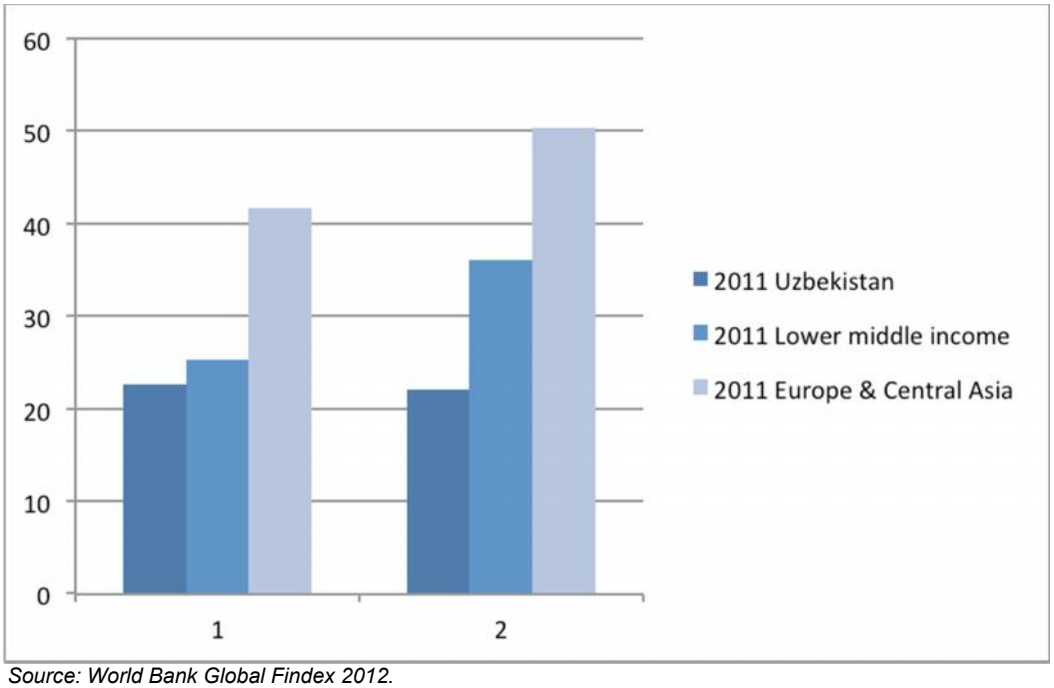
74. Establishment of milk collection centres (MCC) will entail a number of positive externalities to dairy value chain development in general, but also to the benefit of smallholders living in their vicinity. MCCs will:

- create business opportunities within the value chain(s);
- allow out-reach to a larger number of smallholders, including in remote areas;
- ensure higher milk quality along the chain;
- use of chilling stations as centres for service delivery (e.g. fodder outlet) and extension/knowledge dissemination facility;
- link suppliers to processors to increases certainty of supply.
- However, the following challenges related to the operation of MCCs were identified:
- unstable **power supply**, especially in winter months;
- (related to above) high energy cost;
- significant **training needs** for *dehkans* on (i) production issues, and (ii) self-governance and negotiation power. The former is crucial to address current barriers of sourcing from smallholders for industrial processing: low milk yields (currently 2L/d in winter and 6-10 L/d in summer), huge seasonality, high bacteriological contamination levels, low fat content;
- quality milk needs **price incentives**;
- milk **payment schemes**: *dehkans* are likely to require payment in cash;
- insufficient skilled personnel to manage MCC facilities.

Access to Finance in Uzbekistan

75. Access to financial services in Uzbekistan is limited as compared to the Europe and Central Asia (ECA) region and the lower middle-income countries, according to the World Bank Global Findex Survey 2012.[23] Figure 7 below shows the account penetration level – the indicator commonly used to assess the number of the "banked" people in a country, and the level of financial inclusion.

Figure 7: Account at a formal financial institution, 2011: Uzbekistan as compared to ECA and lower middle-income countries (% of adults, age 15+).



Source: World Bank Global Findex 2012.

[23] Global Findex 2012. http://datatopics.worldbank.org/financialinclusion/country/uzbekistan

76. As presented in Table 3 below, the usage of formal financial services in Uzbekistan has been low. There are 23% of people who have bank accounts, but these accounts are mostly used to receive wages that are withdrawn using debit cards at ATMs (20%) and government payments (5%); the accounts are very rarely used for business purposes (3%), and are not used to receive remittances (0%) – although from Russia alone, Uzbekistan received USD 6.6 billion in remittances in 2013.[24] The usage of formal financial services is remarkably low: only about 1% of people take credit from a financial institution; for the ECA region and the lower middle-income countries this indicator is 8% and 7%, respectively. In Uzbekistan, people tend to save more actively than their peers – 31% of people reported saving in any form in 2011 as compared to 20% and 28% in the ECA region and the lower middle-income countries, respectively. At the same time, less than 1% of people in Uzbekistan reported savings with formal financial institutions; these figures in ECA and lower middle-income countries were 7% and 11%. It should be noted that in Uzbekistan, financial service usage figures do not differ much among urban and rural residents.

Table 3: Use of key financial services in Uzbekistan, 2011 (% of adults, age 15+)

Accounts	Loans	Savings
Account at a formal financial institution	Loan in the past year	Saved any money in the past year
23%	13%	31%
Account used to receive wages	Loan from a financial institution in the past year	Saved at a financial institution in the past year
20%	1%	1%
Account used to receive government payments	Loan from family or friends in the past year	Saved using a savings club in the past year
5%	12%	4%
Account used for business purposes	Credit card	Debit card
3%	3%	20%
Account used to receive remittances		
0%		

Source: World Bank Global Findex 2012.

77. Such low usage of formal financial services in Uzbekistan is even more striking given relatively high figures of physical infrastructure providing access points to financial services. For example, according to the International Monetary Fund (IMF) Financial Access Survey, in 2013 there were 39.85 bank branches in Uzbekistan per 100,000 adults (and this figure has grown to 50 in 2014, according to the Central Bank of Uzbekistan).[25] This figure is similar to that in Russia (38.39 branches) and even some highly developed countries (e.g. USA – 33.88) and far exceeds similar figures in the neighboring countries (e.g., in Kazakhstan, this statistic is 3.32, and in Kyrgyz Republic – 7.98 per 100,000 adults). At the same time, in Uzbekistan there is a much less developed ATM network of only 8.19 ATMs per 100,000 adults; to compare, in Kyrgyz Republic and Kazakhstan, there are 21 and 71.6 ATMs per 100,000 adults, respectively, and 155.55 ATMs per 100,000 adults in Russia.[26.]

[24] http://www.trend.az/casia/uzbekistan/2292102.html
[25] Information provided at a meeting with CBU on March 13, 2015.
[26] www.data.imf.org

78. The low usage of financial services may be explained by the severe dearth of ready cash in the country (the most commonly used banknote is USZ 1,000 (approx. USD 0.4, and the highest denomination is UZS 5,000 – approx. USD 2; the issuance of the latter started in July 2013[27] and these banknotes are not very common yet). There are reports on "catastrophic" cash shortages in the press,[28] though no official data on the scope of the issue are available. The extremely shallow ATM coverage mentioned above may be a sign of this issue (there is also anecdotal evidence that ATMs are rarely loaded with banknotes). Another example illustrating the issue was provided by one of the banks participating in IFAD's HSP Programme: Ipoteka Bank reported having 17,500 cash-in terminals, and only 89 cash-out ATMs country-wide.

79. According to the World Bank Doing Business 2015 report,[29] Uzbekistan ranks 141st out of the 189 economies surveyed; this is an improvement as compared to 2014 ranking where Uzbekistan was 149th. While it shows that the country is improving its business performance in some areas, this does not include access to credit: Uzbekistan's 2015 ranking dropped down by 5 points from the year before – the country is 104th out of 189 countries surveyed by the "getting credit" indicator.[30]

80. Unfortunately, Uzbekistan is not providing the economic and other data that would permit the country to be included in the World Economic Forum's annual Global Competitiveness Index and report, which would provide a detailed ranking of the "Financial Market Development" Pillar.

81. It appears that access to finance may be especially important in the agricultural sector of the country. According to the 2013 statistics, the volume of working capital in agriculture has decreased almost by half in three years – from UZS 853 billion in 2010 (USD 352.8 million) to UZS 420 billion (USD 173.7 million) in 2013. This may have contributed to the reduction of the value of agricultural output from UZS 750 billion (USD 310.2 million) to UZS 577 billion (USD 238.6 million) in the same period (though other factors may have played a role, too).[31]

82. It also appears that it was in response to the above, that the volume of banks' lending to small businesses in the livestock sector grew from UZS 71.5 billion (approx. USD 28.6 million) in 2010 to UZS 266.2 billion (approx. USD 106 million) in 2014.[32]

83. Uzbekistan Financial Sector and Rural Finance

84. The banking sector dominates the financial sector holding about 95% of total financial sector assets, with the non-bank sectors being underdeveloped.[33] In 2013, the total assets of Uzbekistan's commercial banks increased by 30.2% year-on-year. In the first half of 2014, total banking assets grew by 29% year-on-year, the total capital of commercial banks by 26.9%, total banking credits to the real sector of the economy by 30.7%, and total banking deposits by 30.2%

85. The officially reported capital adequacy ratio of the banking system in the first half of 2014 was 24.2%, which is three times higher than the minimum requirement of 8%. At the same time, the official capital adequacy figure may be overstated, as Moody's estimated it at 12.3% on average for the internationally rated Uzbek banks in 2013.

[27] http://www.cbu.uz/ru/section/nat_currency/notes
[28] See, for example, http://rus.ozodi.org/content/article/26809619.html and http://www.titus.kz/?previd=39661
[29] The 10 topics included in the ranking in *Doing Business 2015* comprise: Starting a business, Dealing with construction permits, Getting electricity, Registering property, **Getting credit**, Protecting minority investors, Paying taxes, Trading across borders, Enforcing contracts, and Resolving insolvency. The ranking provides key information about the business environment in an economy, although the evaluation/ ranking on the ease of doing business, and its underlying indicators, do not measure all aspects of the business environment that matter to firms and investors or that affect the competitiveness of the economy. Nevertheless, a high ranking does mean that the government has created a regulatory environment conducive to operating a business.
[30] http://www.doingbusiness.org/data/exploreeconomies/uzbekistan/#getting-credit
[31] Finances of Uzbekistan. Statistical Digest. 2014.
[32] Information provided at a meeting with CBU on March 13, 2015.
[33] The description of the banking sector is adapted from http://www.worldbank.org/content/dam/Worldbank/document/Uzbekistan-Snapshot.pdf

86. Uzbek banks have limited exposure to foreign banks and have not accumulated the kind of toxic assets that have caused the deterioration of bank balance sheets in other countries. Moreover, robust economic growth and large capital injections by the Government after the global financial crisis have increased banks' resilience to shocks.

87. While the banking sector's exposure to global risks is limited and the sector has seen fast growth rates, it has still been largely ineffective in deepening financial intermediation. The Government plans to increase the total capital of banks by 20% every year until 2015, including credit to the private sector which is only half the level that exists in other transition economies.

88. The main vulnerability in the banking sector is the prolonged market dominance of the state-owned banks, which hold about 50% of total banking assets. The concentration and quality of banking assets also remain of serious concern, as is the large amount of public funding. The extent of nonperforming loans (NPLs) appears to be underreported. While the official statistics report that NPLs in 2012–13 were below 1% of total gross loans, according to Moody's, the actual level of NPLs may be up to 10%. The current low coverage of problem loans by loan loss reserves would need to be increased in order to fully cover expected losses. Moody's reports in 2013 and 2014 have nevertheless concluded that the financial system is stable and that banks' capital buffers are adequate to absorb the expected credit losses.

89. According to the World Bank, financial sector reforms are critical for sustained growth. The main challenges include the need to relax and eliminate restrictions on cash transactions and foreign exchange transactions and to phase out the practice of directed lending. In the absence of these reforms, other measures designed in the Government's program until 2015 (improved supervision, risk management, credit infrastructure, credit information systems, and non-bank financial institutions) may not produce the desired results, and the banking sector may not be able to efficiently intermediate and support economic activity and could be adversely affected by a larger economic shock. Similarly, banks' prohibitive lending requirements (for example, de-facto mandatory 120% collateralization[34]) further obstruct the growth potential of micro and small enterprises, which in 2013 accounted for 55.8% of GDP, and curtail the effectiveness of support programs aimed at increasing access to finance in the country.

90. Providers of formal lending services in Uzbekistan include banks and microcredit organizations (MCO). Until recently, Uzbekistan also had a wide network of 123 credit unions providing both lending and savings services to their members, with an aggregate lending portfolio of about USD 160 million. But on January 4, 2013, a law on liquidation of all credit unions became effective, and their activities were thus discontinued.[35] As such, banks are currently the only institutions that can mobilize deposits from natural persons and legal entities in Uzbekistan, while MCOs are credit-only institutions. Both banks and MCOs are regulated and supervised by the Central Bank of Uzbekistan (CBU).

91. Banks. In 2014, the banking sector in Uzbekistan consisted of 26 banks,[36] including:

- 3 state commercial banks;
- 10 joint-stock commercial banks (with state ownership);
- 8 private banks, and
- 5 banks with foreign capital.

92. The total banking sector assets were about UZS 49.7 trillion (USD 20.6 billion) as of July 2014,[37] with some 50%, as mentioned earlier, held by the state-owned banks. As of year-end 2014, the total assets volume of the banking sector grew to USZ 56.2 trillion (USD 22.6 billion).[38]

[34] It appears that this requirement has now been increased to 125%, according to the banks interviewed.
[35] http://www.vedomosti.ru/finance/news/7792581/v_uzbekistane_vstupil_v_silu_zapret_na_kreditnye_soyuzy
[36] http://cbu.uz/ru/section/credit_institutions/combanks
[37] http://www.cbu.uz/ru/node/44103
[38] Data provided at a meeting with the CBU on March 17, 2015.

93. As of the date of this working paper, no detailed information was available on the composition of the banks' portfolio in terms of lending to the agricultural sector (a request to the CBU to provide this information had been submitted in November 2014; in March 2015, the CBU provided limited information on the total assets and loan portfolio, as well as ROA, ROE and capital adequacy, explaining that the other requested information is restricted).

94. It should be noted that all commercial banks in Uzbekistan are required to create concessionary lending funds amounting to 25% of their profits, to provide loans at 50% of the CBU refinancing rate to small business, dehkans and farms.[39] There is no information available on the volume of these concessionary lending funds.

95. MCOs. Before 2007, there were 51 MCOs working in Uzbekistan with the aggregate loan portfolio of about USD 74.5 million. They served close to 60 thousand low-income borrowers.[40] In 2007, due to the adoption of the new law regulating microfinance,[41] all MCOs were required to re-register; some of the new requirements of the law, as well as tax claims and suspension of activities for some 8 months until the new regulations came into force made all of the leading NGO MCOs in Uzbekistan to close down.

96. The current MCO sector consists of 24 MCOs.[42] The total assets of these MCOs were UZS 51.4 billion (USD 20.1 million), and the total capital – UZS 37.7 billion (USD 15) as of year-end 2014.[43] This is less than one-third than the 2007 level. Thus, an average MCO is a small institution with about USD 837,000 in assets. An example is an MCO interviewed during the Programme Design Mission in November-December 2014 – "Kapital Plus": it had only about USD 700,000 in its outstanding portfolio and served about one thousand active clients.

97. By law, MCOs are allowed to disburse loans to natural persons for consumption purposes in the amount of up to 100 minimum wages (about USD 5,000) and to micro-entrepreneurs and legal entities for business purposes – up to 1,000 minimum wages (USD 50,000). MCOs are limited in terms of their funding sources: they are not allowed to take deposits either from natural persons or legal entities, or to take loans from natural persons (except their founders). Even though they are credit-only institutions working mostly with their own funds, MCOs are subject to several prudential requirements, such as minimum capital, capital adequacy, portfolio at risk, personnel qualification requirements and some others.

98. As MCOs have no access to subsidized government funding, their interest rates on microloans are much higher than those of banks. For example, "Kapital Plus" charges about 54% per annum which makes it hard for the MCO to compete in the market. In addition, MCOs are required to have official proofs of their borrowers' repayment capacity, such as formal income confirmations; like banks, they are required to disburse all loans for business purposes through wire transfers rather than in cash, as well as demand collateral for most of their loans for business purposes. (MCO "Kapital Plus", for example, has only 17% of its outstanding portfolio in group lending, with the rest of the portfolio being collateralized.) These restrictions limit MCOs' competitiveness and expansion in the market.

99. Though MCOs in Uzbekistan target low-income categories, including those living in rural areas, and may be better able to respond to the needs of these categories in terms of their ability to provide non-collateralized loans (such as those guaranteed by group lending methodology), their limited experience working under the new microfinance legislation and the recent history of closing down MCOs (and credit unions), as well as the above mentioned restrictions affecting MCOs' competitiveness, makes it difficult for the DVCDP to reach the programme beneficiaries through

[39] Decree of the Cabinet of Ministers of the Republic of Uzbekistan dated 19.05.2000 "On additional measures stimulating the participation of commercial banks in the development of small entrepreneurship".
[40] Scott Gaul and Olga Tomilova. Central Asia Benchmarking Report 2006. MIX: February 2008.
[41] Law of the Republic of Uzbekistan dated 15.09.2006 No. ZRU-50 "On microfinance" and Law of the Republic of Uzbekistan date 26.06.2006 No. ZRU-53 "On microcredit organizations".
[42] http://cbu.uz/ru/section/credit_institutions/mko
[43] Data provided at a meeting with CBU on March 2015.

MCOs. It also appears that the Government has been focusing on the development of microcredit in Uzbekistan primarily through banks.

100. Informal rural finance activities.[44] There is substantial evidence of a vibrant informal subsector in the rural financial markets of Uzbekistan. As noted by the Asian Development Bank (ADB) and confirmed by anecdotal evidence, informal moneylenders are ubiquitous and may be more accessible than banks, despite their reported effective lending rates of up to 120% per annum.

101. Local forms of rotating savings and credit associations are widely practiced among low-income households across the country. Such schemes are common among members of farmers' associations, handicrafts and artisans' associations, and salaried employees.

102. According to the ADB survey, there were various financial arrangements occurring between and among agro processors, wholesalers, and primary producers in Uzbekistan. These arrangements were found in various forms, with interchanging roles among the market players as debtors or creditors, and transactions carried out either in cash, money transfers, or "in kind" depending on the agreement. Such contracts are not registered and are usually effective for 1–6 months, depending on the product. No collateral is required from the producer other than pledging the sale of crops financed exclusively to the processor/wholesaler. There are hardly any documentation costs because of the non-registry of contracts.

103. A reversal of roles from the above is also found in rural Uzbekistan, with processors buying on credit from wholesalers and producers. Based on the ADB survey, about 20% of respondent processors are able to avail of credit sales from suppliers. Such arrangements are largely unregistered, requiring no collateral and based mostly on mutual trust from long-term personal relationships.

104. More common financing availed of by farmers are sales on credit from input suppliers. As many as 75% of input suppliers interviewed reported to sell commodities on credit to their customers, with 6–8 months repayment terms. As described earlier, these transactions are either verbal or in the form of unregistered written contracts or promissory notes. Payments in cash are preferred, although payments in kind were reported in a few cases. In addition, about 30% of the input suppliers have availed themselves of credit from major fertilizer wholesalers or manufacturers.

[44] Adapted from: Asian Development Bank. Beyond Microfinance. Building Inclusive Rural Financial Markets in Central Asia. December 2006.

Uzbekistan: Country data sheet			
Land area (km2 thousand) 2012 1/	425	GNI per capita (USD) 2012 1/	1 700
Total population (million) 2012 1/	29.77	GDP per capita growth (annual %) 2012 1/	7
Population density (people per km2) 2012 1/	70	Inflation, consumer prices (annual %) 2012 1/	n/a
Local currency Uzbekistan Sum (UZS)		Exchange rate: USD 1 = UZS	
Social Indicators		Economic Indicators	
Population growth (annual %) 2012 1/	2	GDP (USD million) 2012 1/	51 183
Crude birth rate (per thousand people) 2012 1/	21	GDP growth (annual %) 1/	
Crude death rate (per thousand people) 2012 1/	5	2002	4.0
Infant mortality rate (per thousand live births) 2012 1/	38	2012	8.2
Life expectancy at birth (years) 2012 1/	68		
		Sectorial distribution of GDP 2012 1/	
Total labour force (million) 2012 1/	13.00	% agriculture	19
Female labour force as % of total 2012 1/	40	% industry	32
		% manufacturing	13
Education		% services	49
School enrolment, primary (% gross) 2011 1/	93		
Adult illiteracy rate (% age 15 and above) 2012 1/	1	Consumption 2012 1/	
		General government final consumption expenditure	
		(as % of GDP)	23
Nutrition		Household final consumption expenditure, etc. (as % of GDP)	60
Daily calorie supply per capita	n/a	Gross domestic savings (as % of GDP)	17
Malnutrition prevalence, height for age (% of children under 5) 2012 1/	n/a		
Malnutrition prevalence, weight for age (% of children under 5) 2012 1/	n/a	Balance of Payments (USD million)	
		Merchandise exports 2012 1/	11 210
Health		Merchandise imports 2012 1/	12 034
Health expenditure, total (as % of GDP) 2012 1/	6	Balance of merchandise trade	-824
Physicians (per thousand people) 2012 1/	2		
Population using improved water sources (%) 2012 1/	87	Current account balances (USD million)	
Population using adequate sanitation facilities (%) 2012 1/	100	before official transfers 2012 1/	n/a
		after official transfers 2012 1/	n/a
Agriculture and Food		Foreign direct investment, net 2012 1/	n/a
Food imports (% of merchandise imports) 2012 1/	n/a		
Fertilizer consumption (kilograms per ha of arable land) 2012 1/	204	Government Finance	
Food production index (2004-2006=100) 2012 1/	140	Cash surplus/deficit (as % of GDP) 2012 1/	n/a
Cereal yield (kg per ha) 2012 1/	4 496	Total expense (% of GDP) 2012 1/	n/a
		Present value of external debt (as % of GNI) 2012 1/	n/a
Land Use		Total debt service (% of GNI) 2012 1/	1
Arable land as % of land area 2012 1/	10		
Forest area as % of total land area 2012 1/	8	Lending interest rate (%) 2012 1/	n/a
Agricultural irrigated land as % of total agric. land 2012 1/	19	Deposit interest rate (%) 2012 1/	n/a

Appendix 2: Poverty, targeting and gender

A. Poverty

Macro perspective

1. High and sustained economic growth has led to greater inclusion and improved welfare of the people of Uzbekistan as measured by declining poverty, rising wages, improved access to basic services, larger investments in human capital, and higher public expenditures for social development and social protection.

2. According to official estimates of the Government of Uzbekistan, poverty declined from 27.5 per cent of the total population in 2001 to reportedly 14.1 per cent in 2013, and this level is expected to further decline to 13.7 per cent in 2015. This trend in poverty reduction: (i) is estimated on the basis of a consumption-based poverty line threshold; and (ii) has resulted from rapid economic growth, sustained annual increases in salaries and remittances, incomes from micro and small businesses, and the Government's targeted social support programs. Net remittances from labour migrants have helped many families in Uzbekistan to keep poverty at bay.

3. While Uzbekistan's gross domestic product (GDP) growth per capita increased 1.4 times over 2005 2010, cash earnings per capita increased 2.7 times, average monthly wages 4.3 times, pensions 3.8 times, personal savings 4.9 times, and consumption expenditures per capita 2.6 times. At the same time, public investments in the social sectors and infrastructure development increased 2.5 times during this period. The share of social sector expenditures in the budget increased to 60 per cent in 2010 from 49 per cent in 2005.

4. Despite the significant decline in poverty, however, the elasticity of poverty reduction to GDP growth remains relatively low, according to World Bank reports. In 2002–13, per capita GDP grew by 1.97 times and poverty declined by 48.7 per cent. A 1.0 per cent increase in per capita GDP in Uzbekistan is associated with a 0.5 per cent decrease in the poverty rate, on average, which is lower than the average estimate for developing countries (a roughly 3 per cent decrease in the poverty rate per every 1 per cent increase in per capita GDP). There are several potential explanations for this: (i) low-productivity growth in labour-intensive agriculture that still employs one-fourth of the population and most of the poor, but the sector is subject to numerous implicit taxes and restrictions on exports and economic activity; (ii) a high level of informality in the rural labour markets; (iii) relatively few working adults per family; and (iv) regional divergences in economic growth at provincial and district levels (i.e., richer regions growing faster).

5. **Inequality.** When the Government endorsed the Millennium Development Goals (MDGs) for 2000-2015, its main goal was to "halve poverty [compared to the year 2001 level] and halve the number of underweight children under 5 by 2015." This translates into a targeted reduction of the national poverty rate to 13.7 percent of the population by 2015. The reduction in decline in the poverty rate has borne the fruit of pro-poor growth in Uzbekistan, despite the low sensitivity of poverty reduction to GDP growth. Uzbekistan's income is distributed more equally over time as indicated by the change in the **Gini coefficient**, which has reportedly declined from 0.45 in 2006 to 0.3 in 2012, according to official statistics.

6. **Geographic inequality.** Uzbekistan is divided into 12 regions (viloyati), the autonomous Republic of Karakalpakstan and the independent city of Tashkent (shahari). According to State Statistics Committee data, the distribution by these areas of the percentage of the population which fell below the 2,100 calories per day poverty line in 2005 was, in order of ascending percentage: Tashkent City 6.7 per cent; Ferghana 15.8 per cent; Tashkent Region 20.4 per cent; Bukhara 20.8 per cent; Andijan 23.1 per cent; Samarkand 23.9 per cent; Navoi 26.3 per cent; **Jizzak 29.6 per cent**; Khorezm 31 per cent; Syrdarya 32.6 per cent; Namangan 33.4 per cent; Surkhandarya 34.6 percent; **Kashkadarya 41.0 per cent**; and the Republic of Karakalpakstan 44.0 per cent.

7. **Food security and nutrition**. The government has a three-track approach to food security and nutrition: (i) defining wheat as a 'strategic crop' subject to State procurement targets and prices; (ii) opening up access to land through the allocation of small private household plots and dehkan farms; and (iii) special nutrition programmes for the general population, mothers and young children.

8. With regards to child malnutrition, 19 per cent of Uzbekistan's children under the age of 5 are stunted, 4 per cent are underweight, 70 per cent of children between 12-23 months are anaemic with iron deficiency and 61 per cent with vitamin A deficiency. Malnutrition tends to be higher in rural areas with wasting rates at 7.2 per cent in rural areas and 3.7 per cent in urban areas. According to UNDP reports, Karakalpakstan is the most vulnerable district to the incidences of anaemia and tuberculosis and malnutrition is rapidly increasing in Namangan and Surkhandarya districts. Uzbekistan also has high prevalence of anaemia among women of reproductive age, 60 per cent, which is the highest in Central Asia The government is paying special attention to improving nutritional status of children and mothers though various nutrition activities including weekly iron-folate supplementation program for pregnant women, flour fortification initiative, promotion of exclusive breastfeeding, salt iodization programs etc. A Nutrition Task Team was formed in 2005 consisting representatives from Ministry of Health and technical agencies including WHO and UNICEF who develop and work under national nutrition framework.

Poverty determinants

9. Official data from the Uzbekistan Household Budget Survey (HBS) suggest that 70 per cent of poor households in Uzbekistan reside in rural areas and the poverty risk is generally higher in villages and small towns that are remote from the main transportation and communication network. The HBS also suggests that households with a greater number of dependents (three or more children) have a higher risk of being in poverty, and that poverty rates are higher where household heads do not have specialized or vocational education; and the data shows that employment alone is not a guarantee for exiting poverty. Some 50 per cent of households with low consumption expenditures had low-paid family members working in public organizations or as self-employed workers. Temporary and seasonal workers were found to be especially vulnerable to the risk of falling into poverty.

10. **Access to land** is very important poverty factor. According to the Centre for Economic Research (CER) the rural population is growing more rapidly than the urban population and is programmeed to reaching 22.2 million by 2025. At the same time there is already a shortage of arable land in Uzbekistan and there is a premium on irrigated land due to the country's prevalent agro-climatic conditions. During the last 25 years irrigated land per inhabitant has declined from 0.22 to 0.12 hectares. A long history of extensive irrigation has contributed to growing problems of salinization and water shortages and these difficulties are anticipated to worsen due to climate change. The less advantaged in rural areas are likely to be at risk of being squeezed between lack of adequately remunerative employment opportunities and lack of adequate land for in-kind subsistence. The centrality of land in poverty-reduction is strengthened further by the fact that: (1) while many families own livestock or poultry, such assets are usually meagre; (ii) less advantaged households face a perennial shortage of fertilizers, chemical pesticides and seeds; and (iii) income from household micro-enterprises, usually from selling agricultural products or handicrafts is low and erratic for most households. One major consequence of this combination of constraints is internal and international labour migration as part of rural household survival strategies.

11. **Labour markets.** The labour market in Uzbekistan is characterized by two factors that correlate closely: (i) as a result of the heavily young and rural population, an excess of supply over demand, stemming from about 250,000 persons entering the labour market annually; and (ii) a mismatch between the quality of the workforce and the professional and qualification-based requirements of employers. An increasing majority of the labour force, particularly women, works in jobs in both the formal and informal sectors that do not ensure sufficient earnings to secure the needs of their families. Meanwhile, underemployment in the agricultural sector is particularly significant, and the informal sector has expanded sharply since 2001, now employing nearly half of workers.

12. Despite the statistical figures on absolute poverty reduction: (i) income inequality and differentiation among different sectors and regions of Uzbekistan prevails, even though it may have decreased between 2005 and 2010, according to the state statistics; and (ii) the estimation of poverty based on the level of income and expenditure alone does not provide a full assessment of people's standard of living.

13. An alternative, **multidimensional assessment of poverty** — which takes into account access to services (education, healthcare, and housing) — could provide a more comprehensive and realistic picture. According to such a methodology, developed by the University of Oxford and cited in the *Human Development Report* for 2011, the poverty level in Uzbekistan falls dramatically to only 2.3 per cent of the population (estimate for 2006, the latest available) compared with the 16 per cent official figure for 2011 for income poverty.

Welfare policies and actions

14. Whilst the adoption of the Government's **Welfare Improvement Strategy-II** (2013–15) has been the driving force towards achieving poverty reduction, targeting of benefits needs to be improved. The new national poverty reduction strategy embraces all means-tested public social programs, providing allowances and benefits to targeted groups of the poor, vulnerable groups, and those lacking services through local neighbourhood communities (*mahallas*). Every year, the Government adopts additional social programs targeted to particular vulnerable groups in line with its thematic priorities, for example, "the Year of the Family" (2012), "the Year of Prosperity" (2013), and "the Year of the Healthy Child" (2014). Additional pro-poor actions are taken every year, such as additional increases in wages, pensions, and benefits; access to micro-lending, especially for women; the provision of housing for orphaned children and social assistance to single citizens in need; job creation in public works, construction, and services sectors; the provision of cattle to the poor; and the outsourcing of some apparel production from large enterprises to households in rural areas. The Government is also increasing the provision of health care and basic education in rural areas by introducing per capita financing in rural primary health care, schools, and vocational colleges. However, the targeting of social protection programs needs to be improved as there is considerable discretion and arbitrariness at the local level (*mahallas*) on the distribution of social benefits to the poor, and existing monitoring and evaluation systems are not always applied effectively to guide policies. The Government is aware of the challenges and the need to reduce the urban bias in access to core public services in rural health care and basic education, and is introducing per-capita financing in rural primary health care, schools, and vocational colleges.

15. **Food security and nutrition.** The GoU has taken a three-track approach to food security and nutrition: (i) defining wheat as a 'strategic crop' subject to State procurement targets and prices; (ii) opening up access to land through the allocation of small private household plots and dehkan farms; and (iii) special nutrition programmes for the general population, mothers and young children.

16. **MDG's achievement.** Uzbekistan has reached its United Nations' **Millennium Development Goal (MDG)** for maternal mortality and is on track for child (under five) mortality and reversing the spread of tuberculosis. Its MDG target for improving the quality of primary and basic secondary education while maintaining universal access is expected to be met. Reversing and halting the spread of HIV/AIDS by 2015, however, is unlikely, and halving poverty—from 27.5 per cent in 2001 to 14 per cent in 2015—will require maintaining high growth rates. A 2011 government resolution, on additional measures for implementing the MDGs in Uzbekistan, outlines tasks, measures, outcomes and responsible ministries for each MDG for the period 2011-15. Uzbekistan's national targets for **gender equality** and women's empowerment are on track, as the country achieved gender equality in primary and general basic secondary and secondary vocational education in 2005 and is expected to improve gender balance in higher education by 2015.

DVCDP's strategy

17. In response to the country's rural development policies and strategies, the intervention strategy of the DVCDP programme is one of facilitating the achievement of the stated objectives: to improve productivity, competitiveness and market access of smallholder livestock products, through better structured value chains and private-public partnerships, while facilitating the creation of employment and increased incomes in the identified programme area. Of special relevance in this regard are the programme's gender and targeting strategies.

B. Gender

18. **Gender Index.** Uzbekistan's Gender-Related Development Index values were between 0.692 (in 2005) and 0.708 (in 2009), where 1 represents achievement of perfect equality, ranking the country 99 out of 155 countries. Similarly, under the World Economic Forum's Global Gender Gap Index, Uzbekistan showed almost no progress in closing the gender gap and received a score of 0.691 (with a score of 1 representing full equality) from 2006 to 2009.

19. **Human development.** Uzbekistan's Human Development Index value for 2013 is 0.661, which is in the medium category, placing the country at 116 out of 187 countries. Between 2005 and 2013[45], Uzbekistan's HDI value increased from 0.626 to 0.661, an increase of 5.6 percent or an average annual increase of about 0.68 percent. The inequality-adjusted HDI of 0.556 and the ratio of labour force participation (female/male) at 0.945 in 2013, however, indicate the existence of significant income inequality among the population. The corresponding percentage of labour force participation is 47.9 per cent for women and 75.2 per cent for men.

20. **Rural women.** While women constitute an estimated 53 per cent of the population employed in agriculture, it is striking that of 235,000 leasehold (private) farms registered by January 2008 only 17,000 or 7.2 per cent of them were led by women. For the most part rural women in agriculture are unpaid family labour or low-paid agricultural labour, often working on a seasonal basis. At present, it is often the case that rural women have the main responsibility for production from household plots and *dekhan* farms.

21. The entrepreneurial activities of rural women, whether it is heading their own agricultural enterprises or focused on micro and small-scale non-farm enterprises, cross border informal trade, subcontracting work at home or street trading is severely constrained by **limited access to credit and property**. A significant barrier to developing female-headed farming and non-farming enterprises has been the inability of the women to provide collateral against credit applications. According to information the State Statistical Department (2009), 85 per cent of micro-credits go to men and only 15 per cent to women. However, privatization under the land reform programme appears to have increased credit demand in the sector.

Country gender profile

22. **Gender endowments.** Gender differences at the primary, secondary, and tertiary levels of the education system are small, but the educational attainment of employed women is on average higher than employed men. Access to prenatal and family planning services is high, with virtually all births attended by skilled health staff and 97 per cent occurring in a health facility. According to official data, infant mortality is 11/100,000 births, but according to field surveys it may be three times higher. Importantly, there is no gender imbalance at birth. Contraceptive prevalence is about 65 per cent. The total fertility rate has roughly halved since the early 1990s, from 4 to 2 live births per woman. Women's life expectancy exceeds that of men by 4 years.

23. **Access to economic opportunities:** According to official data, 95 per cent of both men and women of working age were employed in 2010, although according to survey data, female employment is only 50 per cent. Women account for about 45 per cent of the labour force and over

[45] UNDP Human Development Report 2014

65 per cent of health and education system employees. They are under-represented in agriculture, construction, industry, and services and only 2 per cent of female entrepreneurs received credit in 2007.

24. Although the country's law promotes equal pay for equal work, women's wages were only 63 per cent of men's wages as of 2006.[46] All types of women's incomes are lower than those of men; in the non-agricultural sector it is less than half, and old- age and disability pensions for women are 1.5 times lower[47]. While, the country's constitution promotes equality in all respect, the country's labor code itself bars women from working in many of the same industries as men and hence the UN Committee on the Elimination of Discrimination against Women has characterized the Uzbek labor market as "sex-segregated".

25. Women's employment and education is under the influence of gender stereotypes related to the women's role in patriarchal society. Girls are more often encouraged by the family to learn professions that may be useful in a family. Women's duties include: cooking, washing clothes, house cleaning, taking care of children and weak family members, working on the garden plot, looking after livestock and poultry and delivering water for drinking and domestic needs[48]. More than half of women's economic contribution consists of social transfers in the formal employment or the informal sector (old-age pensions, disability pensions and children's benefits)[49]. Likewise, women's labour in agriculture is, typically, unpaid family labour or low-paid agricultural labour, often working on a seasonal basis. At present, it is often the case that rural women have the main responsibility for production from household plots and *dehkan* farms while men are engaged in selling and marketing of the products. Rural women's unpaid domestic work is generally more time-consuming and burdensome because it often includes livestock rearing, working on family farms, and microenterprises.

26. **Female-headed households** (FHHs). FHHs are usually the most vulnerable group, with higher incidence of poverty and lack of opportunities and hence, are an important target groups for poverty alleviation and income generation activities. According to the WB data, 18 per cent of Uzbekistan's households are female-headed, however, the government officials interviewed during the mission were not familiar with the concept of female-headed household and the regional statistics department did not have any record of the number of female-headed households at the oblast level. According to representatives of the BWAU, the number of FHHs could be as high as 30 per cent in Jizzakh and maybe slightly higher in Kashkadarya due to high labour migration of men, mainly to Russia.

27. One of the main reasons behind increase in the number of female-headed households in the country is increased out-migration of men, mainly to Russia and Kazakhstan and to urban areas for work. Other reasons include divorce, death of husband, separation or abandonment.

28. **Women's access and control over natural resources**. Women in Uzbekistan face disadvantages in accessing crucial resources, in particular land, which has direct impact on poverty alleviation. The state schemes to privatize management of agricultural production and land benefited former collective farm managers, who were primarily men, resulting in fewer opportunities for women to acquire land-lease rights, even though women represent a large proportion of the agricultural workforce.2 While women constitute about half of the population employed in agriculture, out of 235,000 leasehold (private) farms registered by January 2008 only 17,000 or 7.2 per cent of them

[46] UN Committee on the Elimination of Discrimination against Women (CEDAW), responses to the list of issues and questions with regard to the consideration of the 4th periodic report: Uzbekistan, CESAW/C/UZB/Q/4/Add.1, 26, October 19, 2009.
[47] "Poverty and Social Assessment on the Territory of Narpay sub-project, Samarkand Province". TA 7061: Water Resource Management Sector Project. ADB/Government of Uzbekistan/IKS. August 2008.
[48] Gender aspects of agricultural and rural employment: application for Uzbekistan. 2009.
[49] D. Alimdjanova. 2009. Gender Aspects of Agricultural and Rural Employment: Application for Uzbekistan. Presentation at the FAO, International Fund for Agricultural Development, and ILO workshop on Gaps, Trends and Current Research in Gender Dimensions of Agricultural and Rural Employment: Differentiated Pathways out of Poverty. Rome.

were led by women. These numbers show that reform in rural areas and mechanisms of re-organisation of shirkat farms to leasehold farms took place in a way which discouraged interest amongst women. The process of reorganising shirkats happened on the basis of tenders where special attention was given to the availability of initial capital and equipment. Women could not participate equally in tenders because traditionally they did not have the required resources (ASDB, 2007).

29. **Women's participation and decision-making power**. Although women play a major role in agricultural production, they are underrepresented in decision-making positions, in the communities as well as in the household. Women's involvement in farming is higher in the regions where women occupied managerial/decision-making positions during Soviet times where there is a positive stereotype of women's capacity and work effectiveness in agriculture. More successful female farmers are former leading collective farm workers, who started working in the fields after graduation from professional colleges and their average age varies from 45 to 70 years. At the household level, although women have started taking part in decision-making, men are still the major decision makers.

30. **Women's access to financial services**. A significant barrier to developing female-headed farming and non-farming enterprises has been the inability of the women to provide collateral against credit applications. The entrepreneurial activities of rural women, whether they are heading their own agricultural enterprises or focused on micro and small-scale non-farm enterprises, trade, or home-based work, is severely constrained by limited access to credit and property, mainly due to limited land ownership and lease rights. According to the State Statistical Department (2009), 85 per cent of micro-credits go to men and only 15 per cent to women.

31. According to the Presidential Decree No. 3434, to support women entrepreneurs, banks are allowed to give some concession on interest rates to potential business women at interest rates not more than the refinancing rate of the Central Bank. While the banks met during the mission were well aware of the decree, only Turon Bank claimed that they were implementing this provision.

32. **Women entrepreneurs**. Support for entrepreneurship, particularly small businesses, has been a priority for Uzbekistan as private enterprise is increasingly driving the economy. Traditional Uzbek society, however, does not encourage women's empowerment and demonstrates a negative attitude towards women entrepreneurs in communities. Women still face various gender-based constraints to doing business, including unequal access to financial services; bureaucratic obstacles; a lack of information, business knowledge, skills, and the technical resources needed to run a successful business; and cultural perceptions and stereotypes. A survey revealed that while rural women are interested in taking up business activities, they feel a lack of entrepreneurial skills as well as mobility and are afraid of their ignorance of laws and regulations.

33. **Dairy value chain and women**. Gender roles in Uzbekistan's dairy value chains are quite distinct. While women are often in the majority, men almost always occupy leadership positions, as was apparent during the fieldwork. Although women largely drive the sector, they tend to be invisible and their participation in the value chain is limited as a result of traditional gender roles. They are currently most active as intermediaries (milking, cattle husbandry, milk supply) and micro-processors, while the more profitable levels and lucrative roles of the VC, processing and marketing and trading, are dominated by men. Despite their strong interest, women have fewer opportunities to access necessary resources such as capacity building initiatives, financial support, modern technologies and equipment. Given the high importance of dairy-related activities to the household livelihood strategies, limitations that prevent women from fully participating in the value chain should be eliminated.

34. **Youth** make up a considerable portion of Uzbek population, with young people at the age of up to 18 accounting for about 40 per cent of the population, and more than 60 per cent of population aged up to 30. The country, however, is lacking in creation of new jobs and economic opportunities to absorb them effectively in the labor force. While the rapid economic growth and the implementation of new employment programs have led to an increase of 14 per cent in employment from 2005 to 2010 (State Statistical Committee), the momentum of job creation needs to be maintained and enhanced as

the employment opportunities are still inadequate, forcing the youth to labour migration. Based on the statistics and interviews most young people (18-30 years) are either unemployed or engaged in low-paying jobs resulting in their underutilization. Yet many young people are interested in establishing their own enterprises. Field interactions with representatives of Kamolot Civic Youth Movement of Uzbekistan, suggest that rural youth are interested to become entrepreneurs and engage in livestock production and processing activities. Every month, regional Kamolot offices receive a large number of business plan proposals (mostly on cattle breeding and milk processing) for support in accessing credit.

Women's Representation.

35. In recent years, the GoU has been has been prioritizing the improvement of the legislative and institutional base for further ensuring equality for women. Uzbekistan's Constitution and Family Code provide for equal rights and responsibilities for men and women. The State Committee for Women's Affairs—an officially registered NGO comprising a nation-wide network of almost 80,000 primary organizations coordinates and promotes women's activities. The chairperson of the committee is the Deputy Prime Minister and at district level, it is the deputy hokims (governors). Similarly, there is mandatory provision for female deputies for all administrative bodies at regional and district levels to deal with women's issues and this structure extends down to the community level where every Mahalla has a women's affairs adviser.

36. In terms of the political process, women remain underrepresented and, to address this issue, political parties set a quota of 30 per cent for female candidates in elections. As a result, the number of women deputies in the national bi-cameral legislature increased from 17 per cent in 2005 to 19.2 per cent in 2013. The Speaker of the Legislative Chamber (lower house) and the Vice-President of the Senate (upper house) are both women. Uzbekistan ratified the Convention on Elimination of All Forms of Discrimination against Women (CEDAW) in 1996. More recently, the government has evidenced increasing commitment to efforts to combat human trafficking.

37. **Women's NGOs**. The Women's Committee actively promotes and continues to develop the network of women's NGOs in the country. The rapid development of women's NGOs marked an important stage in the growth of the women's movement in Uzbekistan. In recent years, women's NGOs have made significant contribution in attending to women's problems by initiating awareness activities, conducting gender research, and collaborating effectively with government and foreign organizations.

38. **Women's Committee of Uzbekistan**. The Women's Committee is the main organization representing women's interests in all spheres of life in Uzbekistan. The Women's Committee is chaired by the deputy prime minister and has female deputy local administrators called hokims in every district. The Women's Committee has also set a minimum quota of 30 per cent for women's participation in political parties, and this quota is now being replicated in other sectors as well such water, energy, etc.

39. **Business Women's Association of Uzbekistan Tadbirkor ayol** (BWAU). Established after independence in 1991, BWAU is one of the first NGOs working on women's issues in the country. They have representatives in all provinces/regions and 90 districts. The main activity of the BWAU is training unemployed women to establish their own independent businesses. It is also involved in training women farmers on gender awareness, leadership and farm business development. Some of the training courses conducted by the association include "How to launch one's own business", "How to devise a business plan", "The fundamentals of marketing", "Woman and society", "Small and medium-sized business", "Women and their rights" and "Gender development" and are aimed at developing female entrepreneurship. BWAU has been a strong advocate of improving women's access to credit and has trained many credit union staff as well. They have also worked closely with the World Bank, USAID and ASDB on poverty reduction and women empowerment programmes."

Cultural perspective

40. As stated in the Horticulture Support Programme's working paper on gender, the term "gender" is very new to policy makers and the general public in Uzbekistan and it can even have negative connotations, including being associated with extreme Western feminism, anti-men, and anti-family values, which are understood as being against Uzbek national values. The majority of the government officers, policymakers and even private sector representatives met by the mission considered that there is not any issue for women in the country.

41. Women in Uzbekistan are more at risk of poverty than men, particularly if they are divorced, widowed, single mothers or have large families. The unemployment rate for women is higher than that of men and most unemployed women are unskilled and from rural areas. Women also face many barriers, mostly traditional, when they attempt to take advantage of new opportunities to improve their standard of living, for example, women not only lack many of the business skills required to develop small business, but have little access to credit.

42. Likewise, the patriarchal ideology is perpetuated at different levels, resulting in insufficient use of gender approaches in the implementation of economic and social policies and in the decision-making level in general. At the household level, gender stereotypes set household duties connected to motherhood, children, and family as a priority for women and the privilege for extending education is given to boys. As a result, women still represent a minority of students enrolled in higher education establishments, have lower control over resources particularly land, lower access to capital assets, are disadvantaged in the labour market and

43. Uzbek society considers physical abuse of women to be a personal affair rather than a criminal act. Family members or elders usually handle the matter internally, and rarely make it public. In cases where women do seek help, they receive minimal assistance or protection from the government. Local authorities emphasize on reconciling husband and wife, rather than addressing the abuse. The women farmers interviewed during the mission acknowledged that they would not disclose their family conflicts to any outsider, and not even to a relative, friend or neighbour. The main reason behind the hesitation to seek support is that maintaining family harmony is considered as woman's responsibility and occurrence of any conflict in the household reflects her failure in performing her duties.

C. Targeting and gender mainstreaming

44. **Target area**. DVCDP's intervention will be implemented in the districts of Jizzakh and Kashkadarya. The districts have been selected based on social, demographic and economic criteria in addition to the social and economic priorities clearly set by the Government. These two provinces offer a comparative advantage and potential for livestock production and processing and access to expanding urban and rural markets.

45. DVCDP's main programme target groups will consist of the following: (i) Dehkan farmers; (ii) Private dairy farmers; (iii) Local agro-industry entrepreneurs holding small-to-medium sized processing, input supply and support service units; and (iv) Rural unemployed

Programme area and target group

Programme area.

46. DVCDP's intervention will be implemented in the districts of **Jizzakh** and **Kashkadarya**, which have been selected based on social, demographic and economic criteria (i.e., livestock population, existence of emerging processing facilities, geographical location, demand for financial services, entrepreneurial potential among the IFAD target groups), in addition to the social and economic priorities clearly set by the Government. These two provinces offer a comparative advantage and potential for livestock production and processing and access to expanding urban and rural markets.

47. Both districts are located in the southern part of the country, close to Surkhandarya region, the programme area for the HSP, effective since 2014. In terms of poverty distribution, the State Statistics Committee data of 2005, reports that 29.6 per cent of the population in Jizzakh and 41.0 per cent of

the population in Kashkadarya lie below the 2,100 calories per day poverty line and most of this population are rural farmers engaged in livestock activities. As shown in Table 4, the two regions are characterized by their: (1) important levels of contribution to agricultural and livestock outputs; (ii) higher engagement of their populations in agriculture, on average, as compared with rest of the country; and (iii) lower-income, on average, as compared to the country as a whole.

Table 4: Programme area provincial statistics

Indicator	Jizzakh	Kashkadarya	Uzbekistan
Territory, per cent of total	4.7	6.4	100
Population, million	1.23	2.89	30.7
Population, per cent of total	4.0	9.5	100
Share of working age people, per cent	60.5	60.7	61.7
Share of population engaged in agriculture, per cent	43	28	27
Aggregate annual income per capita, UZS thousand (in brackets, US$)	2,216.0(916)	2,630.8(1,089)	3,166.3 (1,309)
Aggregate annual income per capita, per cent of average	70	83	
Aggregate annual income per capita, per cent of Tashkent level	34	40	49
Share in total agricultural output, per cent	5.0	7.4	100
Livestock production volume, UZS billion (in brackets, US$ million)	773(319.7)	1,236(511.2)	12,397(5,127)
Share in total livestock production volume, per cent	6	10	100

Source: Statistical Yearbook of Uzbekistan Regions. 2014

48. **Target groups.** The Programme's principal user-beneficiary groups consist of: (i) dehkan farmers; (ii) private commercial farmers; (iii) local agro-industry entrepreneurs holding small-to-medium sized processing units; and (iv) the rural unemployed for whom the programme is expected to create greater employment opportunities at farm and enterprise levels of dairy value chains.

49. **Dehkan farmers** own small household plots of about 0.17 ha on average through life-long leaseholds with inheritable possession rights. The majority of dehkan farmers are engaged in small volumes of production and selling of agricultural produce using household labour. Despite being small and occupying only 11 per cent of total cultivated land, they play a major role in terms of agriculture production and, more importantly, in household food security. According to available statistics, they account for almost 60 per cent of agricultural output, including 40 per cent of crop and almost 90 per cent of livestock output. Agriculture employment, however, contributes only about a third of the total family revenue, with majority coming from off-farm employment. Livestock production in dehkan farms plays a significant social role as it is an important source of income and food for the rural families. According to a survey conducted in August 2007 cumulative average income of dehkan farms (including subsistence consumption of produce harvested on household plots was UZS 279,000 with average per capita income per family member at UZS 46,000.

50. **Private farmers** own 25 ha of land on average, but some own as much as 150-250 ha. They are independent legal entities with a right to hire and eligible for land allocation. Private farmers are usually obliged to grow a certain percentage of cotton and/or grains like wheat and rice and sell a significant proportion of their production to the state at fixed procurement prices. The government has imposed land allocation rules on private farms based on the herd size. At present, private livestock farms with at least 30 livestock units (30 cattle or 45 small ruminants) are eligible to 0.3 ha of land per animal head (0 45 ha in Tashkent and Fergana regions); while a minimum size of land plot for crop production (cotton and grain crops) is 10 ha. Agriculture contributes about 73 per cent of the total family revenue for private farmers. To increase productivity of their livestock, many private farmers use AI, some use local or cross-bred species and many have imported improved cows, mainly from Poland, Germany, Ukraine and Austria. Due to their access to land, they usually have sufficient fodder supply for cattle and in many cases also have access to private veterinarians

51. **Agro-industry entrepreneurs/Dairy Processors**. Dairy processing units are mostly owned and run by large private farmers and small, medium-sized and large processors/entrepreneurs. They

get their milk supply mostly from dehkan farmers as well as from their own farms. Most common products produced by dairy processors in the programme areas are milk, sour cream, hard butter and cheese. A majority of the dairy processors in the programme area have poor sanitation standards and may not meet even the national requirements, particularly in relation to their physical premises.

52. **The rural unemployed**. The programme aims to create decent employment opportunities at farm and microenterprise levels of dairy value chains, which will target the rural unemployed. It is envisaged that most of the rural unemployed will be young women and men. It is expected that at least 2,000 decent jobs (equivalent) will be created under the programme, encouraging the economically active population of the country from migrating elsewhere to find work. Out of these jobs, the programme will dedicate at least 40 per cent to women.

53. **Youth**: will constitute a direct target group because the majority of rural youth in the programme areas are engaged in low-paying and low-yielding agriculture jobs and many are unemployed. Although they are highly interested in investing and working in the agriculture sector including dairy production and processing they are resource poor, and have limited capacity. Kamolot youth movement representatives in Kashkadarya district indicated that every month they receive 100-180 business plans from young people out of which around 70 per cent are linked to livestock, including milk production and processing. Unless rural areas provide opportunities, young people will continue to migrate out of rural areas and out of agriculture, affecting food security and national development. DVCDP will therefore prioritise the participation of young women and men in all programme activities.

54. **Women** will constitute a direct target group in each level of the dairy value chains because of the clear evidence that, whilst they are important actors, they tend to be invisible and their access to the value chain and capacity to generate income is limited. Unless gender is mainstreamed into the programme, their participation will not be guaranteed. Specific provisions to ensure that they benefit from the programme are detailed further in section C of this paper.

Targeting strategy

55. The beneficiary **targeting strategy** of the Dairy Value Chain Development Programme takes into account: (a) the specific role that women play as the pivot of the rural household economy and their involvement in the various links, production/ processing activities of value chains; and (b) the Government's concern for the continued development of human, technical capacities at provincial level and thus the involvement of young people and technicians in agricultural/ livestock production and enterprises. Consequently, particular attention will be given to: assure participation of women heads of households and **rural women** and **young people**, in general, labouring in processing facilities; their support as production, commercialisation and processing agents; and the value chains that are of relevance to consolidating their position at household and community levels.

56. DVCDP will be executed through a demand-driven approach with the key DVCDP activity − livestock production and agro processing finance − being self-targeting in nature. The Programme also proposes a "cluster" or "aggregated" approach whereby private farms and dairy processors benefit from the targeted loans and improved technology and management techniques, while working in productive partnerships with the male and female dehkan farmers.

57. **Enterprise targeting.** The SIPs will be based around LEs interested to grow their businesses through improved linkages with dehkan farmers either through enterprise-owned MCCs or through co-financing MCCs with private and dehkan farmer groups. SIPs will be evaluated against clear selection criteria and only those meeting minimal programme standards will be proposed to PFIs for financing.

58. **Direct targeting**. Direct targeting will be applied through the definition of participation quotas for rural women's guaranteed access to programme services and activities (e.g., 30-50 per cent dependent on activity), particularly those related to their economic empowerment and entrepreneurial advancement within the value chains.

59. **Facilitation**. The Programme will initiate, in PY 1, a communication strategy by which the objectives/ scope and menu of programme activities/ services will be broadcasted in the districts of

the programme area. It will also organize meetings of producers and processors in villages and pivot provincial towns. Under an approach of open participation and for identifying local needs and opportunities, the meetings will also allow the identification of community leaders and entrepreneurial smallholder and private farmers. As the FPPC develops, it will take on the role of DVCDP facilitation.

Gender and youth mainstreaming strategy and mechanisms[50]

60. **Component 1. Dairy Value Chain Capacity and Innovation Built**. Under Output 1: *Value Chain Actor Capacity Built*, a minimum of 50 per cent of training, particularly training on cattle animal health and husbandry, milk and other produce handling, animal nutrition, improved feed storage/handling, FAAB, waste management, animal diet balancing etc., will be targeted to women. The distribution of training quotas will be based not only on the gender roles, but also on the interest of the farmers. DVCDP will select training venues and timetables in consultation with women and men farmers/entrepreneurs/processors so that they are able to fully and equally participate. DVCDP will also have business development trainings targeted to young entrepreneurs. These trainings as well as selection of business plans for young entrepreneurs will be done in close collaboration with existing national youth initiatives in the programme areas.

61. Household methodologies. DVCDP will support women and youth (particularly unemployed youth) empowerment at household level by improving intra-household gender relations through transformation in household dynamics. To achieve this, the programme will use household methodologies (HHM), in the context of dairy VC development, that encourage participatory household visioning and livelihood planning, and promote gender-sensitive farm business development. The international consultant hired as the trainer for ToT will further detail the characteristics of target groups and gender issues in target areas and select the most suitable methodology to implement under DVCDP. Together with the programme GESI specialist, she will also develop M&E indicators to capture information on up take of the methodology.

62. Under Output 2: *Technology Innovation Tested*, one of the selection criteria for the proposals will be based on social and gender outcomes. On-farm demonstrations that involve and target women farmers will be given preference. DVDCP will also encourage participating institutions to involve more female students in technology testing and demonstration activities. While the programme is supporting women farmers to be part of the testing and demonstration activities, it is important that there are female trainers involved in the process to create an enabling environment for them to learn comfortably. The programme will also encourage the technical institutions to allocate reasonable quota for scholarships for female post-graduate student coordinators of technology testing and demonstration activities.

63. Under Output 3 *Forum for private-public partnership development* (FPPC), DVCDP will ensure there is proper and balanced representation of women and youth from all levels of the VC and decision-making/influencing bodies such as the Women's Committee of Uzbekistan, BWAU, *Maslahatchis*, and youth movement representatives in the forum to reflect gender and inclusion-related gaps and priorities.

64. **Component 2. Production and Processing Development Financed.** Under Output 4 *Dairy value chain business plans prepared*, DVCDP will prioritize business plans that involve more women. Business plans with more women as actors and decision maker will get more preference for approval. Under Output 4 *Dairy value chain investment fund profitably disbursed*, DVCDP will allocate a minimum of 30 per cent quota for women borrowers. To achieve this target, the programme will direct the same NGOs dealing with women's issues and involved in the programme implementation of HHMs to assist women beneficiaries in the overall credit application process, including business plan development. Further, the PFIs will be encouraged to appoint more female loan officers in the regional and district branch offices.

[50] For more detailed descriptions see WP 2.

Implementation arrangements for targeting and gender strategies

65. Gender and social inclusion (GESI) specialist. A female GESI specialist will be appointed as part of the programme implementation team (PIT). The GESI specialist will mainstream gender and social inclusion strategies in the overall IFAD portfolio, for DVCDP as well as for HSP. She will work in close collaboration with the implementing partners and stakeholders to develop yearly gender action plans with quantifiable targets and indicators. See Annex 3 in WP for draft terms of reference for the GESI specialist.

66. While the GESI will be dedicated to facilitate the overall implementation of gender and inclusion strategies, the responsibility and accountability for integrating gender in programmes will rest with the entire PIT and the programme director will have the overall responsibility for ensuring that gender and social inclusion aspects are given sufficient attention.

67. Gender-balanced working team. DVCDP will promote a gender-balanced working team to have at least 20 percent women as professional staff both at PMU and PIT by applying various affirmative actions without compromising the qualification needs.

68. International Gender Expert. DVCDP will hire an international gender expert who will conduct TOT for HHMs. In addition to support in training and capacity building on HHMs, the expert will also support the programme GESI specialist in setting up and initiating gender and inclusion strategies. See Annex 4 in WP for draft terms of reference for the international expert.

69. Gender awareness training. DVCDP will provide gender awareness/sensitization trainings to PMU and PIT staff of both DVCDP and HSP as well as to service providers and PFIs working on programme implementation.

70. Gender-responsive Annual Work Plan and Budget (AWPB). DVCDP will pay special attention to ensure that a gender-responsive budget is in place. The GESI specialist, in consultation with the programme manager and rural finance officer, will integrate gender-responsive budgeting into the AWPB preparation process, reflecting the requirements to implement gender action plans.

71. Gender-sensitive monitoring and evaluation (M&E). DVCDP will adopt gender-sensitive M&E system to address gender issues by reporting and analysing sex-disaggregated data throughout the programme cycle. The programme M&E officer, together with the GESI specialist, will be responsible for ensuring gender and target group disaggregated data collection and analysis for all input and output indicators.

72. Communication strategy. In addition to *Mahallas*, *Hokimiyats* and PITs, information about programme activities will be disseminated through popular agriculture programmes in regional television channels, local newspapers and flyers/posters. To reach out to potential women beneficiaries, in addition to *Maslahatchis*, DVCDP will engage women leaders in the communities, women's informal networks and local NGOs to disseminate programme-related information. The programme will also engage local youth organizations and networks to reach out to young women and men.

73. A gender checklist is contained in Appendix 2, Annex 1 and a targeting checklist in Appendix 2, Annex 2.

Annex 1. Gender Checklist

Key Issue	Design Response
1. The programme design report contains – and programme implementation is based on - gender-disaggregated poverty data and an analysis of gender differences in the activities or sectors concerned, as well as an analysis of each programme activity from the gender perspective to address any unintentional barriers to women's participation.	Yes. Gender differences are analyzed during poverty analysis and programme activities are gender-sensitive. DVCDP has taken into account women and men's roles, constrains and needs in designing the programme activities.
2. The programme design report articulates – or the programme implements – actions with aim to: Expand women's economic empowerment through access to and control over productive and household assets;	Yes. DVCDP activities are designed to expand women's economic empowerment by facilitating women's access to credit, production inputs, technical training and business development skills. Under the rural finance sub-component, a minimum of 30 per cent of credit will be targeted to women borrowers and under the capacity building sub-component, a minimum 50 per cent of farm management and farm business training will be targeted to women. See Section C.
• Strengthen women's decision-making role in the household and community, and their representation in membership and leadership of local institutions;	Yes. DVCDP will provide various technical and entrepreneurial training to build women's capacity, which will contribute in strengthening their decision-making role. DVCDP will ensure women's equal representation in FPPC. DVCDP will use HHMs in the context of dairy VC development to support women's empowerment at household level by improving intra-household gender relations through transformation in household dynamics.
• Achieve a reduced workload and an equitable workload balance between women and men.	Yes. DVCDP will use HHMs to mentor household members to share workload and provide moral support to women members. See Section C. The Programme will, for example, provide various innovative technologies such as portable milking machines and improved animal housing that could save farmers labour.
3. The programme design report includes one paragraph in the targeting section that explains what the programme will deliver from a gender perspective.	Yes. DVCDP's gender strategy, essentially guided by IFAD's Gender Equality and Women's Empowerment Policy[51], aims to enhance women's participation and role along the dairy value chain by increasing their access to credit and empowering them both technically and entrepreneurially as owners and managers of farms and processing units. The strategy is not only to support women in production but also to move them further up the value chain by engaging them in processing, management, marketing, and ownership.
4. The programme design report describes the key elements for operationalizing the gender strategy, with respect to the relevant programme components.	Yes. DVCDP activities and investments will contribute in tackling the major constraints faced by the dairy VC actors and iimplementation arrangements under for the strategy under each component have been defined in the report. See Section C and D.
5. The design document describes - and the programme implements - operational measures to ensure gender- equitable participation in, and benefit from, programme activities. These will generally include:	

[51] http://www.ifad.org/gender/policy/gender_e.pdf

Key Issue	Design Response
5.1 Allocating adequate human and financial resources to implement the gender strategy	Yes. Adequate budget has been allocated in the design for the implementation of the gender strategy. A female Gender Specialist will be appointed in the regional office who will ensure gender mainstreaming in the overall IFAD DVCDP and HSP portfolio. See sub-section ii section C. Gender action plans with quantifiable targets and indicators will be developed and the programme AWPB will be prepared to reflect the requirements of the action plans. See Section C.
5.2 Ensuring and supporting women's active participation in programme-related activities, decision-making bodies and committees, including setting specific targets for participation	Yes. Specific measures and strategies are designed to ensure women's access to information about programme activities and their participation in programme activities. See section C.
5.3 Ensuring that programme/programme 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	Yes. DVCDP will promote a gender-balanced working team to have at least 20 percent women as professional staff both at PMU and PIU. Participating PFIs will be encouraged to appointment female loan officers. Programme staff, service providers and PFIs will receive gender awareness training during start up and refresher training after mid-term.
5.4 Ensuring direct programme/programme outreach to women (for example through appropriate numbers and qualification of field staff), especially where women's mobility is limited	Yes. DVCDP will involve local NGOs dealing with women's issues to assist women farmers in credit application, encourage participating PFIs to appoint female loan officers in their branch offices and train women facilitators to roll-out the methodologies in the communities. DVCDP will select training venues and timetable in consultation with women beneficiaries and, if necessary, conduct separate training for women.
5.5 Identifying opportunities to support strategic partnerships with government and others development organizations for networking and policy dialogue	Yes. DVCDP will ensure proper and balanced representation of women and men from all levels of the VC and decision-making/influencing bodies such as the Women's Committee of Uzbekistan, BWAU, Maslahatchis, and youth representatives in FPPC to reflect gender and inclusion-related gaps and priorities.
6. The programme's logical framework, M&E, MIS and learning systems specify in design – and programme M&E unit collects, analyses and interprets sex- and age-disaggregated performance and impact data, including specific indicators on gender equality and women's empowerment.	Yes. DVCDP will adopt a gender-sensitive M&E system to address gender issues by reporting and analysing sex-disaggregated data throughout the programme cycle. The programme logframe indicators are gender-sensitive and sex-disaggregated.

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)?	Yes. DVCDP primarily targets dehkan farmers, particularly women, who have limited access to credit and capacity building opportunities.
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?)	Yes. DVCDP's target groups have been identified and their socio-economic characteristics, assets and livelihoods described. See Section B.
3. Is evidence provided of interest in and likely uptake of the proposed activities by the identified target sub-groups? What is the evidence? (matrix on analysis of programme components and activities by principal beneficiary groups completed?)	Yes. Milk production in Uzbekistan operates well below its potential and is largely driven by smallholder dehkan farmers and private farmers. Target group's interest and likely uptake of programme activities was analysed during the design mission and described mainly in the respected programme component WPs.
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	Yes. The target districts have been selected based on social, demographic and economic criteria See Section B.
4.2 Direct targeting - when services or resources are to be channelled to specific individuals or households	Yes. DVCDP will establish quotas for women's participation in the programme activities; a minimum 50 per cent quota for women in farm management and farm business training, particularly on animal nutrition, husbandry, animal health etc. and a minimum 30 percent quota for female borrowers for the credit lines.
4.3 Self targeting – when goods and services respond to the priority needs, resource endowments and livelihood strategies of target groups	Yes. Milk production for the dairy value chains is mainly done by smallholder dehkan farmers, particularly women.
4.4 Empowering measures - including information and communication, focused capacity- and confidence-building measures, organisational support, in order to empower and encourage the more active participation and inclusion in planning and decision making of people who traditionally have less voice and power	Yes. Through DVCDP activities, private farms and dairy processors will benefit from access to loans and improved technology and business development and management techniques, while working in productive partnerships with male and female dehkan farmers.
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	Yes. DVCDP will contribute to the establishment of FPPC where all stakeholders including men and women farmers from all levels of the value chain and decision-making/influencing bodies can voice their concerns and reflect gender and inclusion-related gaps and priorities. DVCDP will also conduct gender awareness training for programme staff, SPs and PFIs.
4.6 Attention to procedural measures- that could militate against participation by the intended target groups	Yes. Possible procedural constraints for women, youth and poor's access to and benefits from programme activities have been analyzed and addressed in the design.

Appendix 3: Country performance and lessons learned

A. IFAD Programme in Uzbekistan

IFAD country programme

1. **Comparative advantage.** IFAD's entry point and present comparative advantage in Uzbekistan is multifaceted, but it derives primarily from its overall experience on rural development and poverty reduction which has been acquired in neighbouring and other countries that face similar constraints. The Fund's relevant experience and comparative advantage are highlighted in the following areas: (i) a fresh and expanding programme portfolio consisting of one on-going programme (Horticultural Support Programme-HSP, approved in 2012) and the Dairy Value Chain s Development Programme (DVCDP) under design. Both initiatives target key sectors of importance to the smallholder target groups and the specific constraints faced by rural women and young people; (ii) programme implementation experience and innovative approaches in key rural development themes, such as gender and young people's development, rural financing, and the public-private partnership approach for the development of smallholder value chains and their expanded market access; (iii) the systematic application of the Results and Impact Management System (RIMS) in all programmes, and the learning from it derived for performance improvement of investment initiatives; and (iv) the support that is provided to the continued country policy and strategy dialogue at the highest level with government authorities and towards enhancing the negotiation capacity and empowerment of its target groups.

2. **IFAD country strategy.** Whilst a country strategic opportunities programme (COSOP) has not been formulated for Uzbekistan, the Fund's strategy is being implemented based on a draft results management framework which is fully aligned with: (i) national development goals and the agricultural/ rural development sector outcomes reflected in WIS-II and the various government decrees concerning agriculture and smallholder development strategies; and (ii) the Fund's strategic framework and key IFAD corporate policies as pertaining smallholder agriculture, poverty reduction and agriculture/ rural development.

3. **IFAD Programme.** According to the established agreements with the government, the IFAD Country Programme is expected to: (i) support farmers to move towards an improved and sustainable agriculture/livestock production that takes advantage of existing and emerging markets in order to increase their employment, assets base and production incomes; (ii) seek to minimise smallholder production risks through comprehensive and systematic modern technology transfer, support to key elements of profitable agricultural value chains, and the establishment of appropriate, accessible asset-building financing channels; (iii) take into account lessons learned from on-going development programmes, including the starting IFAD-financed Horticultural Support Programme (HSP); and (iv) focus on sectors and geographical areas where smaller farmers predominate, such as the livestock and the horticultural subsectors, while placing emphasis, over time, to achieve a long term impact, and scaling-up/ replication of successful results derived from implementation experience.

4. In consequence, both the IFAD ongoing HSP and the current operation in the pipeline, the DVCDP — as approved by the *Operational Strategy and Policy Guidance Committee (OSC)* Committee in July 2014, and which is the focus of this design exercise: (i) consist of innovative programmes that focus on value chain development and the competitiveness of organised producers' enterprises, food security and agricultural climate-change impact mitigation/adaptation, and overall development of entrepreneurial, organisational and technical capacities of target groups; and (ii) place a marked emphasis on implementation support and learning, with a view to drawing experiences for replication and scaling up.

Country context and issues

5. **Institutional and political environment.** The government continues its development agenda with the long-term objective of becoming a high middle-income country by 2050. Economic growth is being supported by expanding public investment in infrastructure and industry — partly financed by the Fund for Reconstruction and Development — and by increasing public sector wages and social payments. Whilst government investments prioritise modernisation of power generation, the oil and gas sector, and transport infrastructure, with assistance of key international and development institutions, notably, the Asian Development Bank and the World Bank, rural development is also a country priority as stated in the Welfare Improvement Strategy-II (2011-2015). IFAD is considered a principal partner of the government in the modernization of the smallholder agricultural sector. The state retains ownership of all land, with the exception of small household plots that are owned by dehkan farmers. This has averted the economic turmoil experienced by some other ex-Soviet countries and maintained social and political stability. It has, however, also kept the country from achieving its full economic potential.

6. **Policy linkages and dialogue.** Development-related dialogue of IFAD with the Government of the Republic of Uzbekistan focuses on opportunities for the improvement in the livelihoods of the less-advantaged rural populations. In this context, the consolidation of an enabling environment for private sector development is among the key elements of IFAD's discussions with government officials of key ministries (agriculture, finance, economy, etc.) and with the principal development partners at country level (ASDB, World Bank). On the policy side, this implies: gradual reorientation of export policies from raw materials to products with high value added for the benefit of smallholder producers; continued economic liberalisation, focussing on strengthening private property and protecting ownership rights; issues of agriculture and climate change adaptation; and rural financial sector development. The operational approach to achieving an impact on policy change is to lead by example through the investment programmes that the Fund supports. Under the proposed DVCDP, a FPPC will be established to build dairy value chain stakeholder linkages and to open a beneficiary-led dialogue on key rural development and rural/ private sector promotion issues facing the dairy sector.

7. **Partnerships.** Seeking to avoid duplication of efforts, foster complementarities, while taking advantage of value chains and business-related best practices and technological innovation, the overall intervention strategy in Uzbekistan is based on: (i) partnership building with the country's private, commercial sector; sectorial stakeholders; and local R&D institutions and universities, particularly for expanding technical assistance services and market channels; (ii) harmonization with initiatives from development partners present in the country, such as the Food and Agriculture Organization, the Asian Development Bank, the United Nations Development Programme, the World Bank and the German Agency for International Cooperation (GIZ). The latter has been involved in livestock subsector pilot initiatives on which the IFAD programme has drawn some lessons for this proposal; and (iii) overall adherence to the principles of the Paris Declaration on aid effectiveness. In practice, harmonization and sectorial coordination will be provided in the context of the proposed FPPC for country dialogue on private-public partnership.

8. **Targeting.** The primary target group of IFAD in Uzbekistan are small-scale dehkan farmers; private, commercial and semi-commercial producers; agribusiness entrepreneurs involved in processing and marketing to which small producers are linked in the selected horticulture and dairy value chains. In geographic terms, IFAD targets the poorest provinces and districts in the south of the country. Within this framework, a substantial share of the IFAD lending (under the ongoing HDP and the proposed DVCDP programme) is of a self-targeting nature, notably in the domain of agricultural finance. The design of both investment operations includes provisions to make sure programme interventions are accessible to and benefit less advantaged rural women and young people.

9. **Innovation,** learning **and scaling up.** Innovation and learning/ KM are inherent features and objectives of both the HSP and the DVCDP. The HSP is centred on modernization of Uzbekistan's horticultural sector. It is the first international loan-financed programme in Uzbekistan that specifically targets small-scale farmers. The HSP supports the establishment of a nursery and a tissue laboratory

that will introduce new crops and propagation technologies in the horticultural sub sector. Similarly, the proposed DVCDP espouses a pilot and field-demonstration action-research approach as part of its potentially scalable interventions, i.e., during programme implementation and afterwards. The experiences derived from this implementation experience/ lessons learned under the programme will facilitate that operations be scaled up/ replicated —in its opportunity—, in other parts of Uzbekistan, such as the adjacent region of Surkhandarya. This also involves major potential for scaling up and synergies in relation to subsequent donor programmes.

10. **Sustainability.** The sustainability of the IFAD country programme is based on: (i) substantive technical assistance/ training and overall capacity building activities to be promoted, with an expected perennial impact on the formation of social and human capital among the identified target groups. This includes: farmer-group formation, the development of entrepreneurial capacities among the target groups and the enhanced operational capacity of private veterinarians and other service providers and input suppliers and financial service providers; (ii) the self-targeting, demand-driven nature of the on-going programme and the proposed programme; (iii) the contemplated consistency of business plans which should materialise in viable agribusinesses and consolidated value chains through the facilitation of access to financing.

Country programme management

11. **Common implementation issues.** There is no direct, first-hand implementation experience in the country as the HSP is the first programme operation. However, the causes for the initial delays in start-up and disbursements have been addressed in the DVCDP design.

12. **Knowledge management.** The generation of relevant experiences derived from the support to be provided to the various links of the horticulture and dairy value chains is at the core of the action strategies of the HSP and the proposed DVCDP. This includes the proposed farmer-processor partnership model; the practical results that are expected from the pilot programmes and technology innovation programmes; and the distinct approach to rural finance expansion which is being design to meet the need of the IFAD target groups. Thus, the systematization, dissemination and experience exchange within the country and elsewhere in Central Asia, will be essential activities under both operations. Sufficient funds have been allocated to generate knowledge products and their dissemination as well as for experience-exchange study tours within the sub-region and other countries.

13. **Pipeline development.** The DVCDP will be presented at the September 2015 session of the Executive Board. The entire amount of the PBAS allocation for 2013-2015 (US$23.9 million) will be applied to the DVCDP's loan.

Contribution to results

14. **Results management framework.** Investment performance and implementation progress of the Fund's country programme and programmes in Uzbekistan will be monitored based on a Results Management Framework, to be further elaborated through the consolidation of the LogFrames of the HSP and the DVCDP (outcomes, indicators; risks). This exercise, to be complemented in the context of regular supervision missions and meetings of the Country Programme Management Team (CPMT), will pay attention to the issues raised and the required problem-solving action that will emerge out of field supervision missions. It will also address the impact issues of the country programme's contribution to: increased incomes; improved food security; empowerment of target groups; and contribution to the aid effectiveness agenda.

15. **Programme** results**.** By the time of the completion of the HSP and the proposed DVCDP, IFAD should have contributed to the achievement of the following results: (i) increased employment, incomes and food security in the targeted rural areas of the south of the country; (ii) agribusinesses accessing suitable technical assistance and advisory as well as affordable financial services and funds while competitively linked to markets; (iii) enhanced entrepreneurial and organizational capacities of economic entities and individuals as well as expanded technical capacities of rural

women and young people; and (iv) enhanced country dialogue on rural development and a more conducive policy environment on private sector and business development.

B. Lessons learned

16. As described above, the lending and operational presence of IFAD in Uzbekistan is recent. Thus, implementation experience is limited to the start-up of the horticultural programme. Nevertheless, during the DVCDP field design mission, consultations with the main development partners in the country, and a review of experiences from neighbouring countries, provided the following lessons to consider:

- Investment interventions are likely to be more successful in the areas where common ground and understanding of development paths exists between the financing institution and the government.
- Offer support to all links in the value chains, i.e., production, value aggregation, commercialization, while identifying the main constraints faced by the Fund's target groups, and considering the challenges of dynamic local and external markets.
- The use of pilots, demonstration of practical farm-level results, and the dissemination of these outputs, are vehicles for the spread of potential sources of innovation/ productivity and increased incomes, and for subsequent scalable initiatives.
- The identified beneficiaries should be incorporated into clusters and production/ processing value chains since the costs of programme support are higher when individuals receive isolated services and they miss out on the opportunity to take advantage of group formation/ training, collective market links/ outlets, and economies of scale.
- Establish strategic associations with key partners and the private sector in regard to expanding local processing and market access has resulted in a successful practice in the achievement of rural competitiveness and successful agribusiness promotion. These partnerships can involve universities/ research entities, and commercial and entrepreneurial chambers, according to the requirements of new product development and markets.
- Commercial financial service providers will need to be supported in order to incentivise their expanded coverage/ outreach in rural areas, for which capacity building should not only focus on head office credit staff but also on field-level operational staff.
- There is a need to tackle the current limited programme implementation capacity and identify the proper structures and mechanisms to create these capacities.

Appendix 4: Detailed programme description

Programme area and target group

1. The programme's principal beneficiary groups consist of: (i) dehkan farmers; (ii) private farmers producing milk and forage; (iii) local entrepreneurs holding small-to-medium dairy processing units; (iv) provincial dairy sector input suppliers and service providers; (v) national scientific and academic institute staff; and (vi) the rural unemployed for whom programme support is expected to create greater decent employment opportunities at farm and processing levels of targeted dairy value chains. Particular attention will be given to the participation of rural women and youth, individually and in groups, as milk producers and as processing and market entrepreneurs.

2. Based on social, demographic and economic criteria (i.e., livestock population and yield, existence of emerging processing facilities, geographical location, high demand for financial services, entrepreneurial potential among the IFAD target groups, etc.), in addition to the social and economic priorities set by the Government, the programme's intervention area will focus on Jizzakh and Kashkadarya provinces, commencing in the three rayons in each province nominated for livestock and horticulture production diversification from wheat and cotton, together with the two rayons surrounding the provincial capitals of Jizzakh and Karshi respectively, but subsequently covering the whole of each province. These two provinces are located in the southern part of the country – together with Surkhandarya, the targeted area for IFAD's Horticultural Support Programme – thus constituting a geographical-economic and operational cluster close to the major markets of Tashkent and Samarkand for the new programme and IFAD's action

3. The beneficiary targeting strategy takes into account: (i) the critical role that women play as the pivot of the rural household economy and their direct involvement in cattle husbandry and dairy product processing and marketing; and (ii) Government's concern for the continued development of institutional and human technical capital at provincial and national level and for increased opportunity for rural youth, particularly as entrepreneurs.

Development objective and impact indicators

Programme development goal/ objective

4. The DVCDP Goal is to improve the livelihood of rural people (women and men) in Uzbekistan. The Development Objective of the programme is: productivity, competitiveness, commercial farmer linkages and market access of smallholder dairy farms increased

Impact indicators

5. Programme implementation will be guided by the programme's results management framework. Key performance indicators at Goal level are: (i) 12,000 rural households in the Programme area increase their index of household assets ownership by 30% (disaggregated by gender, farm household and youth categories)[52]; and (ii) At least 20% reduction in the prevalence of child malnutrition, as compared to baseline[12.] Key performance indicators at the development objective level are: (i) The value of milk sold by dehkan and private commercial farms in Programme districts increased by 40%; (ii) 2.000 decent jobs created (40% women) through dairy-related farm work/ processing-unit expansion and new rural enterprises; and (iii) 75 per cent of DVCDP-invested agro-enterprises operating profitably[53] two years post investment. (30 % invested by women[54])

[52] Results and impact management system-RIMS anchor indicator
[53] IRR > 12%
[54] Women-headed households and enterprise owners, women involved in key enterprise management decision-making and small processing units run by women

Outcomes

6. The programme's investments and activities will be executed through two outcomes in addition to Programme Management: Outcome 1. Dairy Value Chain Capacity and Innovation Built; and Outcome 2. Dairy Production and Processing Development Financed.

Outcome I: Dairy Value Chain Capacity and Innovation Built.

7. *This outcome, the objective of which will be "capacity for sustainable, efficient milk production,* processing *and marketing established"* will support improved dairy farmer and processor technical and management skills, enhanced access to demand-driven technology, and improved dialogue and partnerships amongst value chain actors.

8. **Output 1: Dairy Value Chain Stakeholder Capacity Built.** This output, to be coordinated by the regional PMO and provincial PIT supported by national *and* international Technical Assistance (TA) will deliver tailored technical and business management training to (i) dehkan farmers, particularly female livestock owners and managers; (ii) private commercial farmers; (Rural input supply and service providers; and (iii) dairy agro processors.

- **Dehkan farmer livestock management training** will be developed as a *mahalla*-based initiative, to be implemented in all *mahallas* that fall within the milk collection centre (MCC) catchments identified for investment under strategic investment plans. National and international consultants and staff of national academic institutions will be contracted to identify appropriate existing dairy cattle management training material, both in Uzbekistan and regionally and to fill identified gaps with new learning material (See Appendix 4, Annex 3 for ToRs). Based on this training package, the Programme will implement a training of trainers (ToT) programme for identified private sector and agricultural college trainers based in the Programme provinces. Those trainers that successfully complete the training will be contracted to deliver defined training programmes to dehkan farmers at mahalla level. Female dairy cow owners and managers will be offered separate training programmes that fit with their family and cattle daily work programmes. The women's training will be implemented in close collaboration with Women's Council and BWAU representatives at provincial level and the *Maslahatchis* at mahalla level. The training programme modules will include, *inter alia,* animal primary health care and vaccination; animal feeding, nutrition and condition scoring; animal housing and welfare; milking, milk hygiene and quality; calf rearing; and breeding, heat detection and artificial insemination.

  A separate Farming-as-a-Business training programme will be developed based on existing FAO and other training manuals in this field and delivered by trained trainers as a separate training product at mahalla level following the same approach as the livestock management training. All training programmes will be supported by printed and audio-visual training material.

  Up to 1,500 dekhan farmers will be trained annually in animal husbandry and farming as a business form Programme Year (PY) two onwards.

- **Private farmer livestock management training** will follow similar training themes as that prepared for dehkan farmers, but will address these topics in more detail and include additional training in areas such as mechanised milking and cool storage; and forage production, conservation and storage; and waste management. Private farmers will also receive training in farm business and risk management. Private farmer training material will be developed by the international dairy production adviser in partnership with national academic institutions and delivered by those institutions through short residential courses at provincial level during winter months. This training will target private farmers in Programme milk catchment areas, particularly those private farmers borrowing

programme funds for farm expansion. Up to 130 private farmers will be trained annually in livestock and farm management form PY2 onwards.

- **Young farmer training** will target aspiring young dehkan and private farmers and include both residential training at selected agricultural colleges or institutes and experiential training on private dairy farms. The training material will be drawn from the aforementioned dekhan and private farmer training programmes. This training will particularly target young private farmers being sponsored into dairy farming through Uzbekistan youth group initiatives.
- **Input supplier and service provider training** will be focused on private veterinarians, veterinary drug shop owners and animal feed and forage suppliers. Private veterinarians and public veterinarians wishing to establish private veterinary practices will receive refresher training in dairy cattle disease diagnosis and management, animal breeding and artificial insemination, animal nutrition, animal housing and welfare, milk quality and the national veterinary law. The veterinary training will be delivered in modules by the Veterinary Faculty of the Samarkand Agriculture Institute, in partnership with the Veterinary Institute and will involve both lectures and practical training. Input suppliers and service providers will also have access to training in business management and marketing including business and financial planning, business financing and loan management, record keeping and accounting, stock control, and marketing strategies. This training will be developed by the PMO with national TA support and contracted for delivery in a series of residential courses by a training provider selected through a competitive process. Specialist input suppliers (e.g. forage production and marketing) will receive practical training, including study tours where appropriate, on a needs basis.
- **Women entrepreneur training** will target individuals and women's group members planning to invest in milk production, collection or processing. In addition to formal training in business planning and management, it will support BWAU mentoring for those women who take up investment activities.
- **Dairy Enterprise owners, managers and technicians** will receive training and technical assistance in business management, installation or upgrading of processing facilities, enhanced raw material procurement, supply chain management, new product development, branding and improved packaging, demand assessment and market prospecting, food safety and alignment with international standards for intra- / extra-regional markets (national demand). The Programme will also pay particular attention to the promotion of women entrepreneurs in the dairy sector including milk collection centres (MCC) owned and managed by women's groups. Milk enterprise business management will be integrated into the aforementioned input supplier and service provider input training, but include an additional module on value chain management. Milk processing training will be developed by the international dairy technology specialist (see Appendix 4, Annex 3 for ToRs). Dependent on the Programme assessment of national dairy technology training capacity, this training may be delivered by regional dairy technology specialists.

  Dairy enterprises that borrow Programme finance for improved milk processing will be eligible to apply on a contestable basis for small grants valued at up to USD 4,000 for business advice on product branding, labelling and marketing.
- **Dairy inspector training** will provide refresher training for MAWM and Ministry of Health (MoH) inspectors responsible for farm and dairy processor inspection and for milk product safety testing at markets. The training will also familiarise inspectors with new technology and products expected to be introduced through the DVCDP.
- **Participating Financial Institution (PFI) training**, to be implemented on a cost sharing basis, will focus on building PFI staff capacity to evaluate investment opportunities and

risk along dairy value chains. It is anticipated that this training will be delivered by the International Finance Corporation (IFC) TA programme in Uzbekistan.

9. **Household Methodologies (HHM)** is a development approach that encourage participatory household visioning and livelihood planning, and promotes gender-sensitive farm business development (See Appendix 2 for details). The Programme will train trainers, linked to *Mahalla* Committees and NGOs supporting women farmers in business plan development and credit procedures (e.g. BWAU). Trained trainers will further train local mentors who will roll-out the methodologies to the communities employing a group-based approach at the *Mahalla* level whereby the group acts as the entry point for reaching individuals with the HHM tools.

10. Within six months of the Programme start-up, the PMO will recruit an international Dairy Training Specialist who, in partnership with PMO and PIT staff and other internationally recruited specialists, will work with programme beneficiaries to determine training needs and, within nine months of programme start-up, prepare a detailed training programme including the identification of potential trainers.

11. 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. All Programme-prepared training material will be peer reviewed by Programme TA and national and regional specialists. Training material may be in the form of brochures, concise manuals and video programmes, the latter to be made available to training beneficiaries on compact disks. Programme identified trainers will receive competency-based ToT training from Programme national and international TA and faculty and scientific institute staff. 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.

12. Trained trainers will be contracted to deliver competency-based training on a per head basis, with knowledge retention/adoption by trainees to be tested 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, with male and female dehkan farmer training focused on the *mahalla* and training for private farmers and value chain entrepreneurs to be delivered at agricultural colleges, provincial centres, university faculties and institutes as appropriate.

13. **Output 2: Technology Innovation Tested.** This output, managed by the PMO/PITs, will, based on a Forum for Public-Private Collaboration (FPPC) (Output 3 below) priority needs identification process, support the development of innovative, demand driven milk production and processing and food safety technologies through participatory on-farm/factory applied research and technology demonstration, delivered by national and/or regional academic/ research institutions, private companies or NGOs.

Box 1: Example of a Technology Innovation Programme

Problem: The Jizzakh and Kashkadarya FPPCs have identified the availability of high quality fresh and conserved fodders as a major constraint to milk production and quality. The DVCDP will finance a three year forage technology development package, commencing in PY 2, that will include the following measures. Resulting farmer investment in fodder production and processing would be financed through the DVCDP credit line.

Measure	Estimated Cost (UZS million)
Provincial administration to review land availability for irrigated and dryland forage production, including contracted GIS mapping of rangelands	60.0
Livestock Institute and Plant Testing Centre to evaluate a range of introduced annual and perennial irrigated and dryland forage varieties including pre-release testing on commercial farms. Evaluation will form basis of post-graduate research programme for up to 5 students.	200.0
Livestock Institute, Plant Testing Centre and Samarkand Agriculture Institute forage specialists undertake study tour to comparable regional centres to inspect forage production and conservation technologies.	50.0
International specialist recruited to support forage development research and technology testing programme: 2 person months over 3 years.	100.0
Samarkand Agriculture Institute specialists prepare a fodder production and conservation training package for private and dekhan farmers and train trainers.	25.0
Laboratory equipment necessary for forage testing and development supplied to Livestock Institute, Plant Testing Centre and Samarkand Agriculture Institute	200.0
Forage conservation equipment provided to Jizzakh and Karshi Agriculture Machinery Parks for province-wide demonstration of new conservation techniques	250.0
Training of private and dekhan farmers in improved forage production, conservation and use by trained trainers	75.0
Independent evaluation of programme impact (PY 6)	40.0
Total Cost (UZS million)	**1000.0**
Total Cost (USD)	**400,000.0**

14. The identification of technology constraints to dairy sector development in Uzbekistan will be the starting point for building dialogue and a common vision amongst FPPC members. This dialogue will be guided by private service providers responsible for building capacity and cohesion within the FPPCs. Members will engage in free-ranging discussion with national and international technical specialists about dairy industry constraints and use group priority setting processes to rank constraints by their expected financial impact. Based on that analysis, national and international Programme TA will prepare technology innovation testing and demonstration programmes. The Programme will fund, *inter alia,* participating institution's non-salary operational costs and field and laboratory equipment requirements, national and international TA, on-farm/enterprise technology testing and demonstration, farmer and scientist capacity building and experiential study tours and, where appropriate, scholarships for post-graduate student coordinators of participatory technology

testing and demonstration activities Proposals would be evaluated by an independent expert review panel against selection criteria based on estimated cost and expected economic, environmental, social and gender outcomes. Depending on their nature, technology innovation sub-programmes will be contracted to specialised technical institutions to deliver, or put to national competitive tender. The implementation of these technology innovation programmes will involve public-private partnership and extensive field testing and demonstration. Successful technology innovations will be compiled in technology packages for dissemination and support for new technology launch and operation.

15. Where technology development involves applied field research suitable for post-graduate degree thesis, the programme could include scholarships for post graduate students to conduct the research work. Each technology innovation testing and demonstration programme, valued up to USD 400,000 and implemented for periods of up to 3 years, will be uniquely designed to address the identified constraint. Possible technology innovation themes could include, *inter alia,*: fodder variety testing and registration; fodder conservation technology for smallholder farmers; theileriosis control; milk quality including bacterial and somatic cell (from sub-clinical mastitis) contamination; calf rearing using milk substitutes; animal feed quality and nutrition management; dairy processing technologies for product diversification and quality control; and studies on consumer demand/perspectives in the Uzbekistan dairy market. Box 1 describes a possible dairy fodder technology innovation package.

16. Once technology needs have been identified and prioritised by FPPC members, the PMO 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 and PMO staff and international advisers against a set of criteria that will include: (i) an assessment of the bidders understanding of the constraint and capacity to address it; (ii) the extent of private and dehkan farmer and private enterprise engagement in the development of solutions; (iii) the level of engagement of post-graduate students; (iv) the likely financial benefit of the proposed solution(s); and (v) the expected environmental impact and any associated mitigation measures. Successful bidders will then be invited to submit a detailed proposal which will be negotiated with the PMO and form the basis of a contractual agreement.

17. Wherever possible, technology innovation testing and development will be done on private and dehkan 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 and capacity building programme, which will be closely monitored and assessed by the Programme M&E officer. 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 Programme M&E office 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.

18. **Output 3: Forum for Private-Public Collaboration (FPPC) Operating Sustainably.** This output involves the establishment of an iterative process of consultation and permanent learning and partnership through Provincial Fora. It will involve male and female stakeholders of all relevant private and public actors engaged in the dairy sector in each targeted oblasts.

19. A contracted private sector service provider will, through a series of periodic meetings, progressively enable stakeholders to: (i) identify, discuss and assess dairy sector's constraints, priorities and build upon opportunities for investments; (ii) become conversant with "Public-Private-Partnership" business models; and (iii) develop value chain business and investment strategies. It is expected that stakeholders will meet quarterly in their respective provinces. The organisation of thematic annual FPPC events at national level on dairy sector development issues is envisaged. Progressively, the provincial fora will engage decision-makers at local, provincial and national levels with the aim of increasing the understanding of dairy development issues and supporting the

development of a conducive regulatory and incentive framework for business development. It is expected that toward the end of the programme, the role of the fora's facilitator will shift from the contracted service provider to local institutions (e.g. Farmers' Council / BWAU / CCI) to ensure the sustainability of the consultative and learning process. The Programme will also ensure that the linkage between the fora and the Programme M&E/KM functions for sharing data, knowledge and lessons learnt will be established.

20. The private sector service provider(s) will be selected on a competitive basis and could cover both Jizzakh and Kashkadarya provinces, or just one province. Such provider(s) will have sound experience of the dairy sector in the respective provinces and a proven track record in coordinating large discussion groups. Each provincial fora will agree with the service provider on a constitution and by-laws leading to the election by secret ballot of a FPPC Coordinating Committee, which will meet monthly to oversee the work of the FPPC and its contracted service providers. The elected Coordinating Committee will elect its Chairperson. The PMO Director, Dairy Value Chain Coordinator, Rural Finance Programme Coordinator and PIT Coordinator will be ex-officio members of the FPPC Coordinating Committees. The PIT Coordinator will be the Secretary for the FPPC Coordination Committee and prepare brief minutes of all meetings.

Outcome II: Dairy Production and Processing Development Financed

21. This outcome, the objective of which will be "p*roductivity and efficiency along targeted smallholder*-inclusive dairy value chains profitably increased", will enable Participating Financial Institutions (PFI) to increase their investment in profitable dairy value chains in the Programme area.

22. **Output 4: Dairy Value Chain Strategic Investment Plans (SIP) Prepared**. The Programme will, on a competitive basis, recruit one or more business development service providers, who, with PMO/PIT and FPPC support, will invite dairy value chain "Lead Enterprise" processors (value chain "gatekeepers") to submit competitive proposals for dairy value chain development. Following a criteria-based evaluation of those Lead Enterprise (LE) proposals, the service providers will prepare strategic investment plans for the selected dairy value chains and assist LEs and associated value chain participants to prepare bankable business plans at key points along the value chain.

23. The DVCDP preparation process has broadly identified key milk processing enterprises in both Jizzakh and Kashkadarya regions that could act as Lead Enterprises (LE) in the development of dairy value chains that better link medium-scale processors with private and dehkan farmers, with a view to achieving production and efficiency gains and increased market share, benefiting all value chain participants. The distribution of these enterprises is detailed in Map 1 below. For each DVCDP identified LE interested to build his/her business, a value chain SIP would be prepared by experienced private sector business specialists, including all envisaged activities within the value chain. The SIP analysis would include: (i) a situation analysis including a detailed assessment of expected dehkan farmer participation; (ii) opportunities to upgrade; (iii) constraints to upgrading; and (iv) recommendations on what can be done practically and what instruments to use. The SIP would list the potential types of investments eligible for DVCDP support and each type of investment would be accompanied by a realistic business model/financial analysis and a business plan to obtain financing from a bank and the Programme. Associated value chain capacity building investments, e.g. technology innovation, training of farmers or milk enterprise staff/management, organizing farmers into groups, etc., would also be identified and financed directly by the DVCDP(see Appendix 4 for SIP details).

24. Only legally registered milk processing cooperative societies and companies (LLC or LTD) of at least 24 months standing and BWAU supported women's groups would be eligible to act as LEs for DVCDP supported dairy value chain development. Due diligence would be performed and entities that are the subject of bankruptcy, criminal investigation, fraud, corruption or are in default of contractual agreements would be ineligible. Value chain investments are likely to include improved livestock (for private and dehkan farmers supplying milk to processors), civil works, equipment (farming, processing, packaging, energy generation or environment protection), transportation and marketing, related directly to the core activity of the investor. The Programme will not finance integrated milk

production/processing enterprises. Incremental household income and jobs, value added products, and productivity and market access and gender equality would be important criteria in investment proposal evaluation, together with commercial viability, environment impact and cost effectiveness assessments. The dairy value chain investment programme would be underpinned by a technical, business management, accounting and Information Communication Technology (ICT) capacity building program for participating enterprises with a view to improving their farmer service capacity, profitability and enterprise linkages, both at local level and to upstream quality suppliers and markets. It is recommended that the provincial Chamber of Commerce and Industry mentors this programme. A description of the SIP process is contained in Appendix 4, Annex 4. Appendix 4, Annex 5 contains "heat" maps of dehkan cow and milk processing capacity concentrations, where Programme investment is likely to be concentrated.

25. **Output 5: Dairy Value Chain Investment Fund Profitably Disbursed**. This output will co-finance bankable dairy value chain business plans identified through SIPs (Output 4) according to a competitive and criteria-based selection mechanism. This will include support for GoU's policy for veterinary service privatization. Activities under this sub-component will increase the outreach of rural finance in the programme area and enable programme target beneficiaries to finance the working capital and/or the investments related to their activities, thereby improving the livelihoods of rural residents' households, productivity, competitiveness and market access of livestock products through better organised value chains, while facilitating the creation of employment and increased incomes in the identified intervention area. Particular attention will be given to assure participation of rural women, labouring in specialised processing facilities, and in their support as production, commercialisation and processing agents, and thus to the value chains that are of relevance to consolidating their position at household and community levels. It will operate through an investment fund with four dedicated financing windows, establishing a loan portfolio that includes a 20 per cent contribution by PFIs and a 20 per cent beneficiary contribution, resulting in an aggregate total investments of USD 26.2 million.

26. The Programme will follow the principles of good international practices[55] of successful value chain development, including:

- Programme interventions are market-driven: up-to-date Rapid Market Assessment commissioned for the purposes of programme design and interviews with domestic food retail chains, HoReCa representatives, processors and dairy farmers have highlighted a range of needs that the programme could support. These go from technical equipment for dairy plants, elaboration of new products and marketing strategy to high demand for year-round supplies of quality milk and overall dairy farming upgrade.
- Targeted loans and knowledge products offered by the Programme will serve as incentives to catalyse the change behaviour that support value chain competitiveness. In particular, study tours, foreseen under Output 1 to countries with similar climatic conditions (e.g. Iran, Kazakhstan), will provide for an informal knowledge exchange among professionals of the sector. Past experience in Uzbekistan and in the region proves study tours to be an excellent capacity building tool setting behavioural change.
- The programme will support partnership modalities and innovation techniques/systems demonstrations, in particular biogas that can be easily scaled-up.

27. The four DVCDP investment fund windows include:

- **Dehkan farms** (USD 8.4 million) to borrow funds to buy more productive local dairy cattle and some small equipment (portable milking machines, grain mill, etc.) as well as for working capital. The loan size will be up to UZS 25 million (approx. USD 10,000), allowing to reach at least 840 dehkan farms.

[55] USAID. Implementation best practices for value chain development projects.

- **Private farms** (USD 6.0 million) for the financing of investment capital (on-farm equipment, such as harvesters, feed choppers and mixers, manure separation, biogas lines, alternative energy sources, cow sheds renovation, milking equipment, cooling tanks, improved breeds etc.) and working capital. The loan size will be up to UZS 250 million (approx. USD 100,000), allowing to reach at least 60 private farms.
- **Dairy processors** (USD 9.0 million) for the financing of investment capital (milk collection centres, modernization of processing equipment, new filling and packaging lines, cold chain, new products, etc.) and working capital. The loan size will be up to UZS one billion (approx. USD 250,000), allowing to reach up to 36 dairy processors.

  Key criteria for MCC location decision-making will include (i) the distance from processing facility; (ii) quality/size of cow stocks owned by dehkans, (iii) constant power and water supply. Identification of concentration of processing facilities and capacity for growth within dehkans are key to the future development of milk clusters.

  In districts with no (or few) industrial processors, groups of dehkans may also setup own processing units (integrated into MCC) producing pasteurized milk in simple packaging and traditional dairy products for local markets. School feeding should also be considered as a potential market opportunity in remote areas.
- **Private Input suppliers and service providers** (USD 3.8 million) to borrow funds to establish/refurbish veterinary clinics, purchase veterinary equipment, drugs, artificial insemination equipment, establish forage production systems, etc. The loan size will be up to UZS 25 million) (USD 10,000) for private veterinarians and UZS 250 million (approx. USD 100,000) for irrigated forage production/other input supply. An estimated 60 private veterinarians and 33 forage producers/other input suppliers are expected to benefit from these loans.

28. Financial services will be delivered through the same PFIs approved for the HSP, provided that they continue meeting the eligibility requirements developed for the programme. These PFIs, which also manage the World Bank Horticulture Development Programme have undergone due diligence and selection by an independent international bank assessment consultant. The banks are detailed below[56], including their lending performance to date under the HSP:

- Mikrokreditbank (USD 6 million, disbursed USD1.42 million to 16 borrower);
- Qishloq Qurilish Bank (USD 2.5 million, disbursed USD 95,100 to 1 borrower);
- Halk Bank (USD 1.78 million, disbursed USD 100,617 to 3 borrowers);
- Turon Bank (USD 500,000, disbursed USD 116,256 to 2 borrowers);
- Hamkor Bank (USD 2 million, disbursed USD 113,269 to 7 borrowers);
- Ipoteka Bank (USD 500,000, disbursed USD 319,182 to 7 borrowers);
- Uzsanoatqurilish Bank (USD 1 million, disbursed USD 114,683 to 4 borrowers).

29. According to IFAD's Rural Finance Policy, the Programme provision of rural finance will be based on the following principles:

- The credit line should be managed by private professional fund managers or institutions rather than the recipient government;
- The loans to retail PFIs should be priced at commercial or near-commercial rates to avoid undermining their incentive to mobilize deposits or access other sources of capital;
- Partner retail PFIs should be financially sound, independent from political interference and free to charge interest rates that allow cost recovery;
- Partner PFIs should have the capacity to efficiently and transparently absorb and manage the financial resources;
- There should be opportunities to create linkages with other sources of refinancing that will continue after the programme ends;

[56] See WP 4, Rural Finance in Uzbekistan: IFAD intervention proposal, pages 18-20 for a description of these banks.

- Accountable reporting and supervision arrangements should be put in place until the line of credit is repaid.
- The credit line should be managed by private professional fund managers or institutions rather than the recipient government;
- The loans to retail PFIs should be priced at commercial or near-commercial rates to avoid undermining their incentive to mobilize deposits or access other sources of capital;
- Partner retail PFIs should be financially sound, independent from political interference and free to charge interest rates that allow cost recovery;
- Partner PFIs should have the capacity to efficiently and transparently absorb and manage the financial resources;
- There should be opportunities to create linkages with other sources of refinancing that will continue after the programme ends;
- Accountable reporting and supervision arrangements should be put in place until the line of credit is repaid.

30. Credit line. The amount of a credit line to each partner PFI will be based on the PFIs' absorption capacity and clear programmeions that realistically reflect the amount they will be able to utilize in the programme area. In addition, before approving the credit line amount, there will be calculations in place that after the provision of all tranches of the full loan amount, the capital adequacy indicator of each PFI will not exceed the CBU-established standard.

31. PFI screening against minimum eligibility criteria. While PFIs currently managing HSP financed credit lines are expected to also manage DVCDP credit, any additional banks wishing to support DVCDP investment will be required to provide the following information that will serve as the minimum eligibility criteria:

a) Have a valid CBU license and be in full compliance with all banking laws and prudential regulations of the CBU.
b) Be interested and committed to servicing the range of clients, who are the intended beneficiaries of the programme.
c) Have or be willing to open branches or mini-banks (outlets) in the programme regions or ability to ensure other ways of servicing the potential borrowers in the programme regions.
d) Undergo an annual audit that is conducted in accordance with International Standards of Auditing by an audit company acceptable to IFAD.
e) Have the necessary staff, knowledge, physical and other resources to implement the credit facility under the programme.
f) Do not have exposure to any one borrower as a percentage of its audited capital of more than 15%.
g) Have aggregate exposure to insiders (defined as members of the Board of Directors and the Management Board of such PFI, employees in management position and shareholders with voting rights in excess of 10%) of no more than 100 percent of audited capital.
h) Have a positive net income for the current and two immediately preceding financial years, as reflected in the audited financial statements
i) Have a CAMEL rating of minimum 3.0.
j) Have acceptable asset quality (according to IFAD Decision Tools for Rural Finance, the indicator of PAR over 30 days should be less than 5%) and quality management policies, procedures and skills.
k) Have a Board of Directors, responsible for setting the overall bank policy and perform appropriate oversight of the bank's operations.
l) Have a qualified and capable management team.
m) Have a sound business plan and appropriate budgeting and budget control procedures.
n) Have sound lending policies and procedures, including in respect of the entire credit cycle, problem loan management, write-offs of assets, credit approval authority, etc.
o) Have satisfactory internal control and audit procedures, including accounting principles and procedures, and financial documents, internal controls and reporting, and operational controls, confirmed by external auditors.
p) Not be exposed to undue interest rate risk, as confirmed by annual audited financial statements.

q) Have an internal reporting and management information system capable of providing sufficient information necessary for managing the bank's operations, performance and risks.

32. The results of checking any new PFIs against the above screening criteria will be documented in detail, noting any possible discrepancies in self-reported and verified information. Only PFIs meeting all of the above eligibility criteria will be requested to submit their financial and operational proposals for the next round of the selection process. PFIs not meeting the eligibility criteria may not be considered as candidates for funding and are not reviewed further.

33. Any new PFIs meeting the minimum eligibility criteria will be issued a “Request for Proposal” and should submit their operational and financial proposals to the PMO. At this stage, PFIs will be evaluated on the basis of the strength of their leadership, profitability, portfolio quality, the strengths of their systems (e.g. capacity; planning processes and risk management; organizational structure; market, services and product range; MIS; internal control systems, financial and social performance; financial management and administration):

a) In the **operational proposal**, the PFI will be requested to detail its operational procedures with a focus on: a) processing of loan application and assessment/review; b) loan approval process and the ceiling of each branch for loan approval; c) the recovery procedure as well as the write-off policy; d) outreach methodology; e) experience in agricultural lending programmes, including respective product range; f) experience in promoting women’s empowerment; and g) the delivery mechanism. Having functioning branches in the programme districts will be preferred but not conditional.

b) The **financial proposal** will detail the interest rate that the PFI intends to charge to the programme target beneficiaries. Each PFI will have to demonstrate that the interest rate charged is not contrary to the principles of long-term sustainability and do not endanger the profitability of the branches.

34. The final decision on any new PFI selection will be documented in detail and clearly show that all selected PFIs have met the minimum eligibility criteria and satisfy other programme requirements as proved by the due diligence exercise.

Annex 1 – Dairy value chain in Uzbekistan[57]

Introduction

1. The dairy sector in Uzbekistan is largely driven by smallholders and rural women who own 95% of milking cows and produce 96% of raw milk. Dairy is a regular, year-round source of cash income for households and is largely driven by women**.** This focus group is very much in line with IFAD's **mandate** and **comparative advantage** that lie in its focus on small-scale farmers and poor rural people. It stems from its experience in (i) targeting the poorer sections of the rural population, including a focus on women; (ii) providing direct support to rural people to enable them to improve their livelihoods; (iii) piloting innovative approaches to rural development using community empowerment as the entry point.

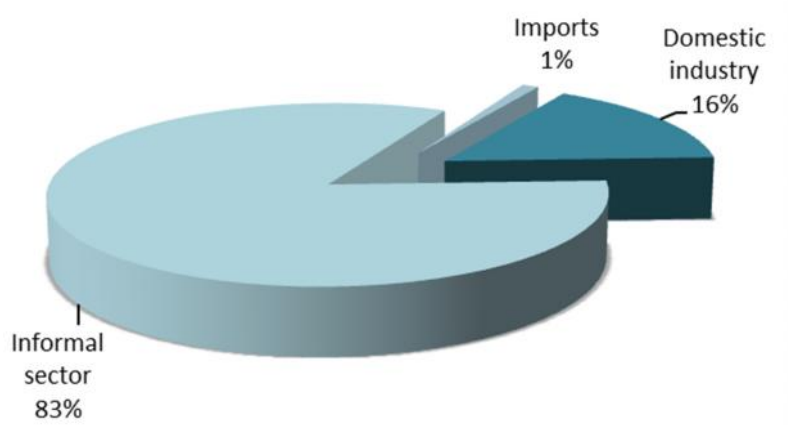
2. In contrast with chilled beef market where Uzbekistan is self-sufficient, some categories of dairy products are almost entirely imported (butter, quality yogurts, hard cheese and spreads) and most of these positions feature spiking growth (See WP 3, Chapter IV – Dairy market in Uzbekistan).

3. In former Soviet Union countries food security is often understood as self-sufficiency. By expanding the raw milk base for domestic processing and providing financial support and technical assistance to national dairy industry, the Programme will address the Governmental agenda on import substitution.

Dairy market in Uzbekistan

4. The value of the dairy market in Uzbekistan is estimated at USD **2.9 billion**[58], with imports reaching USD 38.8 million in 2014 and the informal sector's worth some USD 2.4 billion or **83 per cent** of the total market value.

Figure 8: Dairy market structure in Uzbekistan



Source: Agriculture of Uzbekistan, Industry of Uzbekistan – 2014 editions (2013 data). UZSTAT. Author's calculations.

5. With the packaged milk and dairy holding only 13 per cent of the national output, quality butter, fermented dairy (mainly *kefir*) and hard cheese dominate Uzbek imports. See Figures 2 and 3.

[57] See Working Paper 3 for a detailed discussion on the Uzbekistan dairy value chain
[58] Calculations based on UZSTAT data (2013), visits of retail shops and own assessment.

Figure 9: ***Domestic output structure***

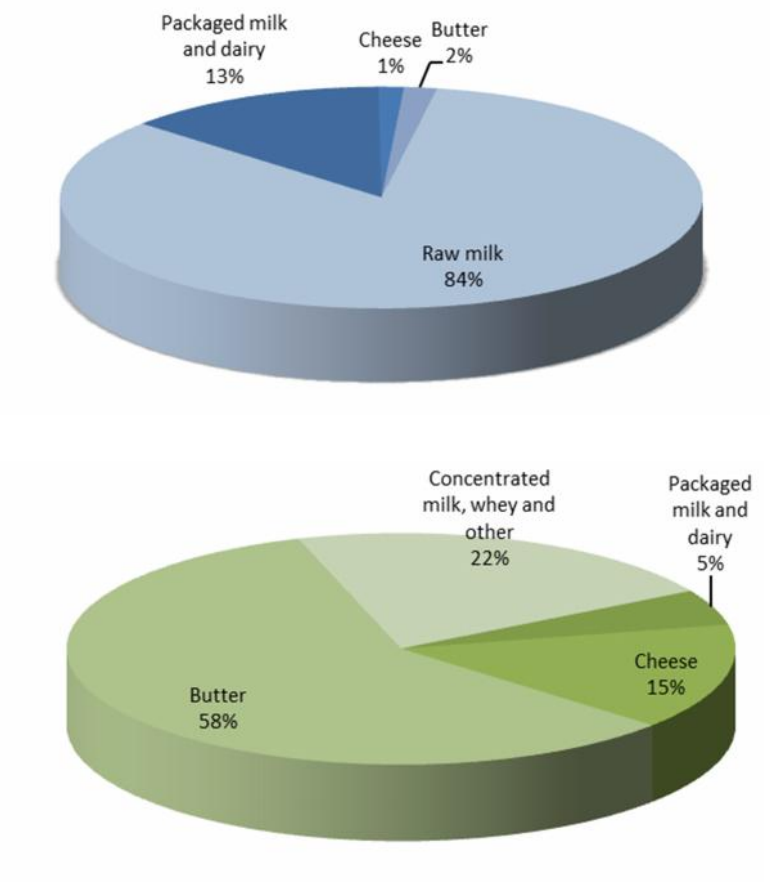


Table 5: Uzbek imports of dairy in the last five years

	2010		2014		
Commodity	USD	%	USD	%	**Var.**
HS0401 - Milk And Cream, Not Concentrated Or Sweetened	60,263	0.4%	148,250	0.4%	2.5
HS0402 - Milk And Cream, Concentrated Or Sweetened	4,962,640	35%	5,752,572	15%	0.2
HS0403 - Buttermilk, Yogurt, Kefir Etc, Flavored etc.	538,204	4%	1,604,061	4%	3.0
HS0404 - Whey & Milk Products, Sweetened Etc. Or Not, Nesoi	333,338	2%	2,238,139	6%	6.7
HS0405 - Butter And Other Fats And Oils Derived From Milk	5,182,012	37%	23,725,988	61%	3.6
HS0406 - Cheese And Curd	3,089,255	22%	5,320,098	14%	1.7
Total import of dairy products:	14,165,712	100%	38,789,108	100%	1.7

Source: GTIS March 2015

6. The bulk of milk (7.6 million tons) produced in the country comes from dehkans (households) who consume about 90% of this volume. Milk surplus is processed by the households into traditional products like kaymak, (cream), chakka (sour cottage cheese) and butter. These products are either consumed by dehkans and their families or sold on local bazaars by roaming vendors.

7. About 358,000 tons of milk undergoing industrial processing comes almost exclusively from private farms and agricultural enterprises. There are exceptions though: some small and medium-scale dairy processors do source milk from households and this share is sometime as big as 75 per cent.

8. Consumption patterns are **changing fast** with the arrival of modern retail and a growing middle and upper class of Uzbeks, joined now by the labour migrants returning from Russia[59]. Visits to retail outlets and discussions with retail chains' management confirmed an indicative change in consumer preferences: convenient packaging, strong branding, longer shelf-live, healthy products (life bacteria culture, less fat content), and on-the-go formulas.

9. Modern Uzbek **retail** has emerged about three years ago and has pushed domestic dairy industry towards **higher standards**. Both sectors (retail and dairy industry) are developing at the same pace and their key driver is the new Uzbek consumer. The **biggest retail chains** in Uzbekistan are two supermarket chains: #1 – "Korzinka.uz" (50% of food products turnover, 15 outlets in Tashkent, 2 in Samarkand, further regional expansion ongoing), and #2 – "Makro" (30%). The 3rd place is distributed among hypermarkets that jointly move some 20% of food products in Uzbekistan. These include "Samarkand", "Next" and "Mega Planet", all located in the capital city

10. Emerging domestic processors – most of them are self-made entrepreneurs who started in 2003-04 – today have to **compete** with (subsidized) **imports** and informal market (so called "cottage industry"). P**owder milk** can be considered competitor only from the point of view of **raw milk user** (powder milk producers[60] indirectly support poor milk quality). Imported powder milk has prohibitive customs duties (30%) and locally produced powder milk is of poor quality (because of water addition along the supply chain) and has therefore limited application (mainly confectionary and ice-cream making).

Dairy value chain in Uzbekistan

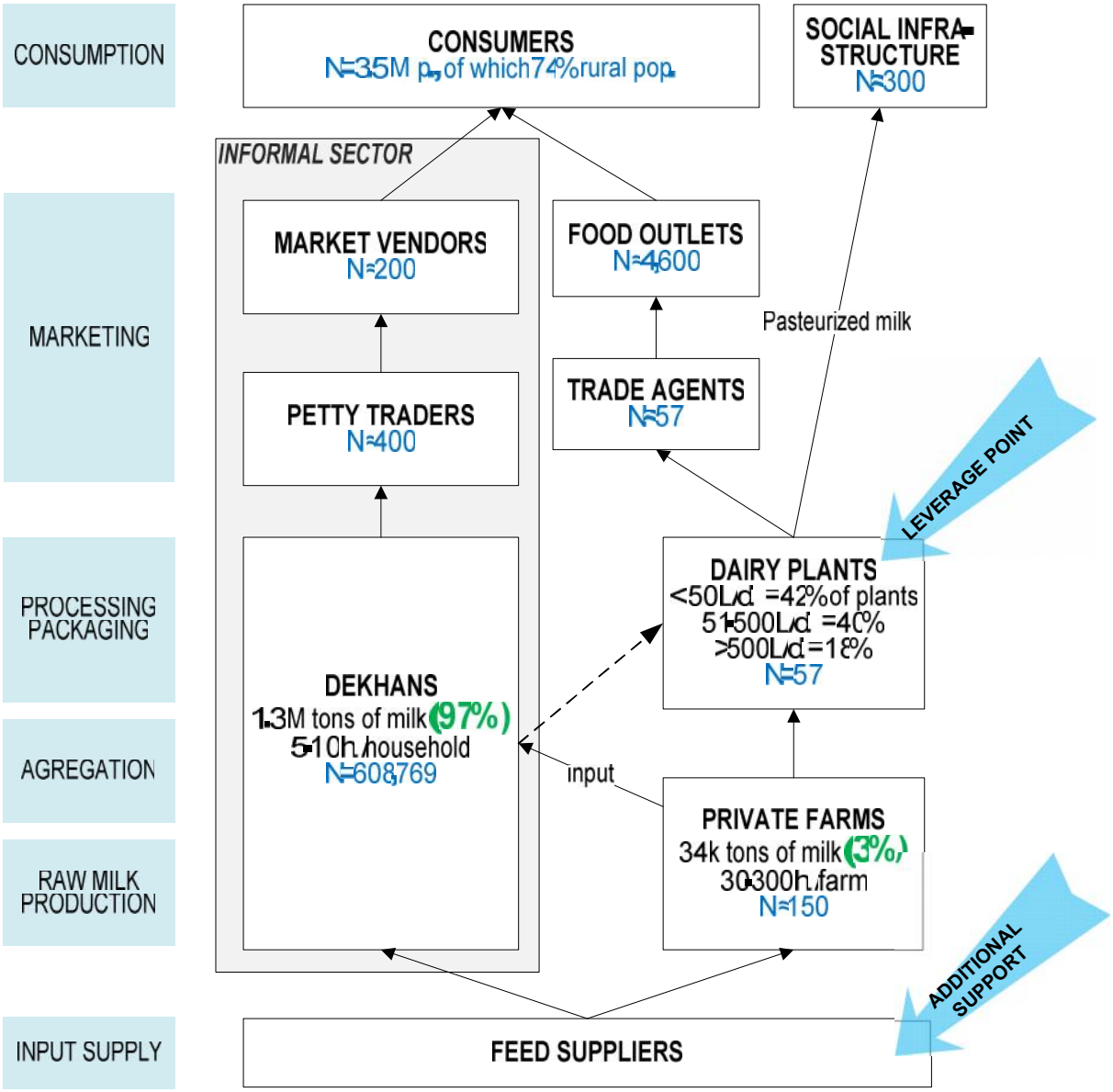
11. The present rapid value chain analysis has been completed to decide what programme interventions are realistic in the sense that there is a genuine possibility of implementing such interventions, and what the timeframe of implementation could be.

12. Like in all Central Asian countries, in Uzbekistan there are two parallel dairy value chains:

- **non-corporate** (or informal) milk flow composed of cottage industry and currently involving dehkans, roaming traders and market vendors; and
- **corporate** sector operated by private livestock farmers, dairy processors and organized retail.

[59] Some respondents reported 40% of migrants already returned home (March 2015).
[60] There are no powder milk producers the project area

Figure 10: ***Dairy value chain in the Programme area***



13. Below follows a brief description of the dairy value chain actors in the context of Jizzakh and Kashkadarya provinces.

VC ACTORS	SIZE OR SCALE	LEGAL FORM	PRODUCT FLOW	GROSS MARGIN	RELATIONSHIPS
DEHKAN	7-10 family members 3 to 10 cows / HH 1260 L an/y Huge seasonality	mostly physical persons	Liquid milk: 90% self-consumption. Surplus processed into butter, kaymak and chakka. Processed dairy is mainly self-consumed as well or donated to extended parents and neighbours. Some quantities are sold to roaming petty traders who in turn re-sell to market vendors. A typical trader buys 10-300 kg of traditional dairy. Small quantities of raw milk are delivered to a nearby processor (if any) or collected by a better-off dehkan playing a role of milk trader (aggregator).	2-15% max[61]	Spot market relations with traders Persistent network relations will milk collectors and processors (agreement)
	Major bottlenecks:	1. Low fodder availability (focus on low productivity) 2. Low market access for smallholders (related to #3) 3. Poor quality due to poor handling on the farm, but also due to poor handling during distribution and processing 4. High seasonality of milk supply			
	Possible solutions:	1.1 Educational help to increase fodder crops productivity and better feeding techniques 1.2 Support farmers that would specialize in fodder production including improved fodder conservation technology 1.3 “Machinery parks” with modern fodder conservation equipment 2 Organization of dehkans into formal groups and linkage to markets 3.1 Training programs and knowledge products (videos, brochures) 3.2 Installation of MCCs, where necessary with pasteurization 4 Training programs and knowledge products (videos, brochures)			
PRIVATE FARM	5-10 employees 30-300 heads / farm ≈4500 L an/y	registered enterprise	Liquid milk supplied to dairy plants, sometimes integral part of the farm. Usually have 1-2 T cooling tank on-farm. Milk is sold within the province and beyond[62]	10-15% max	Persistent network relations with milk collectors and processors (agreement)

[61] Dehkans usually don’t know their revenue and costs. Margins are estimated. Self-consumed milk opportunity cost included.
[62] There are case of Kashkadarya farmers selling milk to Samarkand processors

VC ACTORS	SIZE OR SCALE	LEGAL FORM	PRODUCT FLOW	GROSS MARGIN	RELATIONSHIPS
	Major bottlenecks:	1. Insufficient quantities and scare availability of concentrate fodder 2. Low margins on raw milk production[63], while margins are high on processing. Risk of vertical integration in immature market 3. Inadequate farm management 4. Unsustainable intensification related issues 5. Research and extension disconnected from real sector 6. Lack of conducive policies and incentives			
	Possible solutions:	1.1 TA to increase feed grains supplies needed for compound feed 1.2 Introduction of total mixed ration (TMR) 1.3 Support investment into concentrated fodder predicted at district level[64] 2.1 Optimization of production costs, focus on fodder cost 2.2 Support farmers that would specialize in fodder production 2.3 Policy dialogue on land use (focus feed grains and other ingredients for compound feed) 3 Training programs, “farming as business”, study tours 4.1 Climate-smart technologies (focus on fodder) 4.2 Closing the nutrient cycle through application of biogas technology, manure separation, etc. 5. Promotion of innovation, integration and investment 6. Policy dialogue on land use (more land to support livestock development)			
DAIRY PLANTS	7-15 employees 5-1400 t/y Products line: 10-12	registered enterprise, sometimes part of a farm (vertical integration)	Pasteurized milk, fermented dairy products, semi-hard cheese (Kashkadarya mainly). Raw milk sourced from private farms and to a lesser extent from dehkans. Finished products have several marketing channels: (a) own shops (usually on bazaar, a plant can have 1 or 4 corporate outlets); (b) trade agents who deal with grocery shops (work with 5% commission), (c) direct supply to social infrastructure (e.g. kindergartens, sport clubs, one plant can supply up to 50 organizations).	15-20%	Persistent network relations with milk collectors and farmers (agreement)
	Major bottlenecks:	1. Low milk availability for processing, especially in winter months 2. Low business planning capacity 3. Inadequate access to financial services			

[63] See Annex 2
[64] Currently concentrates are marketed on-farm or at MCC outlet.

VC ACTORS	SIZE OR SCALE	LEGAL FORM	PRODUCT FLOW	GROSS MARGIN	RELATIONSHIPS
	Possible solutions:	1 Customized training (on how to flatten milk seasonality, increase yields, milk handing and hygiene, milk economy etc.) 2.1 Support to formulate bankable programme proposals and business plans 2.2 Training on business management 3. Targeted loans matched with TA			
TRADE AGENTS	Few people per district Average monthly turnover - 1000 USD	physical persons, mainly women	Finished dairy products	5% commission from turnover	Same of a processor (act as trade reps)
ROAMING PETTY TRADERS	At least 5 per district Buy from 5 to 150 kg daily	physical persons	Buy products from dehkans and usually sell to bazaar vendors. Procurement price can be as much as double of selling price (e.g. chakka bought from a family at 2,000 UZS/kg and sold to a vendor for 3,800).	40-50%	Spot market relations with vendors
MILK COLLECTORS	From 100 L to several hundred L/day		Usually these are better-off farmers with transport. Collect milk in neighbourhood.	Additional 9%	Spot market relations with milk suppliers but formal with dairy processor (agreement)
RETAIL OUTLETS	Rural shops take FMCG for 1 day stock	Registered companies		Margin undetermined Add 200-300 UZS per kg of packaged dairy	Persistent network relations with trade agents
FINAL CONSUMER	Better-off people – 10% in cities, 2% - in rural areas	Physical persons, organizations	Pasteurized milk Packaged dairy products Traditional homemade products	N/A	Different selection criteria: price in rural areas, value for money in urban and for better-off consumers
	Major bottlenecks:	1. Low milk consumption as a result of consumer unawareness of milk benefits			
	Possible solutions:	1.1 Business development services on marketing, in particular product positioning and branding 1.2 Campaigns to sensitize the public about the nutritive value of milk			

Annex 2: Subsidiary Loan Agreement Conditions

Based on the selection process, a Subsidiary Loan Agreement (SLA) will be signed with each selected PFI. Each SLA should contain provisions reflecting the following terms and conditions.

a) **Loan amount:** The SLA should clearly state the maximum amount of the credit line to be provided. This should be based on each PFI's financial and operational proposal. In addition, after the provision of the full loan amount, the capital adequacy ratio of each PFI may not exceed the CBU-established prudential standard.
b) **Loan term:** Each SLA can be signed for a term of up to 20 years, with the ending date no later than the programme completion date.
c) **Grace period:** A grace period for the repayment of loan principal can be provided to each PFI for a term of up to five years. The duration of a grace period should be determined based on each PFI's request per their financial and operational proposals. A grace period will be provided for the loan principal only; PFIs will be paying interest during this period.
d) **Disbursement schedule:** The SLA should state the dates on which each PFI can submit a request for funds withdrawal. PFIs should be able to submit such requests based on the demand from clients and at least monthly. (PFIs should not be required to submit requests monthly, but rather should have a right to do so based on their needs.)
e) **Repayment schedule:** The repayment of principal and payment of interest should be made quarterly (e.g. within 5 business days after the end of each calendar quarter). The SLA with each PFI should have a repayment schedule clearly stating the dates and types of payments (interest, principal), their amounts, taking into account the grace period for the loan principal. The repayment schedule should be updated after each new tranche disbursement.
f) **Principal amount to be repaid:** The amount of principal to be repaid each quarter should be determined by dividing the total outstanding loan balance by the number of remaining calendar quarters per the term of each SLA. This should be reflected in the loan repayment schedule, an amended version of which should be issued after the disbursement of each next loan tranche.
g) **Payment of interest:** The amount of interest to be paid each quarter should be calculated based on an outstanding declining balance of the principal.
h) **Interest rates:** The SLA should indicate the interest rate that each PFI should pay on the loan. The interest rate should include all payments that PFIs should pay for the use of the loan.
i) **Loan fees:** No loan fees in addition to the interest rate may be charged.
j) **Collateral and guarantee:** Respective collateral/guarantee provisions should be included in the SLA; PFIs may provide their existing loan portfolio as a collateral provided that it meets reasonable quality requirements.[65]
k) **Reporting requirements:** PFIs should provide reports as required by the Programme;
l) **PFI transparency:** PFIs should report their information on their microcredit portfolio to the MIX either directly (www.mixmarket.org) or through the ECA regional representative, at least annually;
m) **Client Protection Principles:** PFIs should endorse the Client Protection Principles of the SMART Campaign (www.smartcampaign.org);
n) **Sub-loan conditions:** The SLAs should state that the PFIs' loans to end borrowers should be provided under the following conditions:
    i. **Geographical coverage:** The borrowers should live and work in any of the programme regions;
    ii. **Activities:** The borrowers should be engaged in entrepreneurial, agriculture-**related** productive activities and borrow for productive purposes per the DVCDP objectives;
    iii. **Purpose:** Loans extended by PFIs would be for working capital, investments or both;

[65] The loans under IFAD's Horticulture Support Project are guaranteed by the Government of Uzbekistan.

iv. **Amount:** Loans extended by PFIs to end borrowers should depend on the following factors: (i) the type of activity to be funded and need expressed by a potential borrower, and (ii) repayment capacity of a borrower taking into account the cash flow of a borrower's business. PFIs may provide a periodic loan mechanism (credit line) to reduce risk;

v. **Loan co-financing:** In addition to disbursing IFAD's programme funding, PFIs will co-fund 20% of the amount lent to end borrowers; this co-funding will be provided to the target group of the DVCP programme out of the PFIs' own funds;

vi. **Term:** The terms of sub-loans can be up to 10 years and should depend on the type of borrower activity, the product range and lending policies of PFIs;

vii. **Repayment schedule:** The repayment schedule for loans to end borrowers should be, to the extent possible, linked to the borrowers' business and household cash flows and take into account specifics of agricultural business production cycles. PFIs can offer balloon repayment arrangements (i.e. one single installment of principal at maturity) in case these respond to specifics of a borrower's agricultural business;

viii. **Grace** period**:** As necessary, PFIs should be able to offer a grace period of up to 2 years to end borrowers, depending on borrowers' agricultural production cycles and cash flows;

ix. **Interest rate:** PFIs will apply interest rates per their internal interest rate policies for similar types of loans. Interest rates on loans to end borrowers funded from the programme funds should be the same as those on loans with similar risk profiles within each PFI.

x. **Borrower's contribution:** The borrower should contribute to the financing of his/her activity. Size of the contribution would be determined by each PFI according to its own procedures but an average contribution of 5 to 15% depending on the loan size and intended purpose (working capital; investment) will be expected from each borrower;

xi. **Guarantee and collateral:** PFIs would require collaterals and guarantees as per their internal policies and procedures. They should be free to choose either traditional collateral or borrower group guarantees (or both) depending on a loan risk profile.

xii. **Gender balance:** At least 30% of the loans will be extended to women or women's groups (this applies both to the number and volume of loans).

Provisions governing events of delinquency and default, SLA suspension and termination, SLA enforcement, dispute resolution, as well as any other provisions as required by the law of Uzbekistan for loan agreements.

Annex 3: Terms of Reference for International Consultants

DAIRY VALUE CHAIN/BUSINESS MANAGEMENT SPECIALIST (International)

Duties and Responsibilities

A Dairy Value Chain/Business Development specialist will be appointed by the Programme. She/he's role will to be provide technical support to the DVCDP Programme Manager and Dairy Value Chain Coordinator on a periodic basis concerning DVCDP development of dairy value chains, and business mentoring to value chain stakeholders, particularly Lead Enterprises and input suppliers and service providers, active in the dairy value chain and receiving programme support.
The Dairy Value Chain/Business Management specialist, with support from the PMO technical management team, will support the Directors and other key staff of Lead Enterprises and other entities active in the dairy value chain 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 milk collection and storage; (iii) milk product development; (iv) milk processing and marketing in local centres.
The Dairy Value Chain/Business Development specialist's duties and responsibilities will include:

- carry out a study on the future demand for dairy 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 Uzbekistan dairy industry value chains, from milk production, primary processing, packaging, processed milk products and retail, focusing on market structure, key factors of growth, and sector challenges
- designing a dairy value chain development and business management training program, including the detailed training modules, and training of DVCDP contracted Trainers who will teach Lead Enterprise owners/managers in these fields
- Assisting the Director and contracted service providers in designing and implementing the strategic investment planning process.
- Providing oversight and guidance for the implementation of dairy Lead Enterprise activities, including:
  - development strategies for improving links with producers and producer organizations;
  - strengthening aggregation activities and improvements to product quality along the value chain;
  - business management, negotiating skills, marketing and quality control;
  - market studies and test marketing;
- Conducting seminars/training/workshops for Lead Enterprise technical personnel to ensure that they are current with the recent international best practice in dairy 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 dairy manufacturing sector;
- Demonstrated success in implementing programmes increasing the competitiveness and inclusiveness of agricultural value chains, preferably with a focus on dairy products;
- 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 programme manager for large and complex private sector agricultural development programmes.
- Prior experience in CIS, and/or other Central Asia/Former Soviet Union countries; a proven ability to work collaboratively with Ministry of Agriculture, IFIs and/or other donors; experience

forging partnerships between private sector entities, and familiarity with the political and economic dynamics in which this Programme will be implemented;
- The Lead Consultant shall have a relevant post-graduate degree and must be fluent in English and Russian. Knowledge of Uzbek would be considered as an asset.

DAIRY TRAINING ADVISER (International)

Duties and Responsibilities

A Dairy Training Adviser will be appointed by the Programme. She/he's role will to be provide technical support to the DVCDP Programme Manager and Dairy Value Chain Coordinator on a periodic basis concerning DVCDP development of a capacity building programme for dairy value chain stakeholders including dehkan and private farmers, milk processors and input suppliers and service providers.

The Dairy Training Advisor, with support from the PMO technical management team, will, drawing on national and regional training materials and resources, prepare and contract the delivery of a capacity building training programme covering: (i) dehkan farmer animal husbandry and milk production and farming as a business; (ii) private dairy farmer animal husbandry, milk production and farm management; (iii) farming as a business training for women and youth; (iv) private veterinarian refresher training; (v) business management training for input suppliers and service providers; and (vi) dairy technology, enterprise management and product development and marketing training for milk processing enterprises.

The Dairy Training Advisor's duties and responsibilities will include:

- Carry out analysis of the key bottlenecks in the existing dairy value chains and identify gaps in accessing the technical assistance and training by value chain actors (programme beneficiaries)
- In the first year of the programme implementation an in-depth study on the feed sector, and, if policy reforms are recommended, include those in the policy dialogue with Government.
- Based on the analysis assess the needs of programme beneficiaries in technical assistance and training in dairy production and processing, including milk handling, hygiene and quality standards, packaging, branding and marketing
- Prepare an overview of national/international Service Provides (government institutions, NGOs, academic and educational institutions etc.) capable to deliver required TA and training
- Assess the quality of existing nationally and regionally available training materials (curricula, modules, hand out materials etc.) and propose recommendations for improvement
- Prepare a Training Plan which should include the training topics, training modules and curricula, hand out materials and estimated budget.
- Carry out regular monitoring and evaluation of the TA and training provided under the programme
- Prepare necessary reports as required by PMO/RRA/MAWR and IFAD

Qualifications and experience:

- The incumbent shall hold an MSc degree in the field of dairy production or processing and have at least 10 years of experience in capacity building;
- Demonstrated success in implementing programmes building the capacity of agricultural value chains, preferably with a focus on dairy products;
- Demonstrated knowledge of good/best practices in agricultural education;

- Demonstrated creativity, willingness to innovate, think systemically and design catalytic approaches to intervening;
- Prior experience in CIS, and/or other Central Asia/Former Soviet Union countries; a proven ability to work collaboratively with Government Ministries, IFIs and/or other donors; experience forging partnerships between private sector entities, and familiarity with the political and economic dynamics in which this Programme will be implemented;
- Good spoken and written Russian and English;

Ability to work in other languages used in the region would be an advantage.

MILK PROCESSING TECHNOLOGY ADVISER (International)

Duties and Responsibilities

A Milk Processing Technology Adviser will be appointed by the Programme. She/he's role will to be provide technical support to the DVCDP Programme Manager and Dairy Value Chain Coordinator on a periodic basis concerning DVCDP development of dairy industry processing technology and product development and marketing.

The Milk Processing Technology Advisor, with support from the PMO technical management team, will (i) assist leading milk processing enterprises to improve their production and energy efficiency, strengthen sanitary controls and develop new products, primarily for the domestic market; (ii) assist small-scale artesian milk processors to produce safe, reliable products for local green markets; and (iii) enhance the capacity of public health dairy inspectors.

The Milk Processing Technology Advisor's duties and responsibilities will include:

- Mapping out and analyze the existing dairy processing technologies and practices employed by the value chain actors along the value chains, including cottage industry and household based processing;
- Identifying key problems pertaining to the existing technologies and practices with respect to the hygiene standards, quality and safety control, equipment, packaging, branding and marketing of dairy products;
- Based on the analysis propose recommendations (including new technologies, equipment, TA and training etc.) for improvement to enhance the value chain actors' capacity to add value and increase incomes;
- Assist the RRA/DVCDP PMO in sourcing and procuring required new technologies, equipment, TA and training;
- Assist the Dairy Training Adviser in preparing relevant training curricula, modules, hand out materials and in delivering relevant training; and
- Prepare necessary reports as required by RRA/DVCDP PMO and IFAD

Qualifications and experience:

- The incumbent shall hold an MSc degree in the field of food or dairy processing and have at least 10 years of experience in milk processing enterprise management;
- Demonstrated success in implementing programmes strengthening dairy processing at national level;
- Demonstrated knowledge of good/best practices in milk processing and dairy product development;
- Demonstrated creativity, willingness to innovate, think systemically and design catalytic approaches to intervening;
- Prior experience in CIS, and/or other Central Asia/Former Soviet Union countries; a proven ability to work collaboratively with Government Ministries, IFIs and/or other donors; experience forging partnerships between private sector entities, and familiarity with the political and economic dynamics in which this Programme will be implemented;
- Good spoken and written Russian and English;
- Ability to work in other languages used in the region would be an advantage

GENDER AND HOUSEHOLD METHODOLOGIES SPECIALIST

(International, Female)

Recruitment in consultation with the IFAD Gender Desk

Responsibilities and tasks:

Drawing on her international experience as gender expert and trainer in household methodologies, in IFAD-supported programmes and others, the international expert will undertake the following tasks:

Under Household Methodologies:

- Building on background analysis and strategies outlined in the programme design report, detail the characteristics of target groups and gender issues in target areas to select the most suitable household methodology and approach to implement under the programme;
- Together with the programme GESI specialist, develop internally and externally-generated M&E indicators for the selected household methodology;
- Develop learning materials and tools- or adapt existing ones- in order to be able to run the learning events;
- Organize and deliver training of trainers event in programme areas on household methodologies;
- Draft a final report on the detailed poverty and gender analysis and training events.

Programme implementation support:

- Based on the detaining of poverty and gender issues as mentioned above, identify challenges and propose solutions that may hinder the programme in meeting its gender and inclusion objectives and targets;
- Support programme GESI specialist in setting up and initiating gender and inclusion strategies, mainly in preparing gender action plans and conducting gender awareness training during the initial implementation phase;
- Based on the detailing of poverty and gender issues and in consultation with programme staff, identify topics related to inclusion and women's participation that could be addressed by FPPC.

Qualifications and experience:

- At least 5 years of experience in working on poverty and gender issues and gender mainstreaming in development programmes and programmes, IFAD-supported programmes and others;
- Experience in conducting household methodologies;
- Experience in conducting training of trainers for household methodologies;
- Good spoken and written English;

Ability to work in other languages used in the region would be an advantage.

Annex 4: Strategic Investment Planning

1. The DVCDP has broadly identified key milk processing enterprises in both Jizzakh and Kashkadarya regions that could act as Lead Enterprises (LE) in the development of dairy value chains that better link medium-scale processors with private and dehkan farmers with a view to achieving production and efficiency gains and increased market share, benefiting all value chain participants. For each DVCDP identified LE interested to build his/her business, a value chain Strategic Investment Plan (SIP) would be prepared by experienced private sector business specialists, including all envisaged activities within the value chain (see Annex 1 for details). The SIP analysis would include: (i) a situation analysis including a detailed assessment of expected dehkan farmer participation; (ii) opportunities to upgrade; (iii) constraints to upgrading; and (iv) recommendations on what can be done practically and what instruments to use. The SIP would list the potential types of investments eligible for DVCDP support and each type of investment would be accompanied with a realistic business model/financial analysis. Associated value chain capacity building investments financed, e.g. technology innovation, training of farmers or milk enterprise staff/management, organizing farmers into groups, etc., would also be identified and financed directly by the DVCDP.

2. Only legally registered milk processing cooperative societies and companies (LLC or LTD) of at least 24 months standing and Business Women's Association of Uzbekistan (BWAU) supported women's groups would be eligible to act as LEs for DVCDP supported dairy value chain development. Due diligence would be performed and entities that are the subject of bankruptcy, criminal investigation, fraud, corruption or are in default of contractual agreements would be ineligible. Value chain investments are likely to include improved livestock (for private and dehkan farmers supplying milk to processors), civil works, equipment (farming, processing, packaging, and energy generation or environment protection), transportation and marketing, related directly to the core activity of the investor. The Programme will not finance integrated milk production/processing enterprises. Incremental household income and jobs, value added products, and productivity and market access and gender equality would be important criteria in investment proposal evaluation, together with commercial viability, environment impact and cost effectiveness assessments. The dairy value chain investment programme would be underpinned by a technical, business management, accounting and Information Communication Technology (ICT) capacity building program for participating enterprises with a view to improving their farmer service capacity, profitability and enterprise linkages, both at local level and to upstream quality suppliers and markets. It is recommended that the provincial Chamber of Commerce and Industry mentors this programme. Farmers would receive training in livestock husbandry, health and nutrition, fodder production and other technology innovations, environment protection and in "farming as a business".

3. The SIP financial analysis would include: (i) cost benefit analysis at both lead enterprise and farm household levels using with and without investment scenarios; (ii) for medium term capital investments, the estimation of capital NPV and IRR; (iii) full financial and economic analysis of investments by intermediary enterprises, including monthly cash-flow/working capital analysis during the first years to avoid liquidity problems and development of a small business plan; (iv) investments by LEs would be supported by a well-articulated business plan, which can also be used by the LE for implementation of the investment − the business plan would including detailed financial and economic assessments and social and environmental impact assessments and monthly cash flow/working capital analysis; and (v) an economic multiplier impact assessment for the selected value chain. Approved SIP investments would have an accompanying Gantt chart providing the time line for all activities to be supported by the DVCDP, that would also identify the responsible party, place and time and how it is measured

4. Legal lead enterprises eligible to apply for DVCDP financing include: (i) sole proprietor/individuals; (ii) cooperative societies/associations; (iii) partnership; and (iv) companies. Eligible entities should be able to provide the following documents:

- Business License
- Certificate of registration and extract from Registrar
- Annual tax Return Report (2 years)
- Capacity Document of Board of Director, CEO, CFO, CTO
- Memorandum and Article of Association
- Permission for the DVCDP to collect information from trade partners.

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

- Having gone bankrupt or being liquidated; having its operations managed by courts; signing agreements with creditors, having its operational activities suspended; being subject to procedures concerning these matters or being in a condition due to a similar situation as per national laws or arrangements;
- Being sentenced for offences related to their own business which cannot be appealed;
- Being convicted of gross abuse related to business matter;
- Non performing obligations related to the payment of social security contributions or tax payments in accordance with the legal provisions in Uzbekistan;
- Being subject to an adjudication due to being involved in fraud, corruption, a criminal organization or other illegal activity which cannot be appealed;
- The DVCDP will not finance the following expenditures:
  - Leasing of equipment, land and facilities;
  - Bank charges, cost of guarantees and similar charges;
  - Value of intellectual property rights;
  - General costs involved in an investment Programme proposal development/design (architects', engineers', consultants' and general legal fees, and costs for acquisition of patents and licenses, etc.).

6. LEs and participating private must provide a minimum 20% cash contribution for their planned DVCDP financed investment, Dehkan farmers will be required to make a 20% contribution in cash or kind. Such investments could include:

- Improved dairy cows;
- Farm and livestock machinery;
- Civil works related to animal husbandry and the collection, testing, storage and processing of raw material;
- Testing, processing and packaging equipment;
- Transportation vehicles related to collection of raw material from Milk Collection Centres and shipment of finished product;
- Equipment for energy generation for farms and processing plant;
- Equipment related to environmental mitigation.

7. A dairy value chain investment supported by DVCDP shall support participating private and dehkan farmers through:

- Purchase of quality raw milk by LEs through local MCCs;
- Training and advisory services;
- Production credit;
- Where appropriate, formation into cooperatives/associations jointly owning intermediary assembly/processing facilities for raw milk.

8. The development of a SIP would not be a guarantee of DVCDP financing. SIPs would be ranked by the PMO against key programme indicators and only those SIPs meeting minimum DVCDP requirements would be used as a framework for inviting Participating Financial Institutions (PFIs) to finance all or part of the SIP private good investment.

9. Criteria for ranking SIPs would include, *inter alia,* the number of dehkan and private farmers in the milk collection scheme; the scale and focus of LE investment including level of own capital contribution, the profitability of the proposed investments, the milk purchase price schedule, level of gender inclusion, decent job creation, the participation of input suppliers and service providers, and the potential for future upscaling.

Attachment 1. TEMPLATE FOR PREPARING A VALUE CHAIN SIP

Step One: Data Collection

1. The value chain analysis team first conducts gender disaggregated background research on the expected milk catchment area, reviewing the structure of dairy production and processing in the milk catchment, the availability, type, quality and use of agricultural land and pastures, market demand and public and private institutional and financial support. After a thorough review of relevant secondary sources, the team conducts primary research in the milk catchment through a combination of one or more of the following methods: interviews of male and female farmers, focus groups, surveys and observation. Through this process which takes approximately 1 week in the field, the team gather more information on the value chain including the actors (dekhan and private farms, SMEs –processors, input suppliers, advisors, financial institutions, etc.), the relationships between the actors of the chain and factors affecting the competitiveness of the chain.

Step Two: Value Chain Mapping

2. By using the information gathered during interviews as well as secondary research, the value chain analysis team develops the map of the value chain. Value chain mapping enables the analysis team to visualize the flow of the product from conception to end consumer through various actors, as well as the supporting markets and enabling environment affecting the value chain. The first step is to list all the functions and actors in the value chain.

3. *Who are the actors in the* commodity/crop *value chain?*

- Input suppliers and service providers (companies who sell inputs and services to farmers)
- Producers (male and female dekhan and private farmers)
- Small-scale traders
- Small-scale processors –local sale
- Medium/large-scale processors-national sale

4. *Functions* may be performed by more than one actor, and each actor may perform more than one function. *What are the functions in the* commodity/crop *value chain?*

- Input and service supply
- Production
- Trading
- Processing
- Exporting
- Importing

5. Once they are identified, the functions and actors are placed in a matrix to show who does what. *List* the functions along the side and the actors across the top and mark the *boxes* to indicate which actors perform which functions. Once this table is complete, a map can be drawn showing how the product moves from one actor to another and when it passes through the different functions. Based on the map it is possible to establish the cost and margin make-up for each level the produce passes through, to be used as the base line for present distribution of cost and benefits among actors.

Step Three: Analysis of Opportunities and Constraints

6. The next step would be to prepare a table like shown below, list the structural and dynamic factors in the value chain, and then briefly describe the current situation, opportunities, constraints and recommendations for addressing the constraints including tangibles: How, Who and Financing.

Framework	Situational analysis	Opportunities for Upgrading	Constraints to Upgrading	Recommendation for Upgrading Constraints (How, who and financing)
Structural Elements of the Value Chain				
End market				
Business enabling environment (both soft and hardware)				
Vertical linkages				
Horizontal linkage				
Supporting markets				
Dynamic of the Value Chain				
Value chain Governance				
Inter-firm Relationship				

Step Four: Prepare Brief Sample Business Models for Each Recommended Upgrading showing the expected Results of the Upgrading

7. This step included technical description of the upgrading, financial analysis, economic analysis listing all the incremental estimated forecasts e.g. increased farm household income, number of households benefiting; job creation; import substitution; etc.

8. This step should also include the preparation of a matrix showing the current cost and benefit make-up and profit distribution along the value chain and an evaluation of change in governance after upgrading.

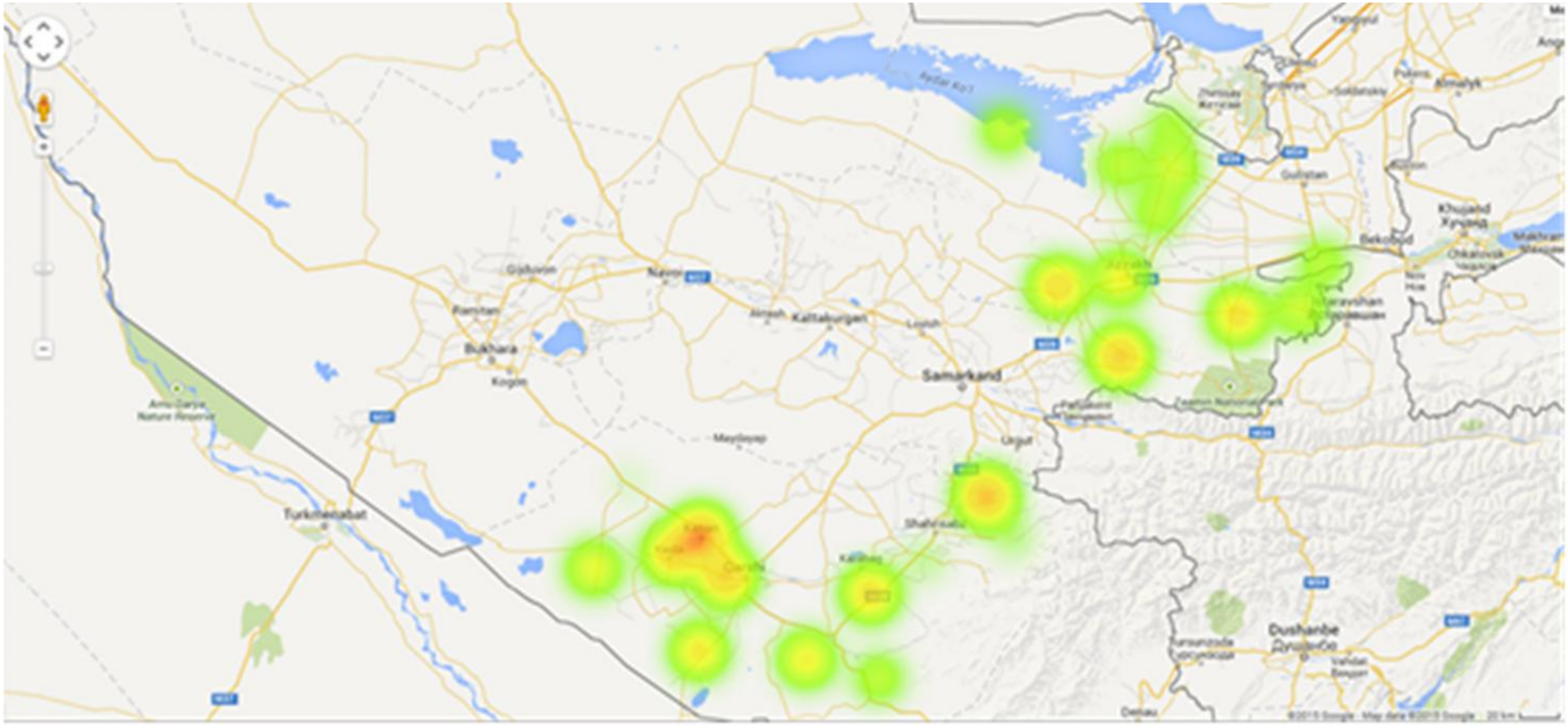
Step Six: Stakeholders Workshop

9. The stakeholder workshop brings together key actors from various levels in the value chain to vet the findings of the analysis and discuss if the chosen strategy for increasing value chain competitiveness is valid.

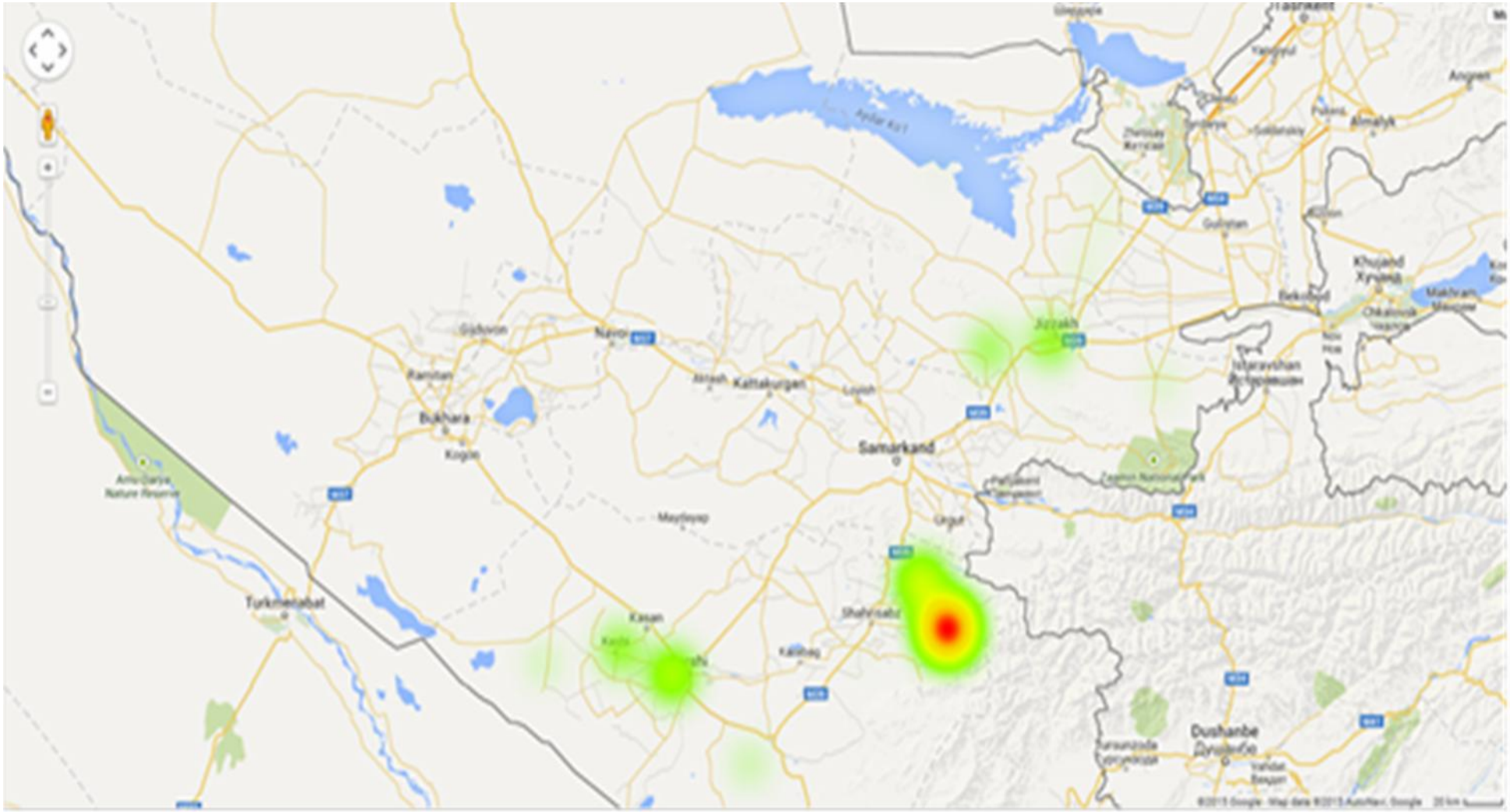
NOTE: The SIP should be as precise and concise as possible, not exceeding 15 pages

Annex 5: DVCDP Maps of dehkan cow and milk production concentration

Dehkan Farm cow stocks



Potential **milk intake** by dairy industry



Appendix 5: Institutional aspects and implementation arrangements

A. Organizational framework

Implementing agency

1. The MAWR has been identified as the implementing agency for the Dairy Value Chains Development Programme (DVCDP). Day-to-day oversight of the DVCDP's management will rest with a PMO embedded in the Rural Restructuring Agency (RRA), a state entity dependent on the MAWR, whilst overall programme implementation oversight will be the responsibility of a PSC, under similar arrangements to those of the HSP, and consisting of representatives from key ministries, regional authorities and other relevant stakeholder organizations.

2. **Authority.** The MAWM of the GoU performs the following main functions: (i) conducts monitoring over compliance with water legislation, cooperatives (shirkat), private, dehkan and public farming, considers infringement facts and issues appropriate decisions in a prescribed manner; (ii) participates in development and implementation of industry and regional agriculture and water management development programs in conjunction with the Ministries and Departments of the GoU, State Committees, bodies of state authority on places and bodies of state administration; (iii) together with other ministries, departments and state committees coordinates the development and implementation of measures directed to the development of diversified agricultural production and protection of rural producers rights; (iv) together with the MoE of the GoU, State Committee on De-monopolization and Competition Development and MoF, carries out within the coordinated programs a review of agricultural market conditions in regions with the purpose of identifying practices of excessive pricing, abuse of a monopoly situation and unfair competition; (v) prevents (suppresses) actions of infringement of legislation on agriculture, water and water use; (vi) carries out a monitoring over the targeted use of budget funds of subordinated enterprises and organizations; conducts financial and economic analysis of their activity; provides methodical assistance to auditing commissions of cooperatives (shirkats); (vii) together with other agencies develops development strategy of village industrial and social infrastructure; and (viii) participates in coordination of economic and social development of construction, industrial, engineering enterprises, organizations, establishments and their associations subordinated to the MAWR.

3. The **Rural Restructuring Agency** is an executing arm of the MAWM with responsibility for the implementation of investment programmes financed by multilateral organisation, notably the Asian Development Bank and the World Bank. The RRA is responsible as well for the implementation and operational support to the IFAD-financed HSP.

Programme Oversight

4. Overall management oversight will rest with a **Programme Steering Committee (PSC)**. The Minister of the MAWR would be the ex officio Chairperson of the PSC. Other members would include representatives of: the MOF; MoE and MoFERIT; the CBU; the Women's Committee under the Deputy Prime Minister for Social Protection of the Family, Maternity and Childhood; the General Director of MAWR's RRA; representatives of the governments of the Programme's regions of Jizzakh and Kashkadarya; and representatives from other sectoral stakeholders, including Government agencies, and representatives from the target groups (dehkan and private farmers; agribusiness entrepreneurs, service providers and input suppliers), the private business sector, and others as considered appropriate, while seeking equitable women's and beneficiaries representation. It is recommended that private sector representatives form at least 40% of the PSC.The PSC membership may be amended depending on programme implementation requirements, with the prior approval of IFAD.

5. The DVCDP Programme Director would act as Secretary to the PSC. The PSC would meet every six months to: (i) at alternate meetings, review and approve the programme's AWPBs including

related procurement plans for works and services; (ii) at alternate meetings to review qualified proposals for programme support under the components, submitted by the Programme's Regional Office via the Programme Director; (iii) review implementation progress and other monitoring and evaluation reports; and (iv) be advised of the results of the joint IFAD-MAWR programme supervision missions, and advise and initiate action on matters arising relative to ensuring the efficient and effective implementation of the programme in line with the provisions, terms and conditions of the Programme Financing Agreement.

Programme Management Office

6. The DVCDP will be executed under de operational responsibility of a PMO. The PMO will be embedded in the MAWR/RRA and accountable to the General Director of the RRA, who in turn will be accountable to the Minister of the MAWM.

7. **PMU** tasks**/ responsibilities.** Whilst the operations of the PMO will be founded on a consistent results-based management framework/logframe —which will facilitate: effective execution of programme activities; the monitoring of progress made; and the systematization of programme implementation experiences— the principal PMO activities comprise: (i) overall operations planning, M&E and financial administration, including budgeting, procurement, accounting and disbursement. This includes the preparation of the AWPB, and the corresponding operational plans for each line of action; (ii) management of the programme as pertaining to loan administration and the actual field investments and activities; (iii) plan for socioeconomic and baseline studies (RIMS system), exercise the gender and legal advisory functions, and set up the systems and operational structures for programme learning and KM; (iv) submission to the Investment Approval Committee the proposed SIPs; and the formulated technology innovation agreements to be established with associate universities/institutions; (v) follow-up and supervise the programme's operations at field level, paying attention to the requirements of components and activities and the proper follow-up of pilot initiatives, including technical assistance to primary production/ processing and to PFIs; (vi) implementation support to the associated implementing partners (universities/Institutes); the organized farmer groups of beneficiaries; the PFIs; and other entities active in the dairy value chain and ultimately to the Programme's primary target groups of small-scale dairy producers and related agribusiness entrepreneurs and market services providers; and (vii) provision of the required reports to government entities and IFAD according to the loan agreement, i.e., RIMS surveys, mid-term and final evaluations, etc.

8. **PMU staffing.** The PMO for the DVCDP will be headed by a Programme Director and be composed (preliminarily) of: a Chief Accountant; a Procurement Officer; a Dairy Value Chain Coordinator; a Rural Finance Programme Coordinator; a Monitoring & Evaluation Officer; a GESI Officer; an Administrative Assistant/Translator; and a Driver. The DVCDP and HSP will share their gender and legal staff respectively. In addition, The Programme will count with the services of national and international dairy production, dairy technology, and dairy value chain development and gender specialists.

9. Programme PITs will be established in Jizzakh and Kashkadarya provinces from PY1. The PIT would comprise: and a Dairy Processing Officer (PIT Coordinator), a Dairy Production Officer, a Value Chain Finance Officer and a Driver. The PITs will be responsible for day-to-day implementation in the field of all aspects of the Programme, with the exception of financial administration and procurement, which will be managed entirely by the relevant personnel of the RRA/DVCDP PMO at central level.

10. The PMO/PIT will coordinate the work of competitively selected private service providers and participating financial institutions (PFIs) who will interact with value chain actors on planning and financial matters. SIPs will be prepared by these private service providers working with value chain "gatekeepers" and other value chain actors. The programme design team assessed a number of potential private service providers and confirmed that sufficient capacity exists in the private sector for SIP preparation.

11. Terms of Reference for key programme staff are detailed in Appendix 5, Annex 1

B. Implementation principles and governance

Programme resource allocation

12. The DVCDP seeks to improve the assets and incomes of dairy value chain stakeholders including dehkan and private farmers, dairy processing enterprises, input suppliers and service providers and the rural unemployed by modernising dairy production in terms of technical and managerial efficiency and effectiveness gains at key points of the dairy value chain, namely: (i) capacity development of value chain stakeholders, especially women stakeholders; (ii) innovative technology testing and development; (iii) establishing sustainable dairy value chain stakeholder fora; and (iv) technical and financial support to primary producers and small-scale market services and input supply entities. Programme support would be delivered in the context of a management approach that is targeted, demand-driven and participatory.

13. The DVCDP will be executed through a demand-driven approach in which the incentives to participate will be promoted by the Programme, providing the pushing factor while seeking the initiative and direct investment of private agroindustry entrepreneurs ─ the *pulling factor*. To this effect, the Programme explicitly incorporates the following actions:

- Facilitating 'small farmer-to-commercial farmer' and 'small farmer-to-agribusiness entrepreneur' (formal or informal) agreements for access to land, organised produce collection, technical mentoring, etc.;
- Fomenting the development/ consolidation of *inclusive value chains* (e.g., relevant to rural women as producers and commercial agents); supporting ‘semi-commercial’ farmers and processors; and providing the technical services required to formulate *SIPs* for access to the programme’s financing lines;
- Supporting and utilising the channels of commercial PFIs while facilitating access to asset-building finance, i.e., most DVCDP funds will reach the intended beneficiaries through four financing windows, which collectively form 60 per cent of Programme costs;
- Supporting complete value chains (downstream and upstream linkages);
- Contributing to overall government’s priorities and efforts to increase participation of private sector actors in economic and financial activity;
- Through the FPPC, encouraging and supporting country dialogue on private-public partnership, whilst: (i) seeking the open societal awareness that would support the establishment of a financial, social and economic environment conducive to private sector development; and (ii) espousing solutions to prioritized dairy industry development concerns from the “bottom of the pyramid” upwards;
- Establishing and supporting, both: (i) the ‘brokerage’ function, through an efficient DVCDP PMO (i.e., business technical adviser, rural finance programme coordinator, livestock value chain coordinator, et al); and (ii) a suitable M&E/Learning system that will follow-up on the key outcome-output performance indicators.

Governance

14. The Programme’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 subsidiary loan agreements with FSPs; (ii) consistent stakeholder representation in the programme’s planning, M&E/ Learning and impact assessment cycle, affording mechanisms for complaints and remedies; (iii) fair participation of women beneficiaries in all activities and levels of the programme; (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; (fv1 close supervision and implementation support by IFAD, including risk-based financial management supervision and operational reviews; and (vii) provision for regular external audit.

C. Organizational setting for component implementation

15. The Programme's implementation aims at achieving the following two outcomes, through their corresponding outputs: **Outcome 1.** ***Dairy Value Chain Capacity and Innovation Built*****;** ***and Outcome 2. Dairy Production and Processing Development Financed.***

Outcome 1. ***Dairy Value Chain Capacity and Innovation Built***

16. **Dairy Value Chain Stakeholder Capacity Built.** Under this output the Programme will seek to achieve increased technical and managerial capacity of: (i) dehkan and commercial private farmers, including young farmers, for enhanced, climate-smart and sustainable dairy production and productivity; (ii) dairy enterprise owners, managers and technicians in improved, diversified and more efficiently manufactured milk products; (iii) input suppliers and service providers, as will women's groups investing in milk collection and local processing, in strengthened business management and targeted technical skills; (iv) public health inspectors in milk and dairy premises hygiene and regulatory control; and PFIs in financial and risk management for dairy value chains.

17. The **Mahalla** will provide the institutional framework for male and female dekhan farmer group training, while agricultural colleges and institutes will be used to train private farmers, milk processors and dairy inspectors. PFI training will be delivered through the IFC financial services TA in Uzbekistan. Appropriate training modules will be prepared by national experts, overseen by international advisors, drawing, wherever possible on existing nationally and regionally available training material. Where technical gaps occur, new training material will be developed. Formal training will be supported by regional study tours to expose trainees to best practices most relevant to local conditions (e.g., Iran, Kazakhstan), and experiential farm, factory and laboratory training where appropriate. Training programmes will be supported with training brochures, educational videos and television and radio programmes.

18. **Technology Innovation Tested.** FPPC members will prioritize dairy industry technology innovation needs, which will be translated into technology testing and development sub-programmes by the PMO/PITs, supported by nationally and internationally recruited DVCDP technical advisors. Dependent on the nature of the sub-programme, implementing agencies will be selected through competitive national bidding, or single sourced where there is only one relevant national institution e.g. forage varietal testing. The PMO will be responsible for sub-programme procurement and financial management, while PITs will oversee their field implementation.

19. **Forum for Private-Public Collaboration (FPPC) Operating Sustainably.** One or more private sector service providers will be competitively recruited to support the development of the FPPCs in Kashkadarya and Jizzakh provinces respectively and to manage the annual, national dairy value chain conference. A critical performance indicator for those private sector service providers will be the progressive transfer of FPPC's governance to its members, particularly national NGOs, Associations and Chambers (e.g. Farmer's Council, BWAU and CCI) that broadly represent the membership. By end-PY4 the FPPCs are expected to be self-governing.

20. **Outcome 1 management**. Value-chain capacity building and innovation activities will be executed under the umbrella of the PMO and PITs based in Tashkent and the Programme provinces respectively. A PMO-based Dairy Value Chain Coordinator will support PIT-based Dairy Production and Dairy Processing Officers who will coordinate capacity building and technology innovation initiatives. They will be supported by internationally recruited dairy production, dairy processing and gender development specialists and nationally recruited private and public technical specialists responsible for preparing training modules and ToT programme delivery. Trained trainers will deliver the dekhan farmer capacity building and HHMs programmes, Technical faculty and institute staff will train private farmers, milk processing stakeholders, input suppliers, service providers and dairy inspectors.

Outcome 2. Dairy Production and Processing Development Financed

21. **Dairy Value Chain Strategic Action Plans (SIP) Prepared**.The SIP analysis that underpins Programme value chain investment would include: (i) a situation analysis including a detailed assessment of expected dehkan farmer participation; (ii) opportunities to upgrade; (iii) constraints to upgrading; and (iv) recommendations on what can be done practically and what instruments to use. The SIP would list the potential types of investments eligible for DVCDP support and each type of investment would be accompanied with a realistic business model/financial analysis. Associated value chain capacity building investments financed, e.g. technology innovation, training of farmers or milk enterprise staff/management, organizing farmers into groups, etc., would also be identified and financed directly by the DVCDP. The development of a SIP would not be a guarantee of DVCDP financing. SIPs would be ranked by the PMO against key programme indicators and only those SIPs meeting minimum DVCDP requirements would be used as a framework for inviting PFIs to finance all or part of the SIP private good investment. Criteria for ranking SIPs would include, inter alia, the number of dehkan and private farmers in the milk collection scheme; the scale and focus of LE investment including level of own capital contribution, the profitability of the proposed investments, the milk purchase price schedule, level of gender inclusion, decent job creation, the participation of input suppliers and service providers, and the potential for future upscaling. The SIP process is described in Appendix 4, Annex 4

22. **Dairy Value Chain Investment Fund Profitably Disbursed.** Under this output the Programme will encourage Lead Enterprise-driven integration of smallholders into the value chain by providing a set of incentives to value chain actors —beyond expectations of direct economic profitability— such as access to technology innovation and knowledge and targeted loans to agribusinesses entering into partnership with smallholders. The shift to a demand-driven economy offers Uzbekistan the opportunity to develop enhanced production systems of the rural farms by involving private enterprises as agribusiness drivers. This model, which has proven to be successful elsewhere, is being encouraged by the government's current sectoral policies. Under this approach, the proposed IFAD-financed programme aligns with the country's agricultural and livestock intensification and diversification agenda, while ensuring that the resulting agricultural/ livestock production growth is inclusive, market-driven and environmentally sensitive.

23. The programme will promote milk aggregation through investment in MCCs, with the modality of MCC ownership (LE owned, co-owned by processor and dehkan groups or entirely owned by dehkans, particularly women's groups) determined during the development of the SIP. While groups of dehkans, e.g., civil society organisations; cooperatives— all bankable entities— will likely initially refrain from taking a loan for MCC development, they will have a better negotiation position if they own the collection centre.

24. To achieve the expected outcomes in rural financing, the programme will support the establishment of four (4) targeted financing windows through subsidiary agreements/ sub-lending to selected PFIs for: 1. dehkan farmers; 2. private commercial farmers; 3. agroprocessors; and 4. service providers and input suppliers. Both PFIs and targeted beneficiaries are expected to each contribute 20 per cent of the investment capital, which, for dehkan farmers can be contributed in-kind.

25. **Subordinate Documents.** Implementation arrangements for the outcome will be stipulated in a number of subordinate documents. The Programme budget makes provision for technical assistance in the drafting of these documents (budgeted under the DVCDP PMO). The documents will be subject to "no objection" by IFAD and are expected to include:

26. **A Subsidiary Loan Agreement** (SLA): To be signed between GoU, represented by Ministry of Finance, the MAWR/RRA DVCDP PMO, and PFIs describing the terms, conditions and procedures for PFIs participation on the programme; and Investment Guidelines: (forming an integral part of the Subsidiary Loan Agreement).

27. **Interest Rates**. PFIs will apply interest rates per their internal interest rate policies for similar types of loans. Interest rates on loans to end borrowers funded from the programme funds should be the same as those on loans with similar risk profiles within each PFI.

28. **PFI Failure to Disburse.** If a PFI is unable to disburse the refinancing funds available under the DVCDP Dairy Production and Processing Development Financed outcome to eligible clients for eligible purposes, the MAWR/RRA DVCDP PMO as approved by MoF shall be entitled to reallocate such funds to other interested and eligible PFIs, which are able to make use of and disburse the funds. Furthermore, the MAWR/RRA DVCDP PMO shall be entitled to exclude a commercial bank from participation in the programme in any case where it has acted against and in conflict with the conditions and procedures stipulated in the SLA and the Investment Guidelines.

29. **Sub-borrower Eligibility Criteria.** Detailed eligibility criteria for sub-borrowers, terms and conditions for borrowing under the Dairy Production and Processing Development Financed outcome, and on-lending to sub-borrowers will be specified in the SLA. The set of guidelines to be established will form an integral part of SLAs and adherence to these eligibility criteria will be monitored throughout programme implementation.

30. **Sub-Borrower Loan Approval.** Loan applications under the four financing windows will be evaluated by the credit committees of the respective PFIs (commercial banks). If approved by them, the application will be forwarded to the Value Chain Finance Programme Officer in the Programme's PIT accompanied by all required details for approval. Subject to the Officer's review, applications will be sent on to the Rural Finance Programme Coordinator in the RRA DVCDP PMO for final review and approval. It is to be noted that applications for refinancing of loans exceeding USD 250 000 will require a "no objection" from IFAD. After approval by RRA and, for applications exceeding USD 250 000 also by IFAD, the required refinancing may be executed and released by the respective commercial bank.

Annex 1: Draft Terms of Reference of Key Programme National Staff

Programme Management Office – Central (RRA/DVCDP PMO) Level

PROGRAMME DIRECTOR

The Programme Director heading the RRA/DVCDP PMO based in Tashkent has the overall responsibility for ensuring the effective management of the Programme and achievement of Programme objectives. She/he will have overall responsibility for the management of Programme resources, including finances, personnel, vehicles, equipment and information and his/her major responsibilities are to:

- Provide direct supervision of all RRA/DVCDP PMO and DVCDP PIT staff and provide leadership to them for implementation of the Programme;
- Ensure that the meetings of the PSC are held regularly and facilitated;
- Hold regular monthly meetings with all key staff and implementing partners to discuss Programme planning, implementation and progress;
- Ensure the timely preparation and collation of the annual work plans and the preparation of the annual budgets based on the work plans and ensure that these are submitted to IFAD and Government as stipulated in the Programme Financing Agreement;
- Ensure the proper implementation of the work plans at the central and regional levels and ensure that staff are properly facilitated in the implementation of Programme activities;
- Maintain focus on the less socio-economically advantaged, vulnerable and women and youth within the Programme area and ensure that they are able to actively participate in Programme decision-making and implementation. S/He will ensure that special strategies are developed to ensure their inclusion in Programme activities. S/He will ensure that at least 30% of the Programme beneficiaries are women;
- Ensure proper operation of the Designated Account and ensure the flow of funds as stipulated in the Programme Financing Agreement and Programme Implementation Manual. S/He will ensure the timely submission of the withdrawal applications to IFAD and ensure the timely audit of all Programme accounts;
- Ensure that the procurements of all major items are made using the procedures specified in the Programme Financing Agreement and the Programme implementation Manual;
- Ensure that, as necessary and appropriate, MoUs, Partnership Agreements (PAs) with key Government agencies, regional agencies, NGOs and other specialised institutions are in place for ensuring the efficient implementation of Programme activities;
- Ensure that a Management Information System (MIS) is established which provides data on progress, outputs and impact evaluation including responding to the information needs of the Programme Logical Framework and the IFAD Results and Impact Management System (RIMS). S/He will ensure that all key indicators are disaggregated by gender and youth;
- Ensure that the consolidated progress reports are prepared on a timely basis and submitted to all concerned agencies including IFAD. S/He will ensure that the special issues and constraints that affect the less socio-economically advantaged, vulnerable and women and youth are highlighted in programme reports;
- Ensure that contracts are executed with qualified agencies for the timely conducting of the baseline, mid-term and Final Impact surveys;
- Promote linkages with other programmes and programmes that would help to achieve Programme objectives and maintain contacts with the different implementing agencies, donor programmes, and central level institutions and ensure that they are well informed about the Programme progress, best practices and areas where there are opportunities for linkages and sharing; and
- Ensure that IFAD supervision missions are facilitated and provided with logistic support.

CHIEF ACCOUNTANT

Role and Location: The Chief Accountant would be a member of the PMO of the DVCDP. The DVCDP PMO will be located in Tashkent as part of the Rural Restructuring Agency (RRA) **implementing** the DVCDP under the auspices of the MAWR, which is the lead implementing agency for the DVCDP.

Responsible to: The Chief Accountant will be directly responsible to the DVCDP Programme Director.

Job Description: During the start-up phase of the DVCDP the Chief Accountant will take lead responsibility for supporting the DVCDP Programme Director in developing the DVCDP"s Financial Management Manual and associated procedures.

The Chief Accountant's daily duties and responsibilities will include:

- Keeping the books of accounts;
- Accounting and postings;
- Maintaining all HSP-related bank accounts;
- Preparing financial statements as required;
- Assisting yearly audits of the HSP;
- Monitoring all HSP investments;
- Supporting the Programme Director in developing, operating and up-dating the HSP"s Management Information System; and
- Assisting in the preparation of the following, as related to financial management:
    - Annual financial reports;
    - HSP Annual Work Plans and Budgets (AWPBs); and
    - Assistance with other matters related to financial management inputs.

Qualifications and Experience

The Chief Accountant should have a degree in Accounting, Finance, Economics, or Business Administration. A postgraduate CPA certificate would be an added advantage. The candidate should have at least 5 years practical experience with audit/advisory firms, financial institutions, private firms, or in similar relevant positions.

PROCUREMENT OFFICER

Responsible to: Programme Director

Qualifications and Experience

A higher degree or an equivalent qualification in Law or equivalent with sound knowledge of the procurement procedures applicable under the legislation of the Republic of Uzbekistan and foreign donors" funded Programmes. A minimum of five years working experience, of which two with programmes for financial services, and proven ability to work in a multi-disciplinary team. Familiarity with relevant legislation and procedures of the Republic of Uzbekistan. Fluent English, both spoken and written. Computer literate. The selected candidate will have a pragmatic, creative and energetic approach to problem solving and decision-making and the capacity to operate effectively with suppliers.

Job Description

Under the direct supervision of the RRA General Director the Procurement Officer would be responsible for procurement of goods, works and services in the framework of the DVCDP. Within this overall role, the following tasks would be the specific responsibility of the RRA/DVCDP PMO Procurement Officer.

- Prepare the annual Procurement Plans in accordance with the Annual Work Plans and Budgets;
- Draft the public announcement for each tender;
- Prepare Bidding Documents for each contract in accordance with the approved Standard Bidding Documents;
- Coordinate bid opening, evaluation and preparation of required documentation such as minutes of bid opening ceremony, written proposals and recommendations for contract award;
- Participate in Bid Opening and Evaluation Committee meetings and prepare the minutes;
- Prepare and submit bid evaluation reports and recommendations for contract award to the Tender Committee for review and approval.
- Prepare and submit to IFAD all required information for prior review and no-objection for contracts award as per the Financing Agreement requirements.
- After agreement with IFAD for contract award initiate the contract signing procedure;
- Coordinate all procurement procedures within RRA regarding the HSP implementation; and
- As a member of the RRA Management Team, provide reports and information on infrastructure investment operations as necessary to the RRA General Director and contribute to progress reports.

DAIRY VALUE CHAIN COORDINATOR

Background

The RRA/DVCDP PMO Dairy Value Chain Coordinator will coordinate and support the dairy value chain development-related operations in the RRA/DVCDP PMO. During the start-up of the DVCDP, the PMO Dairy Value Chain Coordinator will be responsible for: (I) overall coordination of the activities of components 1 and 2 of the DVCDP; (ii) supporting with Technical Assistance the identification of Lead Enterprises and development of the initial SIPs; and (iii) further developing the ToR for DVCDP private service providers. He/She will also provide technical support to all other value chain entities supported by the Programme in dairy production, processing and marketing.

Duties and Responsibilities

The duties and responsibilities of the PMO Dairy Value Chain Coordinator will include:

- In collaboration with the respective institutions participating in the DVCDP, prepare relevant ToRs for DVCDP private sector service provider inputs;
- In collaboration with national and international advisers, prepare and oversee the delivery of the DVCDP Output 1 capacity building programme including ToT and subsequent training delivery at national, regional and mahalla levels
- Coordinate activities and render necessary assistance to ensure timely and efficient implementation of the innovation technologies and demonstrations in Kashkadarya and Jizzakh oblasts under the Output 2
- Provide necessary assistance and inputs to support the functioning of the Forum for Public-Private Collaboration (FPCC) in Kashkadarya and Jizzakh oblasts under the Output 3;
- Ensuring that the Programme's gender-related concerns are addressed, gender-related targets are met and gender issues are mainstreamed into Programme operations in collaboration with the PMO Gender Specialist.
- Monitoring the value chain activities of the DVCDP.
- Coordinating the promotion of clustering of dehkan and private dairy farmers for efficient milk collection and service provision, including farmer-to-farmer services.
- Coordinate activities and render necessary assistance to ensure proper and timely preparation and implementation of the Dairy Value Chain Strategic Investment Plans in Kashkadarya and Jizzakh oblasts under the Outputs 4 and 5
- Encourage financial institutions to develop appropriate financial products for the dairy sub-sector.
- Prepare inputs as required for the RRA/DVCDP monitoring and impact evaluation system.
- Assisting the RRA/DVCDP Programme Director as required.

Qualifications

The candidate should have a university degree in agriculture, marketing, agro-economics or other relevant field. The candidate has to have a strong dairy industry experience and commercial orientation and the capacity to motivate the actors in the value chain. Previous experience in a similar position would be an added advantage.

RURAL FINANCE PROGRAMME COORDINATOR

Position: DVCDP Rural Finance Programme Coordinator

Location: RRA, Tashkent

Reporting to: DVCDP Programme Director, RRA

The Rural Restructuring Agency (RRA) is requesting the services of a Rural Finance Programme Coordinator to co-ordinate the activities of the Rural Finance Component of the IFAD-financed Livestock Value Chain Development Programme (DVCDP), providing refinancing funds to commercial banks for on-lending to (i) private farms; (ii) dehkan farmers; (iii) processors; and (iv) private veterinaries and zoo technicians. The overall duties of the Rural Finance Programme Coordinator will be to assist the DVCDP Programme Director in all aspects of the Rural Finance Component of the programme, and to assist, supervise and co-ordinate the activities of the Regional Office Rural Finance Programme Officer.
The suitable candidate will have the following background and experience:

Educational Background:

Diploma in Economics, combined with Diploma in Banking.

Experience:

- Minimum 10 years working experience in the financial sector.
- Minimum 3 years practical working experience with economics and financial analysis.
- Computer literacy and proficiency (word processing, spread sheets and data bases).
- Strong verbal and written communication skills.
- Ability to work efficiently under pressure and to meet deadlines.
- Well-organised and well oriented to details.
- Duties and Responsibilities include, but are not limited to:
- Participation in establishing eligibility criteria for participating financial institutions (PFIs) and end-borrowers in accordance with programme design.
- Setting-up and maintaining data-bases for PFIs and end-borrowers in accordance with programme design.
- Supervising and co-ordinating the activities of the Regional Office Rural Finance Programme Officer.
- Creating and maintaining customer files and documents on the basis of information received from the Regional Office Rural Finance Programme Officer.
- Carrying out evaluation and approval procedures on the basis of information received from the Regional Office Rural Finance Programme Officer.
- Managing portfolio reporting activities with PFIs on the basis of information received from the Regional Office Rural Finance Programme Officer.
- Preparing periodic reports in accordance with programme procedures on the basis of information received from the Regional Office Rural Finance Programme Office.
- Following up on delinquency management in co-ordination with PFIs and on the basis of information received from the Regional Office Rural Finance Programme Officer.

MONITORING & EVALUATION OFFICER

Terms of Employment: Two years (6-month probation); renewable for a further two-year periods or one further four-year period.

Responsible to: Programme Director

Qualifications and Experience:

A higher degree in economics, agriculture or related social sciences or closely related discipline; including experience of poverty-reducing, integrated rural development, especially its targeting, integration and gender aspects. Experience of rural finance would be highly desirable. Fluent written and spoken English and Uzbek and computer literacy is a requirement. The selected candidate would be expected to have a creative and pragmatic approach to problem-solving and the ability to think in terms of socio-economic and administrative systems.

Job Description:

The Monitoring and Evaluation Officer will have the lead responsibility for designing and operating the DVCDP PMO"s Management Information and Monitoring and Evaluation Systems and building up and maintaining the data base necessary for the DVCDP PMO to do its work efficiently and effectively. The principal duties of the post will be to:

- Ensure that the monitoring and evaluation of the Programme is carried out in accordance with the Programme's guidelines and procedures;
- Organise a transparent progress monitoring and reporting system with adequate indicators to allow the Programme staff to effectively monitor the progress, performance and impact of the components no later than six months after loan effectiveness;
- Draw up terms of reference for the DVCDP Baseline Survey;
- Design and conduct the DVCDP Baseline with the assistance of national Technical Assistance as considered needed;
- Contribute to the Programme Start-up Workshop in Programme Year 1 (PY1) with respect to Programme-related Monitoring and Evaluation (M&E) issues;
- Organise Programme annual review and planning workshops. Specifically the Programme's Annual Performance Reports will be discussed in detail and their content subject to review. Valuable lessons and successful cases collected in the Annual Performance Reports will be brought forward and disseminated and to the extent possible replicated within the Programme. Indicators that do not add any value will be dropped. In this way M&E data will be employed as a management tool;
- Define the need for specific studies, design them and supervise their execution;
- Conduct poverty assessment interviews based on developed questionnaires with the beneficiaries of the DVCDP (annual repeater data);
- Ensure the receipt and review of periodic monitoring reports received from implementing agencies (e.g. universities, institutions and PFI) and prepare overall progress reports;
- Prepare an Annual Performance Report for all Programme activities for the consideration of the RRA/HSP PMU, PFIs, the Programme Steering Committee (PSC) and IFAD;
- Assist as required external monitoring, review and evaluation missions visiting the HSP;
- Collect and document information on lessons learned, including case studies and special research;
- Record and report physical progress of M&E indicators against AWPBs;
- Report to IFAD annually on the IFAD Results and Impact Management System (RIMS) indicators; and
- Liaise with other RRA/HSP PMU staff in the interpretation of their respective annual reports.

GENDER SPECIALIST (Female)

Terms of Employment: Two years (6-month probation); renewable for a further two-year periods or one further four-year period.

Responsible to: Programme Director

Qualifications and experience:

- At least 3 years of experience in working on women, youth and indigenous people's issues and gender mainstreaming in development programmes and programmes;
- Master's Degree in Social Sciences, Rural Development or related discipline;
- Experience in programmes integrating gender consideration across components/activities and M&E required;
- Highly motivated and committed to poverty alleviation and gender equality.
- Good spoken and written Uzbek, Russian and English

Responsibilities and tasks:

- Provide advice and support to Programme Manager and other members of both DVCDP and HSP management team and field officers in effective gender mainstreaming in programme activities;
- Ensure that the gender mainstreaming strategy and mechanisms outlined in the programme design is duly executed during the implementation;
- Work in close collaboration with implementing partners and stakeholders to develop yearly gender action plans;
- Facilitate in implementation of the gender action plans and regularly monitor progress and identify needs and gaps;
- In consultation with programme manager and rural finance officer, integrate gender-responsive budgeting into AWPB preparation process, reflecting the requirements to implement gender action plans;
- Support and facilitate the conduct of gender awareness training for programme staff, PFIs and SPs;
- Together with the programme M&E officer, establish a gender-sensitive M&E system and ensure that all programme data are analyzed from a gender perspective;
- Together with the programme M&E officer, regularly review the programme indicators to ensure effective integration of gender-related outcomes within the programme's performance measurement framework;
- Ensure that all progress report and evaluation documents report on sex-disaggregated data and include separate sections on gender outcomes;
- Together with the international trainer hired for TOT for HMMs, develop internally and externally generated M&E indicators;
- Identify opportunities of linkages with other gender training or women/social inclusion programmes implemented by national, international and inter-governmental;
- Monitor that quotas are respected and check on a regular basis that there is no adverse impact on target groups as a result of programme implementation;
- Participate in the development of detailed TORs and tender documents for the national and local service providers for various programme components to ensure that the target groups, particularly women, will be able to participate effectively and profitably in all components and meet the programme's targets;
- Monitor the service delivery or SPs and PFIs and ensure that they meet the gender mainstreaming requirements outlined by the programme design.

PROVINCIAL IMPLEMENTATION TEAM (PIT): VALUE CHAIN FINANCE OFFICER

Position: DVCDP PIT Office Value Chain Finance Officer

Location: DVCDP PIT Office (Jizzakh and Karshi)

Reporting to: DVCDP Rural Finance Programme Coordinator, RRA, Tashkent

The Rural Restructuring Agency (RRA) is requesting the services of a PIT Office Rural Finance Programme Officer to co-operate with participating financial institutions (PFIs) in implementing the activities of the Dairy Production and Processing Development Financed outcome of the IFAD-financed Dairy Value Chains Development Programme (DVCDP), providing refinancing funds to commercial banks for on-lending to (i) private farms; (ii) dehkan farmers; (iii) processors; and (iv) private veterinaries and zoo technicians. The overall duties of the PIT Office Value Chain Finance Officer will be to assist the DVCDP Rural Finance Programme Coordinator in all aspects of implementation of the Dairy Production and Processing Development Financed outcome of the Programme.

The suitable candidate will have the following background and experience:

Educational Background:

Diploma in Economics, combined with Diploma in Banking.

Experience:

- Minimum 10 years working experience in the financial sector;
- Minimum 3 years practical working experience with economics and financial analysis;
- Computer literacy and proficiency (word processing, spreadsheets and data bases);
- Strong verbal and written communication skills;
- Ability to work efficiently under pressure and to meet deadlines; and
- Well-organised and well oriented to details.

Duties and Responsibilities include, but are not limited to:

- Setting-up and maintaining data-bases for PFIs and end-borrowers in accordance with programme design and as directed by the DVCDP Rural Finance Programme Coordinator;
- Screening and supervising the fulfilment of criteria for PFIs and end-borrowers in accordance with programme design and as directed by the DVCDP Rural Finance Programme Coordinator;
- Carrying out provisional evaluations and approval procedures of applications for re-financing of eligible activities in accordance with programme design;
- Creating and maintaining customer files and documents received from PFIs;
- Supervising, maintaining files of, and relaying portfolio reporting activities of PFIs to the DVCDP Rural Finance Programme Coordinator;
- Preparing periodic reports in accordance with programme procedures on the basis of information received from PFIs, and relaying these to the HSP Rural Finance Programme Coordinator;
- Following up on delinquency management in co-ordination with PFIs and relaying this in periodic reports to the HSP Rural Finance Programme Coordinator;
- Guide and co-operate with PFIs with regard to their participation in the programme; and
- Disseminate information about the HSP Rural Finance Programme to relevant target groups and interested parties.

PROVINCIAL IMPLEMENTATION TEAM (PIT): DAIRY PROCESSING OFFICER/PIT COORDINATOR

Position: DVCDP PIT Office Dairy Processing Officer/PIT Coordinator

Location: DVCDP PIT Office (Jizzakh and Karshi)

Reporting to: DVCDP Value Chain Development Coordinator, RRA, Tashkent

The Rural Restructuring Agency (RRA) is requesting the services of a Regional Dairy Processing Officer/PIT Coordinator to support the field implementation of the activities of the Dairy Value Chain Capacity and Innovation Built outcome of the IFAD-financed Dairy Value Chains Development Programme (DVCDP), providing capacity building for milk processing enterprises and supporting technology innovation. The overall duties of the PIT Dairy Processing Officer/PIT Coordinator will be to assist the DVCDP Programme Director and Value Chain Programme Coordinator in all aspects of implementation of the Programme.

The suitable candidate will have the following background and experience:

Educational Background:

MSc in food science, agriculture or agriculture engineering.

Experience:

- At least 10 years of experience in dairy processing, including technology management, and quality and safety control;
- Minimum 3 years practical working experience in programme coordination;
- Computer literacy and proficiency (word processing, spreadsheets and data bases);
- Strong verbal and written communication skills;
- Ability to work efficiently under pressure and to meet deadlines; and
- Well-organised and well oriented to details.

Duties and Responsibilities include, but are not limited to:

- Map out and analyze the existing dairy processing technologies and practices employed by the value chain actors along the value chains, including cottage industry and household based processing
- Identify key problems pertaining to the existing technologies and practices with respect to the hygiene standards, quality and safety control, equipment, packaging, branding and marketing of dairy products
- Based on the analysis propose recommendations (including new technologies, equipment, TA and training etc.) for improvement to enhance the value chain actors' capacity to add value and increase income;
- Assist the RRA/DVCDP PMO in sourcing and procuring required new technologies, equipment, TA and training;
- Assist the RRA/DVCDP PMO Director and Value Chain Development Coordinator with DVCDP implementation and reporting at provincial level;
- Assist the Dairy Training Adviser, RRA/DVCDP PMO in delivering relevant TA and training and in preparing relevant training curricula, modules, hand out materials;
- Prepare necessary reports as required by RRA/DVCDP PMO and IFAD.

PROVINCIAL IMPLEMENTATION TEAM (PIT): DAIRY PRODUCTION OFFICER

Position: DVCDP PIT Dairy Production Officer

Location: DVCDP PIT Office (Jizzakh and Karshi)

Reporting to: DVCDP Value Chain Development Coordinator, RRA, Tashkent

The Rural Restructuring Agency (RRA) is requesting the services of a Regional Dairy Production Officer to support the field implementation of the activities of the Dairy Value Chain Capacity and Innovation Built outcome the IFAD-financed Dairy Value Chains Development Programme (DVCDP), providing capacity building for dehkan and private farmers and supporting technology innovation in their farming practices. The overall duties of the Regional PIT Dairy Production Officer will be to assist the DVCDP Value Chain Programme Coordinator and international Dairy Training Advisor in all aspects of implementation of the Programme.

The suitable candidate will have the following background and experience:

Educational Background:

MSc in agriculture production.

Experience:

- At least 10 years of experience in dairy farm management and milk production, including technology innovation;
- Minimum 3 years practical working experience in technology testing and demonstration;
- Computer literacy and proficiency (word processing, spreadsheets and data bases);
- Strong verbal and written communication skills;
- Ability to work efficiently under pressure and to meet deadlines; and
- Well-organised and well oriented to details.

Duties and Responsibilities include, but are not limited to:

- Map out and analyze the existing dairy production technologies and practices employed by dehkan and private dairy farmers;
- Identify key problems pertaining to the existing technologies and practices with respect to animal health, welfare and nutrition, including forage production/market access;
- Based on the analysis propose recommendations (including new technologies, equipment, TA and training etc.) for improvement to enhance dairy farm production and productivity and increase incomes;
- Assist the RRA/DVCDP PMO in delivering capacity building programmes and proven new technology;
- Assist the Dairy Training Adviser, RRA/DVCDP PMO in delivering relevant TA and training and in preparing relevant training curricula, modules, hand out materials;
- Prepare necessary reports as required by RRA/DVCDP PMO and IFAD.

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

A. Planning, monitoring and evaluation

1. Beyond its role in data management and the monitoring and measuring of programme indicators, results and impacts, the system for planning and M&E (P/M&E) of the proposed programme will be developed as an integral part of the process of programme implementation. Among others, its purpose will be to support dialogue and interaction between the public and private sector stakeholders who are responsible for the Programme investment and to facilitate participatory learning and ownership of the programme within the FPPC. More specifically, the P/M&E system will be designed to: (i) provide updated information on the goals, results, effects and impacts of the programme, (ii) support the Programme Steering Committees (PSC) and programme management in making decisions about the strategies, actions and investment expenses that lead to achievement of the objectives, (iii) strengthen the interrelationship of the PMO with the various strategic partners who will be involved in implementation, (iv) be an instrument for strengthening the capacity of the participating dairy value chains for local development processes and investments in accordance with current policies and directives, and (v) allow the development of spaces for learning, exchange of experiences, good practices and dissemination of results. Thus, the system will also be closely linked to the programme's broader agenda for the management of knowledge.

2. The Programme M&E system will track and verify the levels of achievement of programme outputs, the associated outcomes, and the success in achieving the programme objective and its development goal. These levels are all causally connected as set out in the Programme Logical Framework, which provides the framework that thus constitutes the structure for the programme M&E system. To a large extent, the M&E system will be participatory and thus involve the supported dairy value chain's stakeholders. The M&E/Knowledge Management Officer will assist the PMO in the data management in a standardised system, keep a central system to compile overall monitoring and evaluation information, and conduct studies to measure overall impacts.

3. Beneficiary participation in programme monitoring will be ensured by involving the target groups, with special effort made to include women and youth by organizing the interviews at suitable times and venue and applying appropriate interview techniques. Monitoring will include data collection in forms of individual interviews, focus group discussion or case studies.

4. The Planning and Monitoring & Evaluation system (P/M&E) will consist of the following subsystems:

- The linked Annual Work Program & Budget (AWPB), which uses as inputs the logical framework, operational plans, participatory assessments and SIPs for the development of participating stakeholders/dairy value chains, and the programme's exit strategy/plans for sustaining advances and outcomes after closing;
- The monitoring subsystem, which will manage periodic reports, reports of field visits, progress reports, monthly meetings of the different programme implementation units, specific reports and information generated during supervision missions, and joint reviews of IFAD and the Government All M&E data will be disaggregated by sex and assessed relative to the Programme's targeting and gender checklists (see Appendix 2).
- The evaluation subsystem, which is based on the baseline study and impact indicators (RIMS), internal and/or external evaluation reports and studies on programme outcomes and impacts, and the programme completion report; and
- The learning subsystem, consisting of a systematic process oriented collective reflection by the programme actors on the experiences during the implementation of the programme in order to refine programme methodologies and approaches, exchange learning and knowledge, and generate new knowledge.

B Monitoring and Evaluation

5. **Logical framework**. A principal guide for the implementation and monitoring of the programme will be the logical framework. The logical framework will be refined during the first year of implementation (2016), as part of the programme initiation activities. This will serve both to better ground the logical framework within the local context as well as to promote ownership by the Programme team. In addition, the logical framework, targets and indicators will be reviewed thoroughly during the midterm evaluation of the programme and, if necessary, updated annually as part of the adaptive learning process based in the monitoring of the programme's implementation. The objective of having an ongoing review of the logical framework is to encourage its use as a tool for programme management. Also the use of the logical framework should assist the Programme team to work more coherently towards the same goals and structure of results and impacts, while providing programme management with a tool for ensuring programme's alignment with the strategic priorities for profitable, participatory value chain development embodied in the design and in accordance with national and provincial policies, strategies and programs. The DVCDP PMO Monitoring and Evaluation Officer would have lead responsibility for all internal M&E of the programme.

6. Performance monitoring will concentrate on the financial and physical outputs and the outcomes of Programme activities and be based upon semi-annual and annual **progress reports.** The RRA/DVCDP PMO would submit progress reports in English to Government (MAWR and MoF via the PSC) and IFAD.

7. **Impact assessment** will be a function of concurrent Participatory Impact Monitoring (PIM) and evaluation based on quantitative repeater surveys combined with interviews to capture qualitative aspects.

8. Provision has been made for appropriate international and/or national TA to assist the RRA/DVCDP PMO, principally the M&E Monitoring and Evaluation Officer with both the initial design of the progress reporting and participatory impact assessment and evaluation systems and follow-up M&E.

9. An initial set of **indicators** have been provided in the Programme's Logical Framework, presented at the front of the Main Report section of the Programme Final Design Report. These initial indicators will be refined and finalised as an output of the programme Start-up Workshop. Indicators will include IFAD Results and Impact Management System (RIMS) 1st and 2nd level indicators. In line with RIMS, two anchor indicators are identified for assessing the impact of the Programme: household asset ownership and child malnutrition. Data sources for these two main indicators will probably include: (i) the State Committee on Statistics; (ii) the Centre for Economic Research; the Ministry of Ministry of Health; and (iii) the Programme M&E database.

10. Key initial DVCDP success indicators include:

At **Goal** level:

- 12,000 rural households in the Programme area increase their index of household assets ownership by 30% (disaggregated by gender, farm household and youth categories);
- At least 20% reduction in the prevalence of child malnutrition, as compared to baseline1.

At **Development Outcome** level:

- The value of milk sold by dehkan and private commercial farms in Programme districts increased by 40%;
- 2.000 decent jobs created (40% women) through dairy-related farm work/ processing-unit expansion and new rural enterprises;
- 75% of DVCDP-invested agro-enterprises operating profitably two years post investment. (30 % invested by women)

11. Programme **start-up activities** will include: (i) finalisation of ToR for key staff including the PMO, PIT and the required national and international Technical Assistance; (ii) recruitment of the key

staff and TA financed by IFAD; (iii) conducting a gender sensitive, livelihoods-oriented Baseline Survey plus making arrangements for subsequent repeater surveys, Participatory Rapid Rural Appraisals (PRAs) and Participatory Impact Monitoring (PIM) with particular attention on targeting, gender and socio-economic improvement issues (iv) a call for expressions of interest in becoming PFIs and selection of PFIs[66]; (iv) formulation of an Annual Work Plan and Budget (AWPB) for the Programme's first-year of activities; (v) finalisation of a Procurement Plan for the first eighteen months; (vi) an initial deposit in the Programme's Designated Account by IFAD of up to USD 2 million; (vii) establishment of the Programme's M&E/L system; (viii) finalisation of the Programme Implementation Manual (PIM) including manuals for each of the subcomponents/ Outcomes; and (ix) holding a Programme start-up workshop, while initiating promotion of the Programme at district/provincial level.

12. Programme **start-up workshop**. Among those invited to attend the workshop will be the representatives of key sectoral stakeholders and participants in the DVCDP programme, including among others: male and female dehkan and private farmers, agribusiness entrepreneurs and market services providers representative of the programme's target group; candidate PFIs; business development services providers; the authorities of the universities/ R&D institutions that are expected to participate in the programme; relevant farmers and business organisations; government authorities at central, provincial and district levels; representatives of key socio-economic research institutions (e.g. the State Committee of the Republic of Uzbekistan on Statistics and the Centre for Economic Research (CER)); representatives of local government and community-based organisations reflecting the programme's intended target groups, in particular rural women's organisations; representatives of other programmes concerned with rural poverty reduction and development; and representatives of development partners, e.g. the FAO, the World Bank, the UNDP, the AsDB and GIZ.

13. Key outputs from the workshop would include guidance on: (i) Programme component content and implementing modalities; (ii) refinement and finalisation of the PIM; (iii) refinement and finalisation of the Programme's targeting criteria and M&E indicators; (iv) finalisation of an Annual Work Plan and Budget (AWPB) for DVCDP's first-year activities; and (v) finalisation of an eighteen-month Procurement Plan. Outputs related to implementing modalities and associated results and impact would feed in to the design of the Programme's Management Information System (MIS) and M&E system.

14. The refined and finalised indicators arising from the programme Start-up Workshop would shape the Programme's **Baseline Survey**. The objective of the baseline survey will be to establish benchmarks for time-series comparisons between Programme direct beneficiaries, flow-on beneficiary and non-beneficiary "control" populations. The DVCDP M&E Officer would thereafter carry out repeater surveys, including PRAs and PIM. Survey data would be mutually supplemented as appropriate through regular exchange with Government's State Committee on Statistics, World Bank-supported Living Standards Measurement Surveys (LSMS) as available and the DVCDP PMO itself

15. A **Mid-Term Review** would be carried out towards the end of the Programme's third year. The Review would cover, among other things: (i) physical and financial progress as measured against Programme AWPBs; (ii) performance and financial management of PFIs and non-financial implementing partners such as universities and R&D institutes; and (iii) an assessment of the efficacy of technical assistance, training programmes and Programme-supported rural finance and of their delivery of programme benefits to the Programme's target groups of dehkan and private farmers, lead enterprises, input suppliers and services providers and the rural unemployed. In addition, it is expected that the Review would look at institutional and policy changes arising from Programme activities, with regard to: public-private partnership in the dairy sector; the functionality of the FPPC; the provision of rural finance; the socio-economic status of less advantaged rural women and men; and environmental impact. Review findings on implementation progress and any institutional and policy change would inform decision-making, as appropriate, on adjustments to the content, financing

[66] This process may not be necessary if the HSP-approved PFIs confirm their interest in DVCDP participation.

and targeting of the programme's components. The findings and recommendations of the MTR would feed into any subsequent scaling up analysis, in particular with reference to the extension of the programme to adjoining regions under a separate Phase II initiative but also with respect to further expansion of programme modalities in support of modernisation of Uzbekistan's dairy sector.

16. The Programme Director will be responsible for the preparation of six-monthly and annual progress reports for submission to the PSC, and IFAD within a month from the end of the reporting period.

17. The implementing agencies will - within 2 weeks from the end of the reporting period - submit six-monthly progress reports to the PMO as a condition for release of funds for the ensuing period. Data sources for the annual performance reports will include: programme baseline survey; semester physical and financial progress reports for each component; PFI records and programme-related reports including SIPs; qualitative interviews and case studies with small-scale primary producers and market services providers, lead enterprises and new employees; and reports by the DVCDP PMO's Dairy Value Chain Coordinator, Rural Finance Programme Coordinator, Procurement Officer and PIT Office value chain, milk production and milk processing specialists on challenges and programme facilitation strategies for their respective component implementation responsibilities.

18. **Annual Programme Performance Reports** would feed into Annual Stakeholder Review and Planning Workshops. Feedback from each Annual Stakeholder Review and Planning Workshop will be factored into the programme AWPB for the succeeding year, thus closing a circle of participatory, demand-driven planning and implementation.

19. **Annual work programme and budget**. The AWPB details, on an annual basis, the expected results of the programme at the level of output indicators (e.g., the number of people expected to participate in programme-sponsored training initiatives, number of farmers adopting innovative technologies, etc.). It is both the main information source for programme results and a principal tool for orienting and coordinating the actions of the diverse institutions and stakeholders responsible to deliver products and services to the target beneficiaries. Its annual content is informed by the outputs from the SIP processes, the results from the evaluation of the prior year's implementation, and the programme's overall goals and expected outcomes and impacts.

20. During the final year of Programme implementation, as part of the preparation of the IFAD-required PCR/IA, the M&E data collected over the programme implementation period will be used as part of a thorough assessment of Programme achievements, in terms particularly of changes in the livelihoods of beneficiaries that relate to the implemented Programme activities, and the sharing of lessons learned and development experience. The Programme completion process will include stakeholder workshop(s) to give programme stakeholders the opportunity to: (i) evaluate the performance of the Programme; (ii) to promote accountability; and (iii) to identify factors and responsibilities to increase the likelihood of sustainability, together with key success factors and shortcomings.

21. In addition to the M&E arrangements described above, Programme external monitoring will comprise: **IFAD supervision**, including operational reviews of the Programme, covering a random sample of Programme activities, be carried out in Programme Years (PYs) 2 and 4 by independent auditors and under Terms of Reference acceptable to IFAD and also risk-based financial management supervisions, initially after every six months for the first two years of programme implementation and thereafter at appropriate levels based on IFAD's assessment of risk (see Appendix 7 for further details); ad hoc thematic/diagnostic studies; yearly audits; and a self-assessment Programme Completion Evaluation conducted by the RRA/DVCDP PMO in cooperation with IFAD.

C. Learning and Knowledge management

22. The Programme's knowledge management program will be an essential element for delivery of programme objectives, especially for dairy value chain related-learning. Two approaches will be taken: (i) a knowledge management program within the Programme for purposes of supporting within and between Programme learning and (ii) support for a broader program of knowledge management aimed at informing government decision-makers and influencing policy.

23. The "within programme" knowledge management activities will include a PMO programme of (i) technology testing and demonstration; (ii) exchange visits to regional countries (iii) integration of Programme learning into capacity building activities for the target groups; (iv) sharing of success stories through mass media and with IFAD; (v) "information corners" in mahallas; (vi) training of Programme staff in communication skills and; (vii) maintenance of online information services.

24. The data management system will ensure that all reporting is completed and that information, reports and data are available in suitably accessible formats. Evidence based learning is an important output and the knowledge management system, combined with the evaluations must generate these evidence backed lessons. Lessons may be about approaches that both do and don't work. In order to manage the knowledge and information of the Programme, the following activities will be conducted:

25. Documenting lessons learnt, best practices and cases of success: The PMO M&E Officer will collect all available relevant information to document lessons learnt, best practices and cases of success. It could be based on information collected from: progress reports, meetings and interviews, monitoring and evaluation reports, outputs evidence provided by targeted groups, market and value chain entities and other involved parties.

26. Developing and delivering a lessons learnt study: Based on the information collected along programme implementation, the M&E Officer will develop an end of programme Lessons Learnt Report, analysing the documented lessons learnt, best practices and cases. It will be first submitted to IFAD, and once feedback has been incorporated, if any, the report will be shared widely.

27. Development of material for dissemination: The PMO M&E Officer, with the support of PMO and PIT technical staff and national and international consultants will produce communication materials summarizing some of the success stories to be distributed through networks, and through policy dialogue. Based on analysis of the documented information, and the reports, material for dissemination will be produced at the end of the programme; a mid-term Lessons Learnt Report might also be developed. A short film about the Programme combining before and after footage will be shared with target groups, policy makers and other stakeholders. Recommendations and actions for dairy sector market and value chain development will be developed.

28. The Programme will contribute to the establishment of an iterative process of consultation and permanent learning through Provincial Forum for Public-private Collaboration. They will involve male and female stakeholders of all relevant private and public actors engaged in the dairy sector in each targeted oblasts. A contracted private sector service provider will, through a series of periodic meetings, progressively enable stakeholders to: (i) identify, discuss and assess dairy sector's constraints, priorities and build upon opportunities for investments; (ii) become conversant with "Public-Private-Partnership" business models; and (iii) develop value chain business and investment strategies. It is expected that stakeholders will meet quarterly in their respective provinces. The organisation of thematic annual FPPC events at national level on dairy sector development issues is envisaged. Progressively, the provincial fora will engage decision-makers at local, provincial and national levels with the aim of increasing the understanding of dairy development issues and supporting the development of a conducive regulatory and incentive framework for business development...

29. Finally, during implementation, the Programme would support efforts to broaden information dissemination through systematic development of farmer networks (to share knowledge on successful adaptation); farmer-to-farmer extension approaches (to facilitate technology transfer); development of

private technical services (e.g., private veterinarians); and; strengthening functional linkages between universities and R&D institutions and farmer networks to ensure the relevance of the technology innovation agendas.

30. The table below provides a brief summary of the principal elements of programme planning, M&E, and learning system:

Table 6: Principal elements of programme planning, M&E, and learning system.

Outcome/ Output/ Principal Activities	Planning	M&E	Learning
OUTCOME 1: Dairy Value Chain Capacity and Innovation Built			
Output 1:Dairy Value Chain Stakeholder Capacity Built	FPPC assessment of capacity gaps in milk production and processing; Preparation of appropriate teaching material/programmes AWPB process (all outputs)	Competency based training results Logframe & progress reporting (semester/ annual/ final) (all outputs) Annual Outcome Surveys (all outputs)	Dissemination: learning series, technical guideline manuals, ToT, technical training, learning events, web-based publications, knowledge platforms/networks Programme review workshops (Yrs. 2, 4) w/key stakeholders Study tours to regional neighbours
Output 2: Technology Innovation Tested	FPPC needs based assessment of technology gaps. Identification of transferable regional and global technologies Preparation of holistic technology innovation packages	Technology innovation testing results Beneficiary adoption surveys	Technology testing and demonstration Promotion of proven technology through mass media, field visits, etc. Study tours to regional neighbours
Output 3: Forum for Private-Public Collaboration Operating Sustainably	Identification of FPPC members and development of group dynamics	FPPC meeting minutes DVCDP response to FPPC dairy sector constraint analysis	Annual national dairy sector thematic workshop Familiarization with Public-Private-Partnership" business models Dairy value chain business and investment strategies
OUTCOME 2: Dairy Production and Processing Development Financed			
Output 4: Dairy Value Chain Strategic SIP Prepared	Identification of dairy value chains offering economic opportunity	Monitoring of integration of SIP results in DVCDP planning and investment programmes Annual Outcome Surveys	Systematization of value chain analysis methodology Systematization of enterprise financial and economic analysis skills; Dissemination: learning series, technical guideline manuals, ToT, technical training, learning events, knowledge platforms/networks
Output 5: Dairy Value Chain Investment Fund Profitably Disbursed	Financial and economic analysis and business plan development for successful SIP stakeholders Development of dairy value chain linkages	Financial results from PFI dairy value chain investments Effectiveness of value chain linkages	Successful product development and marketing Stakeholder partnerships Dehkan farmer organization

Appendix 7: Financial management and disbursement arrangements

Summary of Risk Assessment

1. A financial management capacity and risk assessment for this operation has been completed in accordance with CFS guidelines. For this purpose CFS visited the proposed PMU in Tashkent, commercial banks who are proposed as Participating Financial Institutions (PFIs), an Agricultural Research Institution, milk processing unit and selected villages in Kitob and Jizzakh districts or Kashkadarya and Jizzakh provinces respectively.

2. Overall, financial management risk is rated as high. The latest Transparency International rating of 1.7 for the country implies a high inherent risk of corruption. Public administration tends to be centralised. Analytical reports by donor partners indicate that economic management and governance are characterized by relatively low transparency, and limited voice and participation of citizens. These are some of the impediments to strengthened public accountability and may increase the risk of rent seeking and corruption. Past IFAD experience in the country is very limited, as the portfolio has one programme (Horticulture Support Programme (HSP)) that became effective mid-2014 and has just started operations.

3. Government is gradually progressing a Public Financial Management (PFM) reform program. Country PFM systems are not yet ready for use in donor programmes, and may be considered suitable after further familiarization with the country systems and an update on the diagnostic of 2011. A key strength is the recently deployed Treasury Single Account to process all government financial transactions. Significant weaknesses are, however, reported in public procurement practices and national audit and oversight arrangements.

4. Implementation arrangements and the components for this programme will be similar to the on-going HSP, with some differences in the target sub-sector, end-beneficiaries and geographical areas. Substantial programme funds (70%) have been allocated for a rural finance component (Line of Credit for approved sub-programmes in the dairy sector), which will be channeled to targeted beneficiaries through a selection of commercial banks as Participating Financial Institutions (PFI). PFIs are, therefore, key programme parties and have a significant role in ensuring that funds reach intended beneficiaries and in obtaining assurance on end-use of funds, in a challenging fiduciary environment. Most of the banks identified as PFIs are either State owned, or privately owned and subject to state-directed credit from time to time. To assess control environments within these institutions we have relied mostly on a recent World Bank due diligence report and discussions with IFC during the mission. Their suitability and readiness for this programme is based on discussions held with 5 banks during the mission. Fiduciary risks may arise from financial sustainability of these PFIs, due to internal or external factors, including fraud; misdirected LoC funds to sub-borrowers that are not eligible under the DVCDP or inappropriate use of LoC funds by sub-borrowers.

5. Specific measures to mitigate fiduciary risks include customized reporting and monitoring of funds disbursed through PFIs, the financial health of PFIs, and the use and reflows of funds advanced to them for on-lending. PMU will use accounting software to help prepare customized quarterly financial reporting on all components, adhering to international accounting standards. Additionally, risk based internal audits will be done to regularly review operation of internal control systems and there will be annual external audits arranged in compliance with IFAD's Guidelines on Programme Audits.

Programme financial profile

6. The single largest expenditure category (aggregate 70% of total programme expenditure or 61% of IFAD financing) in the programme will be investments in the dairy value chain, which will be channelled to beneficiaries through the Line of Credit extended to PFIs. Beneficiaries who are intended to receive these funds include private service and input suppliers, dehkan farmers, private commercial farmers and milk processor businesses, who will procure and spend the funds for eligible

expenditures on goods, works, vehicles and services. The rest of the programme expenditures, to be managed by the PMU, will finance investments in technical assistance, the development of relevant technologies in partnership with national research institutions and training.

7. The IFAD financing, comprising a loan of $23.9 million and a grant of $0.7 million, will be supplemented by Borrower counterpart financing through payment for PMU salaries and recurrent costs and local taxes on programme expenditure. Cofinancing, amounting to up to 30% of the LOC funds will be received from both PFIs (20%) and beneficiary sub-borrowers (20-30%) for the approved sub-programmes

Implementation Arrangements

8. The proposed PMU will be within RRA under the MAWM, which manages all donor financed programmes in the sector, including the on-going HSP. The current HSP PMU has sound financial accountability systems and procedures in place, and will manage procurement and payments for all programme expenditure (including funds given to non-commercial organizations e.g. local research institutions), except the Line of Credit. Expenditures under the LoC will be executed by the beneficiaries themselves, using funds received from PFIs.

Financial Management Risk Assessment

A. Inherent risks: Country issues, Entity Risks, Programme Design

9. The latest Transparency International rating of 1.7 for the country implies a high inherent risk of corruption. There is anecdotal evidence of a highly centralised administration and heavy bureaucratic procedures in government agencies. Analytical reports by donor partners indicate that economic management and governance remain characterized by low transparency, and limited voice and participation of citizens. The restricted dissemination of basic economic and social information, and questions regarding the reliability of some data, remain as impediments to strengthened public accountability, increasing risks of rent seeking and corruption.

10. The government has a PFM reform program under implementation, though progress has been gradual. Donor diagnostic reports suggest that country PFM systems may not yet be ready for use in donor programmes, though they may be considered after further familiarization with the country systems and an update on the state of on-going reforms. Some extracts from a recent World Bank diagnostic report[67] that are relevant include:

- The government has been active in its Treasury-related public financial management reforms. A Treasury Single account is now processing the majority of government spending, both budgetary and non-budgetary and all spending and revenue transactions.
- Public procurement involves a large component of the government's budget and is an important key to improved effectiveness of operations and of cost control. Procurement systems tend to be complex, multi-stage processes involving multiple stages of approval by different parties. The processes are not transparent. These characteristics are significant in that they establish a fertile ground for fraud and corruption.
- Uzbekistan's budget proposals and final budget reports are not sufficiently transparent to the wider public**.** Nor are the reports of the Chamber of Accounts on the budget documents, and on its annual audit activities, findings and recommendations.
- The external audit function is carried out by the Chamber of Accounts (COA). The main tasks assigned include a number of specific items of a macroeconomic nature that would normally be performed by the Central Bank of Uzbekistan or by the Ministry of Finance (MOF). COA is at the point of transition to standards-based external auditing that is compliant with the International Organization of Supreme Audit Institutions (INTOSAI) standards**.** Institutional independence is not assured at this time**. T**he COA may not have capacity to audit donor-financed programmes at this time.

[67] Country Integrated Fiduciary Assessment Report, 2011

- The accounting practiced by the different levels of government vary considerably**.** Budget organizations use accrual accounting by means of the original chart of accounts designed under the former Soviet Union in 1987.
- There are no internal audit units in line ministries. Instead, a fairly decentralized Control and Revision Unit (CRU) performs the role of internal audit. International standards for internal audit are not applied by CRU.

11. An IFAD mission reviewed a detailed due diligence report on financial institutions in Uzbekistan conducted by the World Bank. In this report it has been stated that:

- According to IMF reports, the Banking System of Uzbekistan continues to perform well. Banks' capital adequacy ratio, at about 24.25%, remains high by international standards and the level of nonperforming loans is low relative to peers.
- Financial Intermediation is low in the country. State-owned banks dominate the system, with their asset share reaching about 80% of total bank assets. Continued capital injections by the government ensure that the banking system remains well capitalized while extending loans under large government programmes.
- The banking industry is undermined by very weak institutional and legal frameworks and limited transparency and disclosure. There is one known case of a large fraud at Agrobank in 2010.

12. Considering these factors and the size of Programme funds to be channelled through PFIs, fiduciary risks may arise from the following factors:

- Financial sustainability of these PFIs, due to internal or external factors, including fraud;
- LoC funds misdirected to sub-borrowers that are not eligible under the LVCDP;
- Inappropriate use of LoC funds by sub-borrowers

13. In conclusion, both inherent risks and control risks for the programme are rated as high. Appropriate risk mitigating actions have been developed as detailed below

B. Programme Control Risks

Table 2 : Summary of FM Risks and mitigating actions: (was 2)

Risk Category	Initial FM Risk Rating (H/M/L)	Proposed Risk Mitigating Measures	Notes / Covenants
A. Inherent Risks	H		
Country Level • Lack of transparency • Weak PFM systems	H		
Entity and programme design • FM capacity at PMU, key programme parties • Capacity of PFIs to accurately record, report use of funds by sub-borrowers	M	Quarterly customized financial reporting by PFIs to PMU	Specify format in a Programme Implementation Manual (PIM)
B. Programme Control Risks			
1.Organization & Staffing • Clear legal authority to manage programme • Number and quality of FM staff • Capacities of PFIs as key Programme Parties	M	- Govt. Resolution appointing RRA to host the PMU; - Qualified accounting staff (2) to be hired; - Internal auditor staff to be hired; - Performance of PFIs to be monitored regularly by PMU.	Loan effectiveness condition. Accounting and internal auditor positions to be filled within 3 months of effectiveness.
2.Budgeting • AWPB comprehensiveness, consistency with procurement plan and Financing Agreement • Credit by PFIs may be misdirected • Delays in counterpart financing	M	- Development of robust operational guidance for PFIs, to include these in SLAs, in a template acceptable to IFAD; - Modification to existing Investment Guidelines of RRA, to enable close monitoring of Revolving Fund and individual sub-loan proposals; - PMU to arrange programme in Govt. fiscal budget for 2016, secure counterpart financing.	Include in PIM before first withdrawal
3. Funds Flow & Disbursements • Familiarity with IFAD procedures • Efficient arrangements for disbursement, including downstream to end beneficiaries	H	- Disbursements to PFIs and disbursements by PFIs to approved sub-borrowers to be monitored through Customized financial reporting from PFIs, to help monitor sub-programme	Formats for customized SOEs and financial reports, acceptable to IFAD, to be included in PIM. Disbursement condition - SLA

Risk Category	Initial FM Risk Rating (H/M/L)	Proposed Risk Mitigating Measures	Notes / Covenants
		expenditures, loan re-flows; - Customized Statements of Expenditure by approved sub-programmes, as a documentation for disbursements.	execution with PFIs
4. Internal Control • Fiduciary oversight of community generated sub-programmes • Payment validation procedures	H	- Customized financial reporting quarterly by PFIs, to help monitor - Strengthened payment validation procedures - Internal audits over operational controls	An acceptable draft of a PIM, will be a disbursement condition.
5. Accounting Systems, Policies & Procedures • Use of accounting software • Acceptable accounting standards	L	- Configure 1C software for new programme - Use accrual accounting standards.	Disbursement Condition
6.Reporting & Monitoring • Periodic financial monitoring	H	- Customized financial reporting from PFIs, to be consolidated by PMU for submission to IFAD	Include format in PIM
7.Internal Audit Weak operational controls	H	- Internal audits, with TOR acceptable to IFAD, will review operational controls and check compliance with PFI investment guidelines.	Include in PIM TOR Condition for 1st replenishment disbursement.
8.Auditing Timeliness and quality of audit	M	- Private sector audit firms to be used, International Standards of Auditing - TOR to be cleared by IFAD	Condition for 1st replenishment disbursement.
Programme Fiduciary Risk @ Design	H		
OVERALL FM RISK	H		

* H=High, M=Medium, L=Low

Financial Management and Disbursement Arrangements

A. Financial management organization and staffing

14. The PMU will be within the RRA, which is an autonomous under the MAWM and has been legally established for donor programmes through a Resolution by the Government**.** This resolution granted a delegation of authority to the RRA for managing the HSP programme (Govt. Resolution issued Jan. 2014) and will need an amendment to include the new programme. This will be a loan effectiveness condition. The Programme may set up a regional office. All programme expenditure and Withdrawal Applications will be authorized by PMU and RRA management. The current PMU which manages the on-going HSP includes one rural finance specialist and a qualified Chief Accountant and 1 financial assistant, who have suitable qualifications and experience. A new accounting team will be hired externally for this Programme, comprising a Chief Accountant and an Assistant. These positions are expected to be filled within 3 months of effectiveness. The programme will also recruit an internal auditor. Procurement of centrally procured items (about 24% of total) will be handled by separate procurement staff. New staff will be trained by existing PMU staff on IFAD procedures.

15. Commercial banks will be key programme arties, to help implement the Rural Finance component which accounts for about 70% of total programme expenditure. Their sustainability and control environments will need to be monitored carefully by PMU.

B. Budgeting

16. Current PMU staff have experience in preparing budgets (AWPB) to meet IFAD needs. Disbursements for Rural Finance Component will be based on Strategic Investment Plans developed by sub-borrowers and approved by PFIs for credit risk and by PMU and IFAD above a threshold specified in the Letter to Borrower (LTB). Since it would not be feasible to include these sub-programmes in the AWPB, robust operational guidance will be developed for PFIs specifying targeted sub-sectoral allocations and targeted beneficiaries. Relevant covenants will be included in template subsidiary loan agreements (SLAs), in form acceptable to IFAD, between PMU and PFIs and in the existing RRA Investment Guidelines.

17. PMU to arrange to include programme in Govt. fiscal budget for 2016, to help secure counterpart financing.

18. Programme budgets will be recorded in the accounting system to enable monitoring of commitments and expenditures.

C. Disbursement Arrangements and Flow of Funds

19. PMU's current staff has prior experience in IFAD disbursement procedures. No serious capacity issues have been noted in their withdrawal applications for the on-going programme. Disbursement arrangements for the new Programme will include the following. A flow chart for this is given below.

a) Withdrawals from the IFAD Loan and IFAD Grant will be disbursed into a single Designated Account, where funds from these two financing sources for this programme will be pooled. The Designated Account (DA) will be in US Dollars and in a commercial bank acceptable to IFAD, and will be managed on an imprest basis according to IFAD disbursement guidelines. The authorized allocation for the DA, as well as detailed disbursement modalities will be defined in a separate Letter to the Borrower (LTB). The operating authority for the DA and for authorizing Withdrawal Applications (WA) will be formally defined by the Borrower before withdrawals can begin. Direct payments may be necessary for USD denominated contracts of large value.
b) Payments for programme expenditures managed by the PMU, excluding for sub-programmes under the Line of Credit, will be centrally procured and managed by the PMU. For these payments, PMU will move funds from the DA to a local currency Programme Account as necessary. Cash contributions from beneficiaries (estimated at 20% of the sub-programme expenditure) and PFIs (also 20% of sub-programmes) apply to the Line of Credit component.

c) For integrated reporting purposes, a separate ledger account will be opened at PMU for each financing source (i.e. IFAD Loan, IFAD Grant, counterpart funds, PFI contributions and beneficiary contributions). All funds received will be attributed to the respective financing source and booked in the ledger accordingly. At the time of making payment by PMU, each payment will be attributed to the relevant financing source (including counterpart financing and IFAD funds), based on the financing plan stated in the financing agreement. Similarly, receipts and payments made by PFIs will attribute transactions under the LoC to IFAD funds, PFI contributions and beneficiary contributions, as the case may be. Contributions by beneficiaries and by PFIs will be reported by PFIs to PMU on a monthly or quarterly basis for accounting purposes.
d) W for all expenditures incurred and financed from both IFAD resources, separately identifying expenditures from each IFAD financing source, will be generated by the accounting system. Customized Statements of Expenditure (SOE) with comprehensive audit trails will be utilised to justify advances given.
e) Funds will be advanced by PMU to PFIs only after SLAs have bene signed with them. The amounts to be advanced will be derived from and supported by copies of approved Business Plans of sub-borrowers clearly stating relevant information, such as the sub programme credit details including lending terms, proposed end use of funds, disbursement schedule to sub-borrower and repayment schedule, amounts of beneficiary and PFI contributions, and approvals of their credit committees. Special purpose SOEs will be designed for funds advanced to PFIs for on-lending to approved sub-programmes, clearly showing the amounts on-lent, re-paid by sub-borrowers and advances outstanding with PFIs, to help monitor lending and re-flows. From past experience PFIs are expected to disburse funds to beneficiaries within 7-10 days after RRA disburses, and send copies of the sub-loan bank statements to PMU as confirmation, in accordance with current RRA procedures approved by MAWM, the Central Bank and MOF.
f) Terms of lending to PFIs will be stated in the SLA. It is anticipated that PFIs will receive credit line proceeds for up to 20 years, inclusive of a grace period of 5 years, and repay the principal amount to the MOF in equal semi-annual payments, upon expiration of the grace period. Any amounts, received as repayment from the sub-borrowers and not needed for repayment to the MOF, the PFIs will revolve internally, providing new sub-financings/leases in compliance with the programme objectives and the operational guidelines for the credit line. Such reflows will be excluded from amounts of replenishments claimed from PMU under the financing LoC.

Internal Controls

20. Controls at the PMU (RRA) under the existing programme HSP are good, with segregation of duties and documented procedures and manuals. These will be replicated for this programme. Payments from the PMU will be through joint authorized signatories and through wire transfers. Cash payments will be made only in very few exceptional cases**.** Fiduciary oversight of sub-programmes carry an inherent risk because controls can be weakened by decentralized locations of sub-programmes and the bias in favour of cash payments by sub-programmes executed by beneficiaries. This risk will be partially mitigated by internal and external audits with terms of reference to be extended to include selected transactions at PFIs and these sub-programmes. Strengthened payment validation documents and processes will be required for programme expenditures, including quarterly financial reports from sub-borrowers, through PFIs.

21. For payments to institutional beneficiaries, the following procedure will be followed to strengthen assurance:

- MOU or Contract to be signed with each such institute, clearly stating the scope of work and the nature and amount of expenditure to be financed.
- Advances to the beneficiary organizations will be made by PMU based on a quarterly cash forecast derived from an approved annual work plan.
- Organizations will submit a certified Statement of Expenditure with complete audit trails.

- Internal and external audit will verify transactions on a test basis.

22. The above procedures will be elaborated in a Programme Implementation Manual, an acceptable draft of which will be a disbursement condition.

Accounting systems, policies and procedures

23. PMU currently used 1C software for programme accounting. This is also being widely used by other donor programmes in this region (WB, ASDB). A walk through of the system indicates that this is a versatile software, with bi-lingual reporting (English and Russian), good controls on financial accounting and reporting. This software will be utilised for this Programme, after being modified to allow set up for the new Programme. Accrual accounting standards basis will be followed, with a periodical reconciliation to SOEs submitted to IFAD.

24. For funds disbursed to the LoC, expenditures will be recognized only after SOEs are received from PFIs indicating the amounts disbursed by them to approved sub-borrowers. Cash contributions by sub-borrowers and PFIs under this programme will also be accounted for based on reports from PFIs.

Financial reporting

25. Content of financial reports currently generated by 1C for HSP are compliant with IFAD needs, including budget figures and actuals for categories and components, with attribution to each financing source. The same set of reports will be required for this programme, for which the system will be configured as part of set up for new programme. Quarterly Interim Financial Reports (IFRs) can be generated easily from the system and will be required to be sent to IFAD for monitoring purposes. Financial reports will be produced in local currency for accounting and audit. Summary periodical reports may be in USD for comparison with budgets. Financial reports will include amounts contributed by beneficiaries and PFIs where applicable.

Internal Audit

26. Currently there is no internal audit arrangement at the PMU. Considering the overall fiduciary risks, risk based internal audits will be an important source of assurance, especially for the Rural Finance activities where financial intermediaries will receive and channel / on-lend a large proportion of programme funds, to a large number of beneficiaries such as farmers, commercial farms, entrepreneurs and milk processing businesses. The end use of funds will be incurred by these beneficiaries, sometimes with co-financing. While a set of administrative procedures have been designed to monitor and report on these, a modern risk based internal audit of operational controls will be arranged and implemented by a PMU employed internal auditor (covering both the DVCDP and HSP) to ensure that the beneficiaries and the reported end-use of funds are incurred for intended purposes and in compliance with documented procedures, based on terms of reference to be agreed with IFAD.

External Audit

27. A private sector audit firms will be procured for purposes of financial audits, which will be done using International Standards of Auditing, and in compliance with IFAD's Audit Guidelines. Audit TOR will be agreed with IFAD and will be customized to include end-use of rural finance activities and beneficiary contributions.

Implementation Readiness

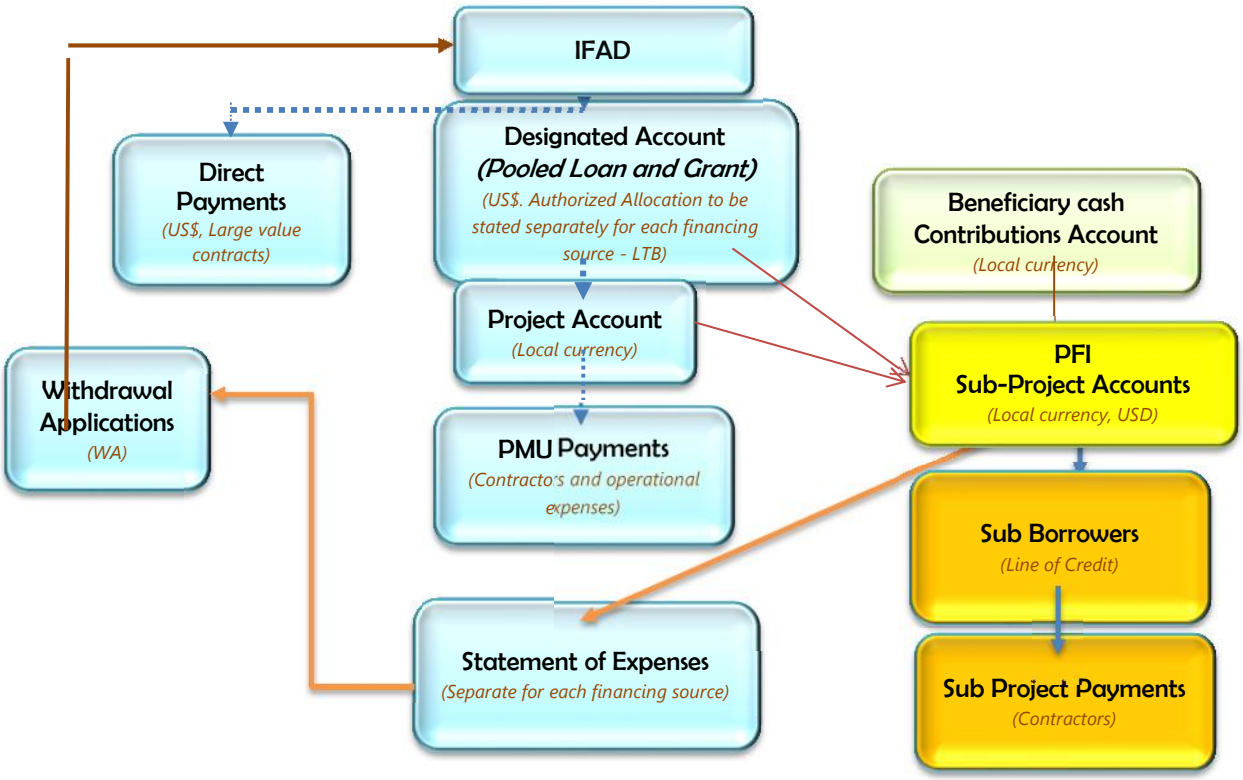
Table 2: FM Actions Summary: The actions needed to mitigate FM risks are summarised below:

	Action	Responsible Party / Person	Target Date / Covenants
1	Resolution to appoint PMU.	Borrower / Min. Agri.	Effectiveness
	2 additional accountants and an internal auditor hired for new programme.	Programme Director / PMU	Within 3 months of effectiveness
2	Include new programme in Govt. budget cycle for 2016 in time. PMU to follow this up with MoA.	Programme Director / PMU	None
3	Submit draft Programme Implementation Manual to IFAD for approval	Programme Director / PMU	Withdrawal Condition
4	Install / Configure accounting software	Programme Director / PMU	Withdrawal Condition
5	Submit draft TORs for external and internal audit to IFAD for approval.	Programme Director / PMU	Condition for 1st replenishment disbursement. (FA)
6	Customized financial reporting to be developed	PMU, IFAD CFS	None

FM Supervision plan

28. The supervision strategy for this programme will include quarterly monitoring of the financial progress through quarterly financial reports and internal and external audit reports received. The frequency of FM supervision will be determined after review of these reports. It is envisaged that, given the current risk rating of the programme, FM supervision should be undertaken only after significant disbursements in the Line of Credit Sub-programme expenditure category have been made. Field visits to the community sites will be a key part of the supervision missions.

Annex 1: Flow of Funds Chart



Notes:

1. The Designated Account will be pooled for both financing sources – IFAD Loan, IFAD Grant
2. Counterpart funds will be in cash contributions.
3. In the accounting system, separate ledger accounts for IFAD Loan and IFAD Grant will be maintained. Separate ledger accounts will also be maintained for counterpart funds and community contributions.
4. Single withdrawal applications for all advances/replenishments covering all financing sources, supported by SOEs for each financing source.

Annex 2: TERMS OF REFERENCE FOR THE AUDIT OF IFAD AND NON-IFAD FUNDED PROGRAMMES/PROGRAMMES

BACKGROUND

In accordance with relevant loan/financing agreements between the GoU and IFAD, the audit of the Dairy Value Chains Development Programme (DVCDP) has to be carried out by an independent Auditor. Loan and other relevant financing agreements, the Letter to the Borrower and Appraisal reports of the Programme are the main reference documents for the Audit. In case of contradiction between the Programme Financing Agreement and the National Laws, the provisions of the former prevail. The sources of funds subject to audit under this ToR are: (a) IFAD-Loan No.____-UZ; (b) IFAD Grant No.____-UZ; (c) respective GoU funds; and (d) beneficiary contributions and Participating Financial Institution (PFI) financing.

The audit engagement will be for an initial period of 3 years, subject to annual satisfactory review conducted by PMU in consultation with IFAD. 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 the fiscal year-end. For the first audit under this engagement, the reporting period should be from the date of entry into force of the Agreement to succeeding 30th June, unless otherwise agreed with IFAD.

OBJECTIVE

The objective of the audit of the Programme Financial Statements (PFS) of the DVCDP is to enable the auditor to express a professional opinion on the financial statements on the DVCDP for each relevant reporting period, comprising funds received from various financing sources and expenditures incurred therefrom as reported in the PFS.. The auditor will in addition express separate opinions on the withdrawal applications / statements of expenditure (SOE) used for withdrawal of funds from IFAD and the use of Special Accounts (SAs)/Designated Accounts (DAs). The financial reporting periods and relevant sources of funds subject of the audit are detailed below:

From (date, month year) to (date, month year) with respect to DVCDP including the following sources of funds: (a) IFAD- Loan No.____-UZ, (b) IFAD Grant No.____-UZ; (c) respective GoU funds; and (d) beneficiary contributions and PFI cofinancing.

DVCDP will prepare three (3) separate set of financial statements which will be submitted to the auditor for review and testing activities. Auditors will be required to issue three (3) separate sets of opinions covering PFS, SOEs procedure and SAs/DAs

The information, both financial and non-financial, which is subject to verification by the auditor, is all information which makes it possible to verify that the expenditures claimed by the Programme Management Office (PMO) in Financial Statements have occurred, are accurately recorded and eligible for financing under the Financing Agreement.

The Programme's accounting system (books and records), and the DVCDP"s Financial Management Manual provide the basis for the preparation of the PFS, and have been maintained to ensure accurate recording of all financial transactions of the Programme.

SCOPE

The audit will be carried out in accordance with International Standards of Auditing, 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 audit will include such tests and reviews, as the auditor consider necessary under the circumstances. In conducting the audit, special attention should be paid to the following:

a) All funds, including funds from the financing, counterpart funds, beneficiary contributions and co-financing from Participating Financial Institutions (PFIs), have been used in accordance with the conditions stipulated in the financing agreements, with due attention to economy and efficiency, and solely for the purposes for which the financing was provided..

b) Counterpart funds for DVCDP have been provided by GoU and used in accordance with national or organizational financial regulations, with due attention to economy and efficiency, and solely for the purposes for which they were provided.

c) Goods, consultancy and other services, and civil works financed out of Programme funds have been procured in accordance with the relevant loan/financing agreements, Letter to Borrower and IFAD Procurement Guidelines .

d) All necessary supporting documents, records, and accounts have been kept in respect of all Programme ventures, including expenditures reported via SOEs or SAs or submitted to IFAD for direct payments. Clear linkages should exist between the books of account and reports presented to IFAD.

e) Whether the PFS are drawn up in conformity with internationally accepted accounting standards (IFRS or IPSAS) and give a true and fair view of the financial status of the Programme at the end of each of the above listed reporting period and of the resources and expenditures for the periods ended on these dates.

f) The SAs/DAs have been used in accordance with the provisions of the relevant loan/financing agreements.

g) The fixed asset register is maintained for all fixed assets procured under the Programme.

h) Funds advanced to (PFIs) for on-lending to beneficiaries (sub-loans or sub-grants) and Dairy Value Chains Investment Fund have reached the intended beneficiaries, have been spent for intended purposes, are in compliance with relevant subsidiary loan agreements and the expenditures correctly accounted for.

i) 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

In conducting the audit, the auditor shall carry out a physical verification of any significant assets purchased and confirm their existence and use for programme purposes.

The Auditor will test the financial transactions against documentary or other evidence necessary to satisfy the auditor as to the authenticity and correctness of the transactions, their complete and proper citing in the books of accounts, financial performance and status.

Programme Financial Statement

The PFS will include the following:

- Yearly and cumulative statements of sources and application of funds, which should disclose separately, and with respect to the relevant financing agreements, IFADs funds, counterpart funds (Government), other donor funds and beneficiaries" funds;

- Balance sheet, which should disclose bank and cash balances (that should agree with the statement of sources and application of funds);
- Yearly and cumulative listing of withdrawal application authorized and submitted to IFAD, indicating values and category of expenditures;
- A summary of transactions and reconciliation of the SAs/DAs with the financial statements;
- Cumulative status of funds by expenditure category;, indicating total disbursement and expenditure in comparison to allocations authorized in the Financing Agreement ‘
- A statement of comparison between actual expenditures and annual budgets;
- A summary of the accounting policies and other explanatory notes accompanying the Financial Statements; and
- Consolidated financial statements, where the Programme consists of more than one entity. A summary of assets acquired or procured to date with Programme funds by category.
- Reconciliation between the amounts shown as received by the Programme and those shown as being disbursed under each relevant Loan and financing agreement by IFAD and/or other financiers (PFIs, Govt. of Uzbekistan and beneficiaries) should be attached as an annex to the PFS. As part of the reconciliation, the auditor will indicate the procedure used for the disbursement – SAs‟ funds, letters of credit, special commitments, reimbursement or direct payment – and indicate whether the expenditure is fully documented or uses the SOE format.

Statements of Expenditures

In addition to the audit of PFS, the auditor is required to audit all Withdrawal Applications for direct payments and SOEs / other documents used as the basis for the submission of withdrawal applications. The auditor should apply such tests and controls, as the auditor considers relevant and necessary under the circumstances. SOE expenditures should be carefully reviewed to ascertain the eligibility under the relevant loan and financing agreements, donors‟ Letters to the Borrower and with reference to the Programme’s appraisal report for guidance when necessary. Where ineligible expenditures are identified as having been included in withdrawal applications and reimbursed, the auditor should separately note these. Annexed to the PFS should be a schedule listing individual SOE withdrawal applications by specific reference number and amount. The total withdrawals under the SOE procedure should be part of the overall reconciliation of IFAD and/or other financiers‟ disbursements described above.

The auditor should pay particular attention as to whether:

a) the SOEs have been prepared in accordance with the provisions of the relevant loan/financing agreements;

b) expenditures have been made wholly and necessarily for the realization of the Programme’s objectives;

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

d) supporting records and documents necessary for the purpose of the audit are accurate, reliable and have been retained; and

e) the SOEs can be relied upon to support the related withdrawal applications.

Special Accounts

In conjunction with the audit of the PFS, the auditor is also required to audit the activities of the SA/DA associated with the programmes, including the Authorized Allocation or Initial Deposit. The auditor must form an opinion as to the degree of compliance with IFAD procedures and the balance of the SA/DA at year end. The audit should examine:

a) Deposits and replenishments received from IFAD and/or other financiers;

b) Payments substantiated by withdrawal applications;

c) Interest that may accrue on the outstanding balances; and

d) The year-end balances, transfer of funds to operational banks accounts in national currency and the use of correct exchange rates to convert local currency expenditures to USD.

All transactions in the SA should be fully accounted for and be compliant with the Financing agreement and Letter to Borrower (LTB). As part of the opinion on the PFS, the audit report will include an opinion on SOEs and SAs, indicating the extent to which these procedures can be relied upon as a basis for loan disbursements under the Programme.

Audit Reports

The auditors will issue the audit report and opinions on the DVCDP Financial Statements, the SA/DA and the SOEs, (refer to the "Programme Financial Statements" paragraph above for a definition of the statements included therein), covering the period from (date, month year) to (date, month year) with respect to DVCDP including the following sources of funds: (a) IFAD Loan No._____-UZ; (b) IFAD Grant No._____-UZ; (c) respective GoU funds; and (d) beneficiary and PFI contributions.

In addition, the auditor will prepare a "management letter", in which the auditor will:

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

b) Identify specific deficiencies and areas of weakness in systems and controls and make recommendations for improvement;

c) Communicate any significant matters that have come to attention during the audit which might have a material impact on the implementation of the Programme;

d) Report on the lack of compliance of each financial covenant in the relevant loan/financing agreements;

e) Bring to the borrower's attention any other matters that the auditors consider pertinent;

f) A specific set of comments on activities under the Programme's Dairy Value Chains Investment Fund Profitably Disbursed outcome, in relation to the accounting records, systems and controls that were examined during the course of the audit, achievement of the planned results of the programme; and

g) Follow up on the remedial actions taken by DVCDP in response to previous audit findings and recommendations and report on the progress or otherwise.

The External Auditor should, apart from expressing an opinion on the financial condition of the programmes, express an opinion on whether:

a) The proceeds of respective financiers" loan/grant have been utilized only for the Programme in accordance with the respective Loan/Grant Agreements and the Programme Implementation Manual;

b) The financial information contains data as being necessary for inclusion on the Financial Statement;

c) The financial information complies with relevant regulations and statutory requirements; and

d) Procurement actions, which have not been subject to IFAD, and/or other financiers" prior review, are in compliance with relevant financiers" requirements.

The deadline for the submission to DVCDP of the audit report, including the management letter, is: No later than 30 May of each fiscal year (20___)**.**

DVCDP should then promptly forward copies of the audited programme financial statements (including audit opinion) and the management letter to IFAD and other relevant financiers.

General

The responsibility for the preparation of financial statements including adequate disclosure is that of the management of DVCDP. 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. As part of the audit process, the auditor will request from management written confirmation concerning representations made to the auditor in connection with the audit.

DVCDP will co-operate fully with the auditor and will make available to the auditor whatever records, documentation and other information is requested by the auditor in connection with the audit. The auditor should be given access to all legal documents, correspondence, and any other information associated with the programmes and deemed necessary by the auditor. Confirmation should also be obtained of amounts disbursed and outstanding at the Bank and of amounts disbursed under IFAD and other relevant financiers.

IFAD Guidelines on Programme Audits dated 12 December 2011 outline IFAD‟s policy and procedures relating to the audit of IFAD-funded programmes. The IFAD Guidelines on Programme Audits are an integral part of these Terms of References and are to be followed for the Audit of IFAD funded programmes, programmes and activities.

The auditor should understand that working papers under DVCDP can be subject to the review by authorized DVCDP‟s financiers‟ staff, including IFAD.

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. Summary of procurement assessment

1. IFAD is signatory to the Paris Declaration to increase alignment of aid with partner countries' "priorities, systems and procedures and helping to strengthen their capacities". Therefore, as part of the overall design for the DVCDP, IFAD assessed the public procurement systems and procuring institutions available in Uzbekistan for purposes of identifying an entity that would handle procurement under the DVCDP.

2. Reference is made to the pre-existing World Bank's Country Procurement Assessment Report (CPAR) of 2003, an in-depth review of the capacities of the public procurement systems, as well as the World Bank's Country Integrated Fiduciary Assessment (CIFA) of 25 October 2010, which includes an updated assessment of the public procurement system. Such reports form an adequate basis for purposes of assessing compliance of country systems with IFAD's procurement guidelines.

3. As identified in the CPAR and confirmed in the CIFA, there are challenges in the framework of the public country procurement systems. Findings include absence of an unified legislative framework; inefficient and non-transparent procurement practices; the absence of a single institution with oversight or regulatory authority over public procurement; an underdeveloped system and weak capacity for handling procurement complaints; the absence of independent scrutiny of procurement contracts; the lack of comprehensive anti-corruption measures; and the low level of skills and capacity of the staff handling public procurement transactions at every administrative level. Therefore, despite some recent developments to modernize and strengthen Uzbekistan's public procurement system there are critical gaps in compatibility with IFAD's applicable Procurement Guidelines and procedures. However, the capacity of the RRA to conduct procurement was found to be in compliance with IFAD procurement regulations and procedures.

B. Rural Restructuring Agency

4. The RRA is a state entity under the MAWR, and is implementing procurement processes for ASDB and WB programmes in Uzbekistan. In this context, the RRA's ToRs require that the RRA carry out the complete procurement process starting from the request for expressions of interest and short-listing (in the case of consultant services), to preparation of bidding/requests for proposal documents, inviting and receiving bids/proposals, evaluation of bids/proposals, notification of contract awards, and preparing the contract for signature, including obtaining the relevant donor's no objections where required.

5. The RRA employs standard AsDB and WB procurement procedures and documentation, which are in compliance with IFAD procurement regulations and procedures. Overall, the RRA's capacity to conduct procurement was found to be in compliance with IFAD procurement regulations and procedures.

6. The RRA is subject to national law, with certain exemptions and privileges as stipulated in the Financing Agreements with donors. So as to render donor procurement guidelines applicable in lieu of the default national public procurement legislation, the Financing Agreement should identify explicitly the guidelines to be applied for procurement under the relevant Programme. National legislation remains an applicable framework, which in some respects does impose stricter criteria for procurement procedures than required by the otherwise applicable guidelines. By way of example, local regulations require at least three bidders for a bid to proceed.

Procurement arrangements under the Programme

General

7. In the context of Uzbekistan, the RRA is identified as the only available choice as an entity with pre-existing capacity to implement procurement processes in compliance with IFAD applicable procurement regulations and procedures. Thus, the RRA will have the main responsibility for procurement under DVCDP, in line with arrangements and ToRs as currently applicable for HSP as well as for the AsDB and WB. Procurement of goods and services will be carried out in accordance with the applicable IFAD Procurement Guidelines and Sample Bidding documents for procurement of goods and services developed by RRA under the on-going WB and ASDB programmes.

8. The RRA operational mode is to assign a Procurement Officer to each of its programmes. Required qualifications for the Procurement Officer are detailed in Appendix 5, Annex 1. Thus, a new Procurement Officer would be recruited and specifically assigned for the DVCDP and provided with appropriate training from IFAD to develop the requisite capacity. Tentatively, in the initial Programme phase, support could be given by RRA staff from other programmes.

9. As per current practice under HSP and AsDB and WB procurement, an Evaluation Committee for the evaluation of each procurement would be appointed ad hoc, and composed of persons qualified in terms of relevant expertise, seniority and experience, depending on the type, value and complexity of the procurement. The number of members of the Evaluation Committee would depend on the value and complexity of the procurement requirement, but would in all cases be a minimum of three. A member of the Evaluation Committee must always declare when he or she has a conflict of interest in the procurement, which may impact on impartiality in the evaluation process.

Procurement methods and thresholds

10. For each contract to be financed from IFAD proceeds, the types of procurement methods, the need for pre or post-qualification, estimated cost, prior review requirements and time-frame would be identified in the Procurement Plan, as exemplified in the draft initial 18-month procurement plan appended as Attachment 1 to this Appendix, and subsequently as submitted annually for each fiscal year period by the Recipient and approved by IFAD in the course of Programme implementation. While specific thresholds for procurement financed under the Programme will be stipulated in IFAD's Letter to the Recipient, the general recommendation is the following:

11. Goods estimated to cost more than USD 100 000 equivalent per contract may be procured through International Competitive Bidding (ICB) using the World Bank's applicable Standard Bidding Documents (SBDs). Goods estimated to cost less than USD 100 000 equivalent per contract may be procured through National Competitive Bidding (NCB). Goods estimated to cost less than USD 50,000 equivalent per contract may be procured through National Shopping (NS).

12. Consultancy services generally estimated to cost more than USD 100 000 equivalent for firms and individuals will be on the basis of Quality and Cost Based Selection (QCBS). However, the specific nature of the assignment will finally determine the method of procurement to be followed.

13. Direct contracting will have to be approved by IFAD in advance for those cases where its use is justified.

14. Activities under the Dairy Value Chain Investment Fund Profitably Disbursed output include debt financing for investments and innovation demonstrations. To create suitable arrangements for Programme investments by Programme beneficiaries, Procurement with Community Participation (PCP) as a method permitted for the procurement of goods and civil works under this component will be allowed under the DVCDS. Development of the modalities of PCP implementation will be commenced at start-up in cooperation with relevant stakeholders and assessed by mid-term.

Annex 1: EIGHTEEN-MONTH PROCUREMENT PLAN

DVCDP 18 month Procurement Plan

Original: Final design
Revised:
Period: January 2016- June 2017 (18 months)

Abbreviations:

BEN- Beneficiaries
PFI - Participating Financial Institutions
NIF - Non IFAD Financing
DC - Direct Contracting
FIN INT- Financial Intermediaries
CQ - Consultant Qualification
FSB - Fixed Budget Selection
QCBS - Quality and Cost Base Selection
DF - Dekhan Farmers
PF - Private Farmers
PIM - Programme Implementation Manual
QBS - Quality Based Selection
IC - Individual Consultant
SSS - Single Source Selection
Shop - National/Local Shopping
NCB - National/Local Competitive Bidding
ICB - International Competitive Bidding
SBP- Sub Borrow er Equipment
CPP - Community Participation Procurement
N/A - Not Applicable
DVC - Dairy Value Chain
SP - Service Providers

Bid Ref.	Description	Financier	IFAD Loan/Grant Category	Proposed number of package s	Total allocated amount, USD	Allocated amount for 18 months, USD	Procurement selection method	Prior review	Start date	Bid Opening Date	End date	Additional remark
Component A-Dairy Value Chain Capacity and Innovation Buil												
A.1 Dairy Value Chain Capacity and Innovation Built												
A1	International Dairy Training Adviser /b	IFAD Loan	TA&Training	1	189,650	100,000	IC	Yes	Jan 2016	Feb 2016	April 2016	
A2	International Milk Processing Technology Advise	IFAD Loan	TA&Training	1	143,100	60,000	IC	Yes	Jan 2016	Feb 2016	April 2016	
A3	Preparation of Teaching Material	IFAD Loan	TA&Training	1	82,500	40,400	CQ	Yes	Feb 2016	April 2016	June 2016	
A4	Training of Trainers	IFAD Loan	TA&Training	1	82,900	20,200	CQ	Yes	July 201	Sep 2016	Oct 2016	
A5	DF Training-Farming as a Business	IFAD Loan	TA&Training	1	105,600	20,200	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
A6	DF Technical Training	IFAD Loan	TA&Training	multi	589,100	20,200	CQ	Yes	Aug 201	Oct 2016	Dec 2016	
A7	PF Training - Farming as a Business	IFAD Loan	TA&Training		41,800	10,100	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
A8	PF Technical Training	IFAD Loan	TA&Training		222,300	10,100	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
A9	Young Farmers Training - Farming as a Busines	IFAD Loan	TA&Training		41,800	10,100	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
A10	Young Farmer Technical Training	IFAD Loan	TA&Training		84,500	10,100	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
A11	Young Farmer Experiential Training	IFAD Loan	TA&Training		146,500		CQ	Yes	End 2017			
A12	Dairy Sector SP Small Business Management Tr	IFAD Loan	TA&Training		256,300		CQ	Yes	End 2017			

A13	Private Veterinarian Technical Training	IFAD Loan	TA&Training		213,600		CQ	Yes	End 2017			
A14	Dairy Product Branding and Marketing	IFAD Loan	TA&Training		76,900		CQ	Yes	End 2017			
A15	DVC Lead Enterprise Management Training	IFAD Loan	TA&Training		85,400		CQ	Yes	End 2017			
A16	Milk Processor Experiential Study Tour	IFAD Loan	TA&Training		111,000		Budget submissio	Yes	End 2017			
A17	Dairy Technology Training Programme	IFAD Loan	TA&Training		34,200		CQ	Yes	End 2017			
A18	Small Business Management Training	IFAD Loan	TA&Training		264,800		CQ	Yes	End 2017			
A19	Women Entrepreneur Technical Assiatance	IFAD Loan	TA&Training		42,800	9,000	IC	Yes	End 2017			
A20	Dairy Inspection Training	IFAD Loan	TA&Training		2,150	800	IC	Yes	Aug 201	Oct 2016	Nov 2016	
A21	Banking Sector DVC Investment Capacity Buildi	IFAD Loan/P	TA&Training		334,300	100,000	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
A22	Gender Awareness Training	IFAD Loan	TA&Training		31,700	15,200	IC	Yes	Aug 201	Oct 2016	Nov 2016	
A23	International HHMs Adviser	IFAD Loan	TA&Training		70,300	46,500	IC	Yes	Aug 201	Oct 2016	Nov 2016	
A24	HHMs Training of Trainers	IFAD Loan	TA&Training		25,300	25,300	IC/CQ	Yes	Aug 201	Oct 2016	Nov 2016	
A25	Household Methodologies Rollout	IFAD Loan	TA&Training		278,800	60,000	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
Subtotal A.1					*3,557,300*	*558,200*						
A.2 Technology Innovation Tested												
A26	Technology Development and Promotion Grants	IFAD Loan	Grants	multi	3,600,000	200,000	Shop/SBP	Yes	Aug 201	Oct 2016	Nov 2016	PIM
Subtotal A.2					*3,600,000*	*200,000*						
A.3 Forum for Private-Public Collaboration Sustainably Operational												
A27	Forum Development and Support	IFAD Grant	TA&Training	1	253,850	30,300	IC	Yes	Aug 201	Oct 2016	Nov 2016	
A28	Conferences and workshops	IFAD Grant	TA&Training	multi	118,100	10,100	udget submissio	No	Aug 201	Oct 2016	Nov 2016	
A29	FFPPC Commissioned Technical and Sector Stu	IFAD Grant	TA&Training	multi	74,850		IC/CQ	Yes	End 2017			
A30	Publications and Printing Materials	IFAD Grant	Equp&Goods	1	70,950		Shop	No	End 2017			
A31	Twinning Programmes and Exchange Visits	IFAD Grant	TA&Training	multi	193,400		Budget submissio	Yes	End 2017			PIM
Subtotal A.3					*711,150*	*40,400*						
Total Component A					**7,868,450**	**798,600**						

Component B - Dairy Production and Processing Development Financed												
B.1 Dairy Value Chain Strategic Action Plans Prepared												
B1	Senior Business/Technical Adviser(s)	IFAD Loan	TA&Training	1	296,200	144,900	IC	Yes	Jan 2016	Feb 2016	April 2016	
B2	DVCSAP Preparation	IFAD Loan	TA&Training	multi	233,000	50,600	IC/CQ	Yes	Aug 201	Oct 2016	Nov 2016	
B3	DF Training on Investing in Milk Production	IFAD Loan	TA&Training	1	130,200	2,000	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
B4	PF Training on Investing in Milk Production	IFAD Loan	TA&Training	1	36,250	2,000	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
B5	Milk Processor Training on Investing in Dairy Processing	IFAD Loan	TA&Training	1	19,050	2,000	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
B6	Input Supplier and Service Provider training on Investing in the Dairy Sector	IFAD Loan	TA&Training	1	19,050	2,000	CQ	Yes	Aug 201	Oct 2016	Nov 2016	
Subtotal B.1					*733,750*	*203,500*						
B.2 Dairy Value Chain Investment Fund Profitably Disbursed												
B7	Investment Capital for Processors	IFAD Loan/PFI/Be	DVC Financir	N/A	9,000,000		SBP	Yes	End 2017			PIM
B8	Investment Capital for DF	IFAD Loan/PFI/Be	DVC Financir	N/A	6,400,000		SBP	Yes	End 2017			PIM
B9	Investment Capital for PF	IFAD Loan/PFI/Be	DVC Financir	N/A	7,000,000		SBP	Yes	End 2017			PIM
B10	Investment Capital for Input and Service Provid	IFAD Loan/PFI/Be	DVC Financir	N/A	3,800,000		SBP	Yes	End 2017			PIM
Subtotal B.2					*26,200,000*	0						
Total component B					**26,933,750**	**203,500**						

Component C - Project Management												
Project Management Office (Tashkent)												
C1	Vehicles 4WD	IFAD Loan	Equp&Goods	1	80,900	80,900	NCB	Yes	Jan 2016	Feb 2016	April 2016	
C2	Office equipment	IFAD Loan	Equp&Goods	multi	31,850	31,850	Shop	No	Jan 2016	Feb 2016	April 2016	
C3	PIM preparation	IFAD Loan	TA&Training	1	10,000	10,000	IC	Yes	Jan 2016	Feb 2016	Feb 2016	
C4	Start-up workshop	IFAD Loan	TA&Training	1	7,300	7,300	udget submissio	No				
C5	Annual review and planning	IFAD Loan	TA&Training	multi	8,500		N/A	No				
C6	Baseline Survey	IFAD Loan	TA&Training	1	25,300	25,300	CQ	Yes	Jan 2016	Feb 2016	April 2016	
C7	Ad hoc studies and Assistance	IFAD Loan	TA&Training	multi	35,100		IC	Yes				
C8	Mid-term Review	IFAD Loan	TA&Training	1	32,400		CQ	Yes				
C9	Final Impact Survey	IFAD Loan	TA&Training	1	28,200		CQ	Yes				
C10	PMO/PIT Gender Awareness Training	IFAD Loan	TA&Training	1	10,500	5,000	IC/CQ	No	Aug 201	Oct 2016	Nov 2016	
C11	Gender Awareness Trainers	IFAD Loan	TA&Training	1	2,300	1,500	IC/CQ	No	Aug 201	Oct 2016	Nov 2016	
C12	PMO/PIT Staff Training Courses	IFAD Loan	TA&Training	multi	26,400	5,000	IC/CQ	No	Aug 201	Oct 2016	Nov 2016	
C13	DVCDP Website	IFAD Loan	TA&Training	1	14,200	6,100	IC	No	Aug 201	Oct 2016	Nov 2016	
C14	DVCDP telecommunications	IFAD Loan	TA&Training	1	64,100	10,100	IC	No	Aug 201	Oct 2016	Nov 2016	
C15	PMO Recurrent Expenditures	GOU	Recurrent/ Salaries		1,573,000	280,000	NIF					
Subtotal component C PMO					*1,950,050*	*463,050*						
Project Implementation Teams												
C16	Vehicles 4WD	IFAD Loan	Equp&Goods	1	80,900	80,900	NCB	Yes	Jan 2016	Feb 2016	April 2016	
C17	Office equipment	IFAD Loan	Equp&Goods	multi	14,850	14,850	Shop	No	Jan 2016	Feb 2016	April 2016	
C18	PIT Recurrent Expenditures	GOU	Recurrent/ Salaries		848,800	148,000	NIF					
Subtotal component C PIT					*944,550*	*243,750*						
Total component C					**2,894,600**	**706,800**						
Total DVCDP					**37,696,800**	**1,708,900**						

Appendix 9: Programme cost and financing

A. Introduction

1. This section describes the assumptions underlying the derivation of the Costs and the Financing Plan for the DVCDP. The Programme's costs are based on April 2015 prices. Some of the key parameters are:

- Programme Period. The proposed Programme would be financed over six-years;
- Inflation. The EIU's estimates for the consumer price inflation in 2015-18 is 10%, and this rate was set as a base for the whole Programme period 2016-2021;
- Exchange Rate. The Base Exchange rate for this analysis has been set at UZS 2500 to USD 1.0 as an official exchange rate prevailing in April 2015.

2. The Programme costs are presented in both UZS and USD. Conversions from current USD values into Uzbek Som use the following constant purchasing power exchange rates:

Table 1: Constant Purchasing Power Exchange Rates (UZS/USD)

Up to Programme Start-up	PY1	PY2	PY3	PY4	PY5	PY6			
2 500	2,596.4	2,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3,484.5

3. **Taxes and Duties.** There is VAT of 20 per cent levied on all imported and locally procured goods and services. For directly recruited local staff the Programme would cover the social insurance of 25 per cent to be finance by the Government budget. The Government would also finance the cost of all taxes on goods and services procured under the Programme.

4. **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 2 below. 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 credit lines, research studies and scholarships as they follow a demand-driven delivery scheme.

Table 2: Expenditure Accounts

Description		Taxes (share in total costs)	Physical Contingency	Foreign Exchange
Investment Costs				
A.	Equipment and Goods	20%	5%	60%
B.	Vehicles	25%	0%	55%
C.	Technical Assistance			
	International TA	0%	0%	100%
	National TA	0%	0%	0%
D.	Training and Workshops	0%	0%	30%
E.	Credit Lines	0%	0%	40-80%
F.	Education and Research Studies	0%	0%	70%
G.	Beneficiary Contribution	0%	0%	0%
Recurrent Costs				
A.	Salaries	0%	0%	0%
B.	Operation and Maintenance	16.67%	5%	50%
C.	Other Operating Expenses	16.67%	5%	0%

B. Programme costs

5. The total investment and incremental recurrent Programme costs, including physical and price contingencies, are estimated at about USD 38.7 million (UZS 101.3 billion). Physical and price contingencies make up about 1% of the total Programme costs due to the fact that investments associated with the rural finance, innovation demonstrations and research studies together make up 79.5 per cent of the total Programme costs. The foreign exchange component is estimated at USD 21.2 million or about 55 per cent of the total Programme costs. Taxes and duties make up approximately USD 214 thousand. Funds allocated to the Programme Management form 7.5 per cent of the total Programme costs. Programme costs by component are shown in Table 3 below.

Table 3: Programme Costs by Component

	(UZS Million)					(US$ '000)				
	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
A. Dairy Value Chain Capacity and Innovation Built										
1. Dairy Value Chain Capacity and Innovation Built	6,042.8	2,361.0	8,403.8	28	9	2,417.1	944.4	3,361.5	28	9
2. Technology Innovation Tested	2,700.0	6,300.0	9,000.0	70	9	1,080.0	2,520.0	3,600.0	70	9
3. Forum for Private-Public Collaboration Sustainably Operational	1,391.9	264.4	1,656.3	16	2	556.8	105.8	662.5	16	2
Subtotal Dairy Value Chain Capacity and Innovation Built	10,134.6	8,925.4	19,060.0	47	20	4,053.9	3,570.2	7,624.0	47	20
B. Dairy Production and Processing Development Financed										
1. Dairy Value Chain Strategic Investment Plans Prepared	928.5	834.0	1,762.5	47	2	371.4	333.6	705.0	47	2
2. Dairy Value Chains Investment Fund Profitably Disbursed	25,800.0	42,200.0	68,000.0	62	71	10,320.0	16,880.0	27,200.0	62	71
Subtotal Dairy Production and Processing Development Financed	26,728.5	43,034.0	69,762.5	62	73	10,691.4	17,213.6	27,905.0	62	73
C. Project Management	5,787.8	882.9	6,670.8	13	7	2,315.1	353.2	2,668.3	13	7
Total BASELINE COSTS	42,651.0	52,842.3	95,493.3	55	100	17,060.4	21,136.9	38,197.3	55	100
Physical Contingencies	88.3	26.7	115.1	23	-	35.3	10.7	46.0	23	-
Price Contingencies	4,592.9	1,133.5	5,726.4	20	6	362.6	90.8	453.4	20	1
Total PROJECT COSTS	47,332.2	54,002.6	101,334.8	53	106	17,458.4	21,238.4	38,696.7	55	101

C. Programme financing

6. An IFAD loan of USD 23.9 million (61.8 per cent of the total Programme costs), would finance: 89 per cent of the Dairy Value Chain Capacity and Innovation Built outcome (USD 7.0 million), 58.9 per cent of the Dairy Production and Processing Development Financed outcome (USD 15.7 million), and 14.8 per cent of the Programme Management (USD 0.4 million). An IFAD grant of USD 0.7 million (1.8 per cent of the total Programme costs) would finance 100 per cent of the cost of the Forum for Private-Public Collaboration Sustainably Operational output. The Government contribution is estimated at USD 2.5 million (6.4 per cent) and includes contributions from its budget primarily to cover the PMO recurrent expenses, staff insurance and foregone taxes and duties (see below). Participating Financial Institutions (PFIs) would provide around USD 5.6 million (14.4 per cent of the total Programme Costs) for the Dairy Value Chains Investment Fund Profitably Disbursed output. Approximately USD 6.04 million (15.6 per cent) would be provided by the beneficiaries as contributions to the financing of dairy value chain development investments.

7. The Government contribution would be in the form of foregone taxes and duties on all Programme inputs that involve funding from the IFAD Loan or any other external source of funding associated with the IFAD loan. In addition, the Government is expected to contribute from its budget about USD 2.48 million to cover PMO recurrent costs (staff salaries and insurance, vehicle and equipment O&M). The estimate of taxes and duties was based on the rates in effect prevailing at the time of the Programme design. In conformity with the principle that no taxes or duties would be financed out of the proceeds of the IFAD Loan, any future changes in the rates and/or structures of taxes and duties would have to apply to the Programme.

8. Tables 4 and 5 below provide summaries by the Programme outcomes and outputs and expenditure accounts of the proposed financing arrangement.

Table 4: Financing Plan by Components (USD '000)

xx

	IFAD Grant		IFAD Loan		GOU		PFI		Beneficiaries		Total			Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	For. Exch.	Taxes)	Taxes
A. Dairy Value Chain Capacity and Innovation Built															
1. Dairy Value Chain Capacity and Innovation Built	-	-	3,423.6	96.2	0.0	-	133.7	3.8	-	-	3,557.3	9.2	996.8	2,560.5	-
2. Technology Innovation Tested	-	-	3,600.0	100.0	0.0	-	-	-	-	-	3,600.0	9.3	2,520.0	1,080.0	-
3. Forum for Private-Public Collaboration Sustainably Operational	699.3	98.3	-	-	11.8	1.7	-	-	-	-	711.1	1.8	114.7	584.6	11.8
Subtotal Dairy Value Chain Capacity and Innovation Built	699.3	8.9	7,023.6	89.3	11.8	0.2	133.7	1.7	-	-	7,868.4	20.3	3,631.5	4,225.1	11.8
B. Dairy Production and Processing Development Financed															
1. Dairy Value Chain Strategic Investment Plans Prepared	-	-	733.7	100.0	0.0	-	-	-	-	-	733.7	1.9	345.0	388.7	-
2. Dairy Value Chains Investment Fund Profitably Disbursed	-	-	15,720.0	57.8	-	-	5,440.0	20.0	6,040.0	22.2	27,200.0	70.3	16,880.0	10,320.0	-
Subtotal Dairy Production and Processing Development Financed	-	-	16,453.7	58.9	0.0	-	5,440.0	19.5	6,040.0	21.6	27,933.7	72.2	17,225.0	10,708.7	-
C. Project Management	-	-	423.0	14.6	2,471.6	85.4	-	-	-	-	2,894.6	7.5	381.8	2,310.3	202.5
Total PROJECT COSTS	699.3	1.8	23,900.3	61.8	2,483.4	6.4	5,573.7	14.4	6,040.0	15.6	38,696.7	100.0	21,238.4	17,244.0	214.3

Table 5: Financing Plan by Expenditure Accounts (USD '000)

	IFAD Grant		IFAD Loan		GOU		PFI		Beneficiaries		Total			Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	For. Exch.	Taxes)	Taxes
I. Investment Costs															
A. Equipment and goods	59.0	50.2	37.4	31.8	21.2	18.0	-	-	-	-	117.6	0.3	49.3	47.1	21.2
B. Vehicles	-	-	121.3	75.0	40.4	25.0	-	-	-	-	161.8	0.4	89.0	32.4	40.4
C. Technical Assistance															
International Technical Assistance	-	-	386.3	100.0	-	-	-	-	-	-	386.3	1.0	386.3	-	-
National Technical Assistance	328.8	30.9	734.8	69.1	-	-	-	-	-	-	1,063.6	2.7	-	1,063.6	-
Subtotal Technical Assistance	328.8	22.7	1,121.1	77.3	-	-	-	-	-	-	1,449.9	3.7	386.3	1,063.6	-
D. Training	311.5	8.3	3,300.4	88.1	0.0	-	133.7	3.6	-	-	3,745.7	9.7	1,123.7	2,622.0	-
E. Demand-driven Technology Development	-	-	3,600.0	100.0	0.0	-	-	-	-	-	3,600.0	9.3	2,520.0	1,080.0	-
F. Dairy Value Chains Financing															
1. Dekhan Farmer Finance	-	-	5,040.0	60.0	-	-	1,680.0	20.0	1,680.0	20.0	8,400.0	21.7	3,360.0	5,040.0	-
2. Private Farmer Finance	-	-	3,000.0	50.0	-	-	1,200.0	20.0	1,800.0	30.0	6,000.0	15.5	4,800.0	1,200.0	-
3. Service Provider and Input Supplier Finance	-	-	2,280.0	60.0	-	-	760.0	20.0	760.0	20.0	3,800.0	9.8	1,520.0	2,280.0	-
4. Dairy Processor Finance	-	-	5,400.0	60.0	-	-	1,800.0	20.0	1,800.0	20.0	9,000.0	23.3	7,200.0	1,800.0	-
Subtotal Dairy Value Chains Financing	-	-	15,720.0	57.8	-	-	5,440.0	20.0	6,040.0	22.2	27,200.0	70.3	16,880.0	10,320.0	-
Total Investment Costs	699.3	1.9	23,900.3	65.9	61.6	0.2	5,573.7	15.4	6,040.0	16.7	36,274.9	93.7	21,048.3	15,165.0	61.6
II. Recurrent Costs															
A. Salaries /a	-	-	-	-	1,505.6	100.0	-	-	-	-	1,505.6	3.9	-	1,505.6	-
B. Operation and Maintenance	-	-	-	-	297.6	100.0	-	-	-	-	297.6	0.8	148.8	99.2	49.6
C. Other Operating Costs	-	-	-	-	618.6	100.0	-	-	-	-	618.6	1.6	41.3	474.2	103.1
Total Recurrent Costs	-	-	-	-	2,421.8	100.0	-	-	-	-	2,421.8	6.3	190.1	2,079.0	152.7
Total PROJECT COSTS	699.3	1.8	23,900.3	61.8	2,483.4	6.4	5,573.7	14.4	6,040.0	15.6	38,696.7	100.0	21,238.4	17,244.0	214.3

9. **Implications for Government Budget.** Apart from repayment of any loan finance, implications for Government's budget are limited in terms of its contribution to the Programme costs and there are no requirements for post-Programme funding by the Government in that up-scaling and replication would be, subject to Government policy, feasible and attractive for the private sector.

10. Programme costs are detailed in Annex 1

Annex 1: DVCDP Detailed Cost Tables

Table 1. Dairy Value Chain Capacity and Innovation Building
Detailed Costs
(US$)

	Unit	Quantities							Unit Cost	Base Cost ('000)							Totals Including Contingencies ('000)						
		2016	2017	2018	2019	2020	2021	Total		2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
I. Investment Costs																							
A. Technical Training Preparation and Delivery																							
International Dairy Training Adviser /b	pers-month	4	2	1	1	-	-	8 [F]	23,000	92.0	46.0	23.0	23.0	-	-	184.0	92.0	47.8	24.3	24.8	-	-	189.7
International Milk Processing Technology Adviser /c	pers-month	2	2	1	1	-	-	6 [F]	23,000	46.0	46.0	23.0	23.0	-	-	138.0	46.8	47.8	24.3	24.8	-	-	143.1
Preparation of Teaching Material /d	lumpsum									40.0	20.0	10.0	10.0	-	-	80.0	40.4	20.7	10.6	10.8	-	-	82.5
Training of Trainers /e	lumpsum									20.0	40.0	10.0	10.0	-	-	80.0	20.2	41.3	10.6	10.8	-	-	82.9
Subtotal Technical Training Preparation and Delivery										198.0	152.0	66.0	66.0	-	-	482.0	200.4	157.1	69.7	71.2	-	-	498.4
B. Dehkan Farmer Capacity Building /f																							
Farming as a Business Training /g	lumpsum									20.0	20.0	20.0	20.0	20.0	-	100.0	20.2	20.7	21.1	21.6	22.1	-	105.6
Dehkan Farmer Technical Training /h	lumpsum									20.0	120.0	120.0	120.0	120.0	60.0	560.0	20.2	124.0	126.7	129.5	132.4	66.4	599.1
Dehkan farmer group mentoring /i	lumpsum									0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
Subtotal Dehkan Farmer Capacity Building										40.0	140.0	140.0	140.0	140.0	60.0	660.0	40.4	144.7	147.8	151.1	154.4	66.4	694.8
C. Private Farmer Capacity Building																							
Farming as a Business Training /j	lumpsum									10.0	10.0	10.0	10.0	-	-	40.0	10.1	10.3	10.6	10.8	-	-	41.8
Private Farmer Technical Training /k	lumpsum									10.0	60.0	60.0	60.0	20.0	-	210.0	10.1	62.0	63.4	64.8	22.1	-	222.3
Subtotal Private Farmer Capacity Building										20.0	70.0	70.0	70.0	20.0	-	250.0	20.2	72.3	73.9	75.5	22.1	-	264.1
D. Young Farmer Capacity Building																							
Farming as a Business Training /l	lumpsum									10.0	10.0	10.0	10.0	-	-	40.0	10.1	10.3	10.6	10.8	-	-	41.8
Young Farmer Technical Training /m	lumpsum									10.0	20.0	20.0	20.0	10.0	-	80.0	10.1	20.7	21.1	21.6	11.0	-	84.5
Young Farmer Experential Training /n	lumpsum									-	15.0	30.0	30.0	30.0	30.0	135.0	-	15.5	31.7	32.4	33.1	33.8	146.5
Subtotal Young Farmer Capacity Building										20.0	45.0	60.0	60.0	40.0	30.0	255.0	20.2	46.5	63.4	64.8	44.1	33.8	272.8
E. Dairy Sector Service Provider and Input Supplier Capacity Building																							
Small Business Management Training /o	lumpsum									-	60.0	60.0	60.0	60.0	-	240.0	-	62.0	63.4	64.8	66.2	-	256.3
Private Extension Technical Training /p	lumpsum									-	50.0	50.0	50.0	50.0	-	200.0	-	51.7	52.8	54.0	55.1	-	213.6
Dairy Product Branding and Marketing /q	lumpsum									-	18.0	18.0	18.0	18.0	-	72.0	-	18.6	19.0	19.4	19.9	-	76.9
Subtotal Dairy Sector Service Provider and Input Supplier Capacity Building										-	128.0	128.0	128.0	128.0	-	512.0	-	132.3	135.2	138.1	141.2	-	546.7
F. Milk Processor Capacity Building																							
Dairy Value Chain Lead Enterprise Management Training /r	course	-	1	1	1	1	-	4	20,000	-	20.0	20.0	20.0	20.0	-	80.0	-	20.7	21.1	21.6	22.1	-	85.4
Milk Processor Experential Study Tour /s	Study Tour	-	1	1	1	1	-	4	26,000	-	26.0	26.0	26.0	26.0	-	104.0	-	26.9	27.5	28.1	28.7	-	111.1
Dairy Technology Training Programme /t	course	-	2	2	2	2	-	8	4,000	-	8.0	8.0	8.0	8.0	-	32.0	-	8.3	8.4	8.6	8.8	-	34.2
Subtotal Milk Processor Capacity Building										-	54.0	54.0	54.0	54.0	-	216.0	-	55.8	57.0	58.3	59.6	-	230.7
G. Women Entrepreneur Empowerment																							
Small Business Management Training /u	lumpsum									-	62.0	62.0	62.0	62.0	-	248.0	-	64.1	65.5	66.9	68.4	-	264.8
Women Entrepreneur Technical Assistance /v	pers-month	6	6	6	3	3	3	27	1,500	9.0	9.0	9.0	4.5	4.5	4.5	40.5	9.1	9.3	9.5	4.9	5.0	5.1	42.8
Subtotal Women Entrepreneur Empowerment										9.0	71.0	71.0	66.5	66.5	4.5	288.5	9.1	73.4	75.0	71.8	73.3	5.1	307.6
H. Dairy Inspection Training /w	course	0.1	0.1	0.1	0.1	0.1	-	0.5	4,000	0.4	0.4	0.4	0.4	0.4	-	2.0	0.4	0.4	0.4	0.4	0.4	-	2.1
I. TVI Capacity Building																							
Banking Sector Livestock Value Chain Investment Capacity Building /x	lumpsum									50.0	50.0	50.0	50.0	-	-	200.0	50.9	52.7	54.5	56.3	-	-	234.4
Gender Awareness training /y	lumpsum									15.0	-	-	-	15.0	-	30.0	15.2	-	-	-	16.5	-	31.7
Subtotal TVI Capacity Building										65.0	50.0	50.0	50.0	15.0	-	230.0	66.0	52.7	54.5	56.3	16.5	-	266.1
J. Household Methodologies Implementation																							
International HHMs Adviser /z	pers-month	2	1	-	-	-	-	3	23,000	46.0	23.0	-	-	-	-	69.0	46.5	23.8	-	-	-	-	70.3
HHMs Training of Trainers /aa	lumpsum									25.0	-	-	-	-	-	25.0	25.3	-	-	-	-	-	25.3
Household Methodologies Rollout /bb	lumpsum									40.0	50.0	50.0	50.0	50.0	22.0	262.0	40.4	51.7	52.8	54.0	55.1	24.8	278.8
Subtotal Household Methodologies Implementation										111.0	73.0	50.0	50.0	50.0	22.0	356.0	112.2	75.4	52.8	54.0	55.1	24.8	374.4
Total										493.4	813.4	713.4	714.9	513.9	106.5	3,361.5	498.8	840.4	733.7	711.5	566.6	130.0	3,537.3

a Operational Costs linked to this component are be budgeted under the PMU.
b International advisor (speaking fluent Russian) to support national consultants in the valuation preparation of training packages.
c International dairy technology advisor (speaking fluent Russian) to support dairy factory management in upgrading processing technology
d National service provider evaluation of existing national and international training materials, gap filling and packaging of teaching programmes
e Centralized Training of Trainers for dehkan and private farmer capacity building programme
f For the purpose of this Programme dehkan farmer refers to ( )
g Training in farming as a business, delivered at Mahalla level, particularly targeting of female dehkan household members.
h Trained trainers train on demand up to 1,500 dehkan farmers per year in animal husbandry, health, nutrition and breeding
i Mentoring of male and female dehkan farmer groups by leading, trained dehkan and private commercial farmers.
j Training private farmers in farming as a business, delivered at Agriculture College or institute level.
k Trained trainers train on demand up to 100 private farmers per year in animal husbandry, health, nutrition and breeding
l Training private farmers in farming as a business, delivered at Agriculture College level.
m Trained trainers train on demand up to 200 young farmers per year in animal husbandry, health, nutrition and breeding
n Living allowance paid to selected young farmers who have completed FAAB and technical training to gain experience on leading private farms and dairy factories.
o Five day course for up to 20 dairy sector service providers and input suppliers in small business management, delivered at district level.
p Veterinary Institute Samarkand Agriculture Institute delivered 2 x 1 week residential training courses for 15-20 veterinarians
q Demand-driven grants to financed dairy processors for technical advice to support for improved product branding, labelling and marketing
r Annual bi-weekly course for dairy processors identified through the DVCSAP as Lead Enterprise "Gatekeepers" to investable dairy value chains.
s Tregaron regional study tour for 4-6 milk processing factory managers to study processing technology, quality control and product diversification.
t Experential factory and laboratory training for dairy factory technologists
u Five day course for up to 20 dairy sector in oman entrepreneurs in small business management, delivered at district level.
v Technical and business advisory support for women entrepreneurs investing in developing women group-owned milk collection centres
w Reorientation of MAWM and MoH public health inspectors in modern dairy technology and application of GOU quality standards
x Courses delivered by the International Finance Corporation on a cost sharing basis with IRFs
y For IRFs establish loan managers and their immediate supervisors
z To train trainers and DVCDP staff in the household Methodology approach and mentor its initial implementation.
aa Two Training of Trainers courses, each for 20 women's NGO and private sector service providers, with refresher training in PY2.
bb To be delivered by trained private sector and women's NGO service providers.

Table 2. Technology Innovation Tested
Detailed Costs
(US$)

	Unit	Quantities							Unit Cost	Base Cost ('000)							Totals Including Contingencies ('000)						
		2016	2017	2018	2019	2020	2021	Total		2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
I. Investment Costs																							
A. Demand-driven Technology Innovation																							
1. Technology Development and Promotion Grants /a	lumpsum									200.0	800.0	800.0	800.0	800.0	200.0	3,600.0	200.0	800.0	800.0	800.0	800.0	200.0	3,600.0
Total										200.0	800.0	800.0	800.0	800.0	200.0	3,600.0	200.0	800.0	800.0	800.0	800.0	200.0	3,600.0

\a Demand driven and competitively awarded technology development, testing and demonstration grants of up to $400,000 for periods of up to 3 years.

Table 3. Forum for Private-Public Collaboration Sustainably Operational
Detailed Costs
(US$)

	Unit	Quantities							Unit Cost	Base Cost ('000)							Totals Including Contingencies ('000)						
		2016	2017	2018	2019	2020	2021	Total		2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
I. Investment Costs																							
A. Forum Development and Support /a	per-annum	2	4	4	4	1	1	16	15.000	30.0	60.0	60.0	60.0	15.0	15.0	240.0	30.3	62.0	63.4	64.8	16.5	16.9	253.9
B. Conferences and workshops /b	per-annum	0.5	1	1	1	1	1	5.5	20.000	10.0	20.0	20.0	20.0	20.0	20.0	110.0	10.1	20.7	21.1	21.6	22.1	22.5	118.1
C. FFPPC Commissioned Technical and Sector Studies.	per-annum	-	2	2	1	1	1	7	10.000	-	20.0	20.0	10.0	10.0	10.0	70.0	-	20.7	21.1	10.8	11.0	11.3	74.9
D. Publications and Printing Materials /c	per-annum	-	1	1	1	1	1	5	12.500	-	12.5	12.5	12.5	12.5	12.5	62.5	-	13.6	13.9	14.2	14.5	14.8	70.9
E. Twinning Programmes and Exchange Visits /d	per-annum	-	2	2	2	2	1	9	20.000	-	40.0	40.0	40.0	40.0	20.0	180.0	-	41.3	42.2	43.2	44.1	22.5	193.4
Total										40.0	152.5	152.5	142.5	97.5	77.5	662.5	40.4	158.2	161.7	154.5	108.2	88.1	711.1

\a National TA for web site establishment and empowerment, organization of discussionpapers, regional and national meetings conferences and roundtables
\b For quarterly meetings in Jizzakh and Kashkadarya regions and annual national meetings.
\c To cover printing and distribution costs
\d For representatives of private and public sector dairy industry groups, see selection criteria in the Project Implementation Manual

Table 4. Dairy Value Chain Strategic Investment Plans Prepared

Detailed Costs

(US$)

		Quantities								Base Cost ('000)							Totals Including Contingencies ('000)						
	Unit	2016	2017	2018	2019	2020	2021	Total	Unit Cost	2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
I. Investment Costs																							
A. Dairy Value Chain/Business Adviser(s) /a	pers-month	6	3	3	-	-	-	12	23.000	138.0	69.0	69.0	-	-	-	276.0	139.5	71.3	72.9	-	-	-	283.7
B. Dairy Vaule Chains SIP Preparation /b	lumpsum									50.0	130.0	40.0	17.0	-	-	237.0	50.6	134.3	42.2	18.3	-	-	245.5
C. Dairy Value Chain Investor Awareness Training																							
Dehkan Farmer training on Investing in Milk Production /c	no	1	15	15	15	15	-	61	2.000	2.0	30.0	30.0	30.0	30.0	-	122.0	2.0	31.0	31.7	32.4	33.1	-	130.2
Private Farmer training on Investing in Milk Production /d	no	1	4	4	4	4	-	17	2.000	2.0	8.0	8.0	8.0	8.0	-	34.0	2.0	8.3	8.4	8.6	8.8	-	36.2
Milk Processor training on Investing in Dairy Processing /e	no	1	2	2	2	2	-	9	2.000	2.0	4.0	4.0	4.0	4.0	-	18.0	2.0	4.1	4.2	4.3	4.4	-	19.1
Input Supplier and Service Provider training on Investing in the Dairy Sector /f	no	1	2	2	2	2	-	9	2.000	2.0	4.0	4.0	4.0	4.0	-	18.0	2.0	4.1	4.2	4.3	4.4	-	19.1
Subtotal Dairy Value Chain Investor Awareness Training										8.0	46.0	46.0	46.0	46.0	-	192.0	8.1	47.5	48.6	49.6	50.7	-	204.6
Total										196.0	245.0	155.0	63.0	46.0	-	705.0	198.2	253.1	163.7	68.0	50.7	-	733.7

/a To provide management/technical support to the PMO/PIT and national service providers.
/b One or more private service providers contracted to develop strategic action plans and provide associated training
/c Dehkan farmer training on dairy value chain SAP results and investment opportunities.
/d Private farmer training on dairy value chain SAP results and investment opportunities.
/e Milk Processor training on dairy value chain SAP results and investment opportunities.
/f Input supplier and service providerr training on dairy value chain SAP results and investment opportunities.

Table 5. Dairy Value Chains Investment Fund Profitably Disbursed /a
Detailed Costs
(US$)

	Unit	Quantities							Unit Cost	Base Cost ('000)							Totals Including Contingencies ('000)						
		2016	2017	2018	2019	2020	2021	Total		2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
I. Investment Costs																							
A. Investment Capital for Private Farmers /b																							
Credit Line	lumpsum									-	1,280.0	1,920.0	1,920.0	1,280.0	-	6,400.0	-	1,280.0	1,920.0	1,920.0	1,280.0	-	6,400.0
B. Investment Capital for Dekhan Farmers /c																							
Credit Line	lumpsum									-	1,400.0	2,100.0	2,100.0	1,400.0	-	7,000.0	-	1,400.0	2,100.0	2,100.0	1,400.0	-	7,000.0
C. Investment Capital for Private Service and Input Providers /d																							
Credit Line	lumpsum									-	760.0	1,140.0	1,140.0	760.0	-	3,800.0	-	760.0	1,140.0	1,140.0	760.0	-	3,800.0
D. Investment Capital for Processors /e																							
Credit Line /f	lumpsum									-	1,800.0	2,700.0	2,700.0	1,800.0	-	9,000.0	-	1,800.0	2,700.0	2,700.0	1,800.0	-	9,000.0
Total										-	5,240.0	7,860.0	7,860.0	5,240.0	-	26,200.0	-	5,240.0	7,860.0	7,860.0	5,240.0	-	26,200.0

\a Operational Costs linked to this component are be budgeted under the PMU.
\b To be provided by the Project through FFIs to private farmers. The FFIs will be required to contribute at least 20% of the credit. Beneficiaries' contribution should be at least 20% of the total investment.
\c To be provided by the Project through FFIs to Dekhan Farmers (DFs). The FFIs will be required to contribute at least 20% of the credit. DFs' contribution should be at least 20% of the total investment.
\d To be provided by the Project through FFIs to private feed/forage inpit suppliers and private service providers (vets). The FFIs will be required to contribute at least 20% of the credit. The private inputs upply and service provider's contribution should
\e To be provided by the Project through FFIs to processors. FFIs will be required to contribute at least 20% of the credit. Beneficiaries contribution should be at least 20% of the total investment.
\f To be provided by the Programme through FFIs to dairy processors. The FFIs will be required to contribute 20%. Dairy processors will be required to contribute a minimum 20%.

Table 6. Project Management Office (PMO): Samarkand
Detailed Costs
(US$)

	Unit	Quantities							Unit Cost	Base Cost ('000)							Totals Including Contingencies ('000)						
		2016	2017	2018	2019	2020	2021	Total		2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
I. Investment Costs																							
A. Vehicles 4x4	no	2	-	-	-	-	-	2	40.000	80.0	-	-	-	-	-	80.0	80.9	-	-	-	-	-	80.9
B. Office Equipment /a	lumpsum									30.0	-	-	-	-	-	30.0	31.8	-	-	-	-	-	31.8
C. Technical Assistance, Studies and Workshops																							
Baseline Survey /b	lumpsum	1	-	-	-	-	-	1	25.000	25.0	-	-	-	-	-	25.0	25.3	-	-	-	-	-	25.3
PIM preparation	Report	1	-	-	-	-	-	1	10.000	10.0	-	-	-	-	-	10.0	10.1	-	-	-	-	-	10.1
Start-up Workshop	w/shop	1	-	-	-	-	-	1	7.200	7.2	-	-	-	-	-	7.2	7.3	-	-	-	-	-	7.3
Annual Review and Planning Workshop	w/shop	-	1	1	1	1	-	4	2.000	-	2.0	2.0	2.0	2.0	-	8.0	-	2.1	2.1	2.2	2.2	-	8.5
Ad hoc Studies and Assistance	lumpsum	-	1	1	1	1	1	5	6.500	-	6.5	6.5	6.5	6.5	6.5	32.5	-	6.7	6.9	7.0	7.2	7.3	35.1
Mid-term Review	lumpsum	-	-	-	1	-	-	1	30.000	-	-	-	30.0	-	-	30.0	-	-	-	32.4	-	-	32.4
Final Impact Survey	lumpsum	-	-	-	-	-	1	1	25.000	-	-	-	-	-	25.0	25.0	-	-	-	-	-	26.2	26.2
Subtotal Technical Assistance, Studies and Workshops										42.2	8.5	8.5	38.5	8.5	31.5	137.7	42.7	8.8	9.0	41.5	9.4	35.5	146.9
D. PMO/PIT Staff Training																							
PMO/PIT Gender Awareness Training /c	lumpsum									5.0	-	-	5.0	-	-	10.0	5.1	-	-	5.4	-	-	10.5
Gender Awareness Trainers /d	pers-month	1	-	-	0.5	-	-	1.5	1.500	1.5	-	-	0.8	-	-	2.3	1.5	-	-	0.8	-	-	2.3
PMO/PIT Staff Training Courses /e	lumpsum									5.0	5.0	5.0	5.0	5.0	-	25.0	5.1	5.2	5.3	5.4	5.5	-	26.4
Subtotal PMO/PIT Staff Training										11.5	5.0	5.0	10.8	5.0	-	37.3	11.6	5.2	5.3	11.6	5.5	-	39.2
E. Programme Communications																							
DVCDP Website /f	per-annum									6.0	1.5	1.5	1.5	1.5	1.5	13.5	6.1	1.5	1.6	1.6	1.7	1.7	14.2
DVCDP telecommunications /g	per-annum									10.0	10.0	10.0	10.0	10.0	10.0	60.0	10.1	10.3	10.6	10.8	11.0	11.3	64.1
Subtotal Programme Communications										16.0	11.5	11.5	11.5	11.5	11.5	73.5	16.2	11.9	12.1	12.4	12.7	13.0	78.3
Total Investment Costs										179.7	25.0	25.0	60.8	25.0	43.0	358.5	183.2	25.8	26.4	65.6	27.6	48.5	377.0
II. Recurrent Costs																							
A. Salaries																							
Director	pers-month	12	12	12	12	12	12	72	1.500	18.0	18.0	18.0	18.0	18.0	18.0	108.0	18.2	18.6	19.0	19.4	19.9	20.3	115.4
Chief Accountant	pers-month	6	12	12	12	12	12	66	1.200	7.2	14.4	14.4	14.4	14.4	14.4	79.2	7.3	14.9	15.2	15.5	15.9	16.2	85.0
Internal Auditor /h	pers-month	-	-	-	12	12	12	36	1.200	-	-	-	14.4	14.4	14.4	43.2	-	-	-	15.5	15.9	16.2	47.7
Procurement Officer	pers-month	6	12	12	12	12	12	66	1.200	7.2	14.4	14.4	14.4	14.4	14.4	79.2	7.3	14.9	15.2	15.5	15.9	16.2	85.0
Dairy Value Chain Coordinator	pers-month	6	12	12	12	12	12	66	1.200	7.2	14.4	14.4	14.4	14.4	14.4	79.2	7.3	14.9	15.2	15.5	15.9	16.2	85.0
Rural Finance Programme Coordinator	pers-month	6	12	12	12	12	12	66	1.200	7.2	14.4	14.4	14.4	14.4	14.4	79.2	7.3	14.9	15.2	15.5	15.9	16.2	85.0
Monitoring and Evaluation Officer	pers-month	6	12	12	12	12	12	66	1.200	7.2	14.4	14.4	14.4	14.4	14.4	79.2	7.3	14.9	15.2	15.5	15.9	16.2	85.0
Administrative Assistant/Translator	pers-month	6	12	12	12	12	12	66	1.100	6.6	13.2	13.2	13.2	13.2	13.2	72.6	6.7	13.6	13.9	14.2	14.6	14.9	77.9
GESI Specialist /i	pers-month	6	12	12	12	12	12	66	1.200	7.2	14.4	14.4	14.4	14.4	14.4	79.2	7.3	14.9	15.2	15.5	15.9	16.2	85.0
Driver	pers-month	6	12	12	12	12	12	66	400	2.4	4.8	4.8	4.8	4.8	4.8	26.4	2.4	5.0	5.1	5.2	5.3	5.4	28.3
Subtotal Salaries										70.2	122.4	122.4	136.8	136.8	136.8	725.4	71.0	126.5	129.3	147.6	150.9	154.2	779.4
B. Staff Insurance /j	per-annum									17.6	30.6	30.6	34.2	34.2	34.2	181.4	17.7	31.6	32.3	36.9	37.7	38.6	194.9
C. Operation and Maintenance																							
Vehicle O&M /k	per-annum	0.5	1	1	1	1	1	5.5	12.000	6.0	12.0	12.0	12.0	12.0	12.0	66.0	6.4	13.0	13.3	13.6	13.9	14.2	74.4
Office Equipment O&M	per-annum	0.5	1	1	1	1	1	5.5	6.000	3.0	6.0	6.0	6.0	6.0	6.0	33.0	3.2	6.5	6.7	6.8	6.9	7.1	37.2
Subtotal Operation and Maintenance										9.0	18.0	18.0	18.0	18.0	18.0	99.0	9.6	19.5	20.0	20.4	20.8	21.3	111.6
D. Other Operating Costs																							
Office Rent	per-annum	0.5	1	1	1	1	1	5.5	12.000	6.0	12.0	12.0	12.0	12.0	12.0	66.0	6.4	13.0	13.3	13.6	13.9	14.2	74.4
International travel	per-annum	0.5	1	1	1	1	1	5.5	8.000	4.0	8.0	8.0	8.0	8.0	8.0	44.0	4.2	8.7	8.9	9.1	9.3	9.5	49.6
Local travel	per-annum	0.5	1	1	1	1	1	5.5	5.000	2.5	5.0	5.0	5.0	5.0	5.0	27.5	2.7	5.4	5.5	5.7	5.8	5.9	31.0
Banking Services	per-annum	0.5	1	1	1	1	1	5.5	6.000	3.0	6.0	6.0	6.0	6.0	6.0	33.0	3.2	6.5	6.7	6.8	6.9	7.1	37.2
Internal Audit	per-annum	0.5	1	1	1	1	1	5.5	20.000	10.0	20.0	20.0	20.0	20.0	20.0	110.0	10.6	21.7	22.2	22.7	23.2	23.7	124.0
Audit /l	per-annum	0.5	1	1	-	-	-	2.5	15.000	7.5	15.0	15.0	-	-	-	37.5	8.0	16.3	16.6	-	-	-	40.9
Telecommunication	per-annum	0.5	1	1	1	1	1	5.5	6.000	3.0	6.0	6.0	6.0	6.0	6.0	33.0	3.2	6.5	6.7	6.8	6.9	7.1	37.2
Utilities /m	per-annum	0.5	1	1	1	1	1	5.5	3.000	1.5	3.0	3.0	3.0	3.0	3.0	16.5	1.6	3.3	3.3	3.4	3.5	3.6	18.6
Stationery	per-annum	0.5	1	1	1	1	1	5.5	6.000	3.0	6.0	6.0	6.0	6.0	6.0	33.0	3.2	6.5	6.7	6.8	6.9	7.1	37.2
Other /n	per-annum	0.5	1	1	1	1	1	5.5	6.000	3.0	6.0	6.0	6.0	6.0	6.0	33.0	3.2	6.5	6.7	6.8	6.9	7.1	37.2
Subtotal Other Operating Costs										43.5	87.0	87.0	72.0	72.0	72.0	433.5	46.2	94.4	96.5	81.6	83.4	85.2	487.2
Total Recurrent Costs										140.3	258.0	258.0	261.0	261.0	261.0	1,439.3	144.4	272.0	278.0	286.5	292.8	299.3	1,573.1
Total										320.0	283.0	283.0	321.8	286.0	304.0	1,797.7	327.6	297.8	304.4	352.1	320.4	347.7	1,950.1

/a For computers, printers, copy machines, furniture, minor office equipment, etc.
/b Including RIMS (IFAD monitoring system).
/c Threee day residential gender awareness training for PMO and PIT staff
/d Nationally recruited gender specialists to train both PMO/PIT and PFI staff
/e To meet staff development needs as identified during project implementation
/f Development, maintenance and updating of a DVCDP website by a private service provider
/g Multimedia presentations to dairy value chain stakeholders and the broader community concerning DVCDP activities
/h For both DVCDP and HSP
/i The GESI Specialist will cover both the DVCDP and HSP. The HSP Lawyer will also cover the DVCDP.
/j 25% of the salary fund.
/k The unit cost covers the annual O&M costs of the vehicles including petrol, insurance, spare parts, servicing, repairing and parking.
/l Delivered through a private service provider over the first three project years and then by a PMO recruited internal auditor.
/m Includes water, electricity, cleaning and office alarm system O&M
/n Includes copying services, media, web, representation, etc.

Table 7. Project Implementation Teams (PIT): Regional

Detailed Costs

(US$)

		Quantities								Base Cost ('000)							Totals Including Contingencies ('000)						
	Unit	2016	2017	2018	2019	2020	2021	Total	Unit Cost	2016	2017	2018	2019	2020	2021	Total	2016	2017	2018	2019	2020	2021	Total
I. Investment Costs																							
A. Vehicles 4x4	no	2	-	-	-	-	-	2	40.000	80.0	-	-	-	-	-	80.0	80.9	-	-	-	-	-	80.9
B. Office Equipment /a	set	2	-	-	-	-	-	2	7.000	14.0	-	-	-	-	-	14.0	14.9	-	-	-	-	-	14.9
Total Investment Costs										94.0	-	-	-	-	-	94.0	95.7	-	-	-	-	-	95.7
II. Recurrent Costs /b																							
A. Salaries																							
Dairy Processing Officer/ PIT Coordinator	pers-month	12	24	24	24	24	24	132	1.000	12.0	24.0	24.0	24.0	24.0	24.0	132.0	12.1	24.8	25.3	25.9	26.5	27.1	141.7
Dairy Production Officer	pers-month	12	24	24	24	24	24	132	800	9.6	19.2	19.2	19.2	19.2	19.2	105.6	9.7	19.8	20.3	20.7	21.2	21.6	113.4
Value Chain Finance Officer	pers-month	12	24	24	24	24	24	132	800	9.6	19.2	19.2	19.2	19.2	19.2	105.6	9.7	19.8	20.3	20.7	21.2	21.6	113.4
Driver	pers-month	12	24	24	24	24	24	132	400	4.8	9.6	9.6	9.6	9.6	9.6	52.8	4.9	9.9	10.1	10.4	10.6	10.8	56.7
Subtotal Salaries										36.0	72.0	72.0	72.0	72.0	72.0	396.0	36.4	74.4	76.0	77.7	79.4	81.2	425.1
B. Staff Insurance /c	per-annum									9.0	18.0	18.0	18.0	18.0	18.0	99.0	9.1	18.6	19.0	19.4	19.9	20.3	106.3
C. Operation and Maintenance																							
Vehicles O&M /d	per-annum	2	4	4	4	4	4	22	6.000	12.0	24.0	24.0	24.0	24.0	24.0	132.0	12.7	26.0	26.6	27.2	27.8	28.4	148.8
Office Equipment O&M	per-annum	2	4	4	4	4	4	22	1.500	3.0	6.0	6.0	6.0	6.0	6.0	33.0	3.2	6.5	6.7	6.8	6.9	7.1	37.2
Subtotal Operation and Maintenance										15.0	30.0	30.0	30.0	30.0	30.0	165.0	15.9	32.5	33.3	34.0	34.7	35.5	186.0
D. Other Operating Costs																							
Office Rent	per-annum	1	2	2	2	2	2	11	3.000	3.0	6.0	6.0	6.0	6.0	6.0	33.0	3.2	6.5	6.7	6.8	6.9	7.1	37.2
Local travel	per-annum	1	2	2	2	2	2	11	4.000	4.0	8.0	8.0	8.0	8.0	8.0	44.0	4.2	8.7	8.9	9.1	9.3	9.5	49.6
Telecommunication	per-annum	1	2	2	2	2	2	11	1.200	1.2	2.4	2.4	2.4	2.4	2.4	13.2	1.3	2.6	2.7	2.7	2.8	2.8	14.9
Utilities /e	per-annum	1	2	2	2	2	2	11	1.200	1.2	2.4	2.4	2.4	2.4	2.4	13.2	1.3	2.6	2.7	2.7	2.8	2.8	14.9
Stationery	per-annum	1	2	2	2	2	2	11	1.200	1.2	2.4	2.4	2.4	2.4	2.4	13.2	1.3	2.6	2.7	2.7	2.8	2.8	14.9
Subtotal Other Operating Costs										10.6	21.2	21.2	21.2	21.2	21.2	116.6	11.3	23.0	23.5	24.0	24.6	25.1	131.4
Total Recurrent Costs										70.6	141.2	141.2	141.2	141.2	141.2	776.6	72.7	148.5	151.8	155.1	158.6	162.0	848.8
Total										164.6	141.2	141.2	141.2	141.2	141.2	870.6	168.4	148.5	151.8	155.1	158.6	162.0	944.5

\a For 2 office units including computers, printers, copy machines, furniture, minor office equipment, etc.

\b Three person PITs in both Jizzakh and Kashkadarya regions

\c 25% of the salary fund.

\d The unit cost covers annual O&M costs per vehicle including petrol, insurance, spare parts, servicing, repairing and parking.

\e Includes water, electricity, cleaning and office alarm system O&M.

Appendix 10: Economic and Financial Analysis

UZBEKISTAN - DAIRY VALUE CHAIN DEVELOPMENT PROGRAMME

FINANCIAL ANALYSIS

CATEGORY	Estimated Investment Costs (US$)			Annual Net Benefits (US$)			Incremental annual net benefits per 1US$ of investment (US$)	IRR (%)	NPV (US$)	Return to family labour, US$/day
	Loan	Beneficiary Contribution	Total	Without Project	With Project - Full Development	Incremental				
PRODUCTION										
Dekhan Farmer 1 (3 to 5 cows)	3 104	776	3 880	137	2 770	2 633	0.7	20%	3 350	15
Dekhan Farmer 2 (5 to 10 cows	13 040	3 260	16 300	138	8 453	8 314	0.5	26%	16 660	33
Private Farmer 1 (30 to 50 cows	52 160	13 040	65 200	5 773	34 098	28 325	0.4	23%	53 127	100
Private Farmer 2 (50 cows)	24 000	6 000	30 000	102	28 836	28 734	1.0	92%	122 901	84
PROCESSING										
Milk Collection	20 000	5 000	25 000	0	6 750	6 750	0.3	26%	16 255	
Milk Processing	192 000	48 000	240 000	10 000	115 596	105 596	0.4	54%	405 288	

SENSITIVITY ANALYSIS

	Δ%	Link with the risk matrix	IRR
Base scenario			18%
Project benefits	-10%	Combination of risks affecting output prices, yields and adoption rates	17%
Project benefits	-20%		15%
Project benefits	-30%		13%
Project costs	10%	Increase of goods costs	17%
Project costs	20%		15%
1 year lag in ben.		Risks affecting adoption rates and low implementation capacity	16%
2 years lag in ben.			13%

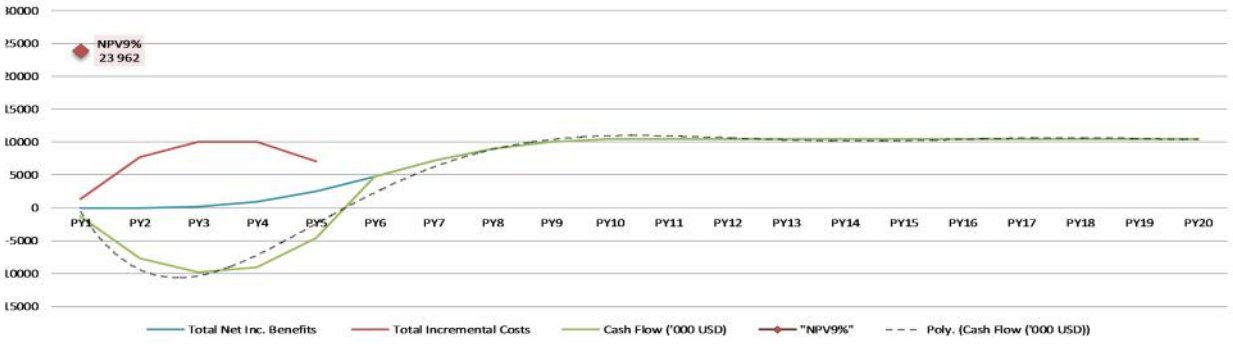
MAIN ASSUMPTIONS & SHADOW PRICES

Official Exchange rate (OER)	2500	Discount rate	9%
Shadow Exchange rate (SER)	N/A	Social Discount rate	9%
Standard Conversion Factor	0.90	Output conversion factor	1
Labour Conversion factor	0.8	Input Conversion factor	0.83

PROJECT COSTS AND INDICATORS FOR LOGFRAME

TOTAL PROJECT COSTS	**37.7M / Base 37.1 M**		3M PMU	
Beneficiaries (direct & indirect)	**60.000 people**	12.000 HH		
Cost per beneficiary	**630 USD x person**	3140 USD x HH	**Adoption rates**	**70-80%**

Components and Cost (USD million)		Outcomes and Indicators	
Dairy Value Chain Capacity and Innovation Built	7.9 M	Capacity for sustainable, efficient milk production, processing and marketing established	Increased milk yield from 25%
Dairy Production and Processing Development Financed	26.9 M	Productivity and efficiency along targeted, smallholder-inclusive dairy value chains profitably increased	Portfolio at risk below 10%



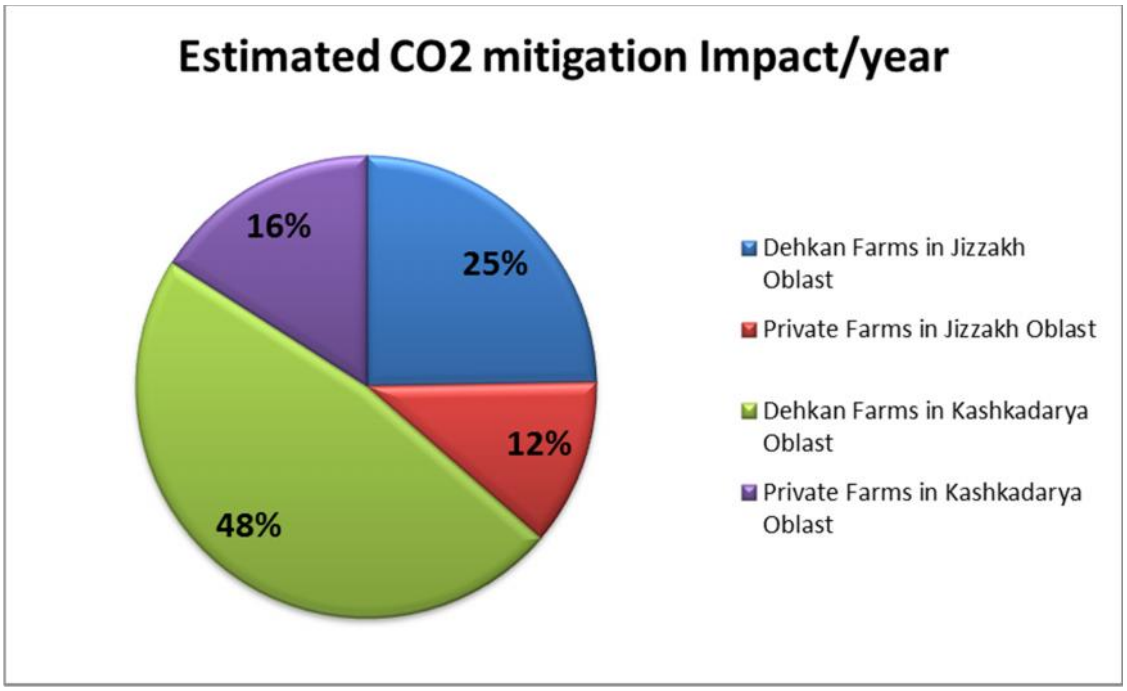
ECONOMIC ANALYSIS

	Total Net Inc. Benefits	Total Incremental Costs	Cash Flow ('000 USD)
PY1	0	1364	(1 364)
PY2	0	7720	(7 720)
PY3	210	10021	(9 811)
PY4	943	10022	(9 079)
PY5	2515	7105	(4 590)
PY6	4716		4 716
PY7	7126		7 126
PY8	9013		9 013
PY9	10061		10 061
PY10	10480		10 480
PY11	10480		10 480
PY12	10480		10 480
PY13	10480		10 480
PY14	10480		10 480
PY15	10480		10 480
PY16	10480		10 480
PY17	10480		10 480
PY18	10480		10 480
PY19	10480		10 480
PY20	10480		10 480
NPV@ 9 % ('000 USD)			23 962
EIRR			18%

Results in terms of CO2 mitigation emissions (figures expressed in Ton)

Dairy farmers/location	Estimated CO2 mitigation Impact/year	Estimated CO2 mitigation Impact / 10 years
Dehkan Farms in Jizzakh Oblast	3,687	36,870
Private Farms in Jizzakh Oblast	1,732	17,320
Dehkan Farms in Kashkadarya Oblast	7,108	71,080
Private Farms in Kashkadarya Oblast	2,383	23,830
Total	14,910	149,100

Percentage Mitigation Impact of CO2 per dairy farmers with the implementation of the programmes.



1. The Dairy Value Chains Development Programme (DVCDP) will apply an innovative approach to economic development through demonstration of and investing into viable dairy value chains and encouraging a more holistic and strategic framework to investment planning among active and prospective entrepreneurs and farmers based on a demand-driven and market-led approach for increased production/productivity, improved local processing/value-added, expanded market access, and enhanced competitiveness of rural businesses and enterprises.

2. In addition, DVCDP will provide soft-term financing for rural and household entrepreneurs and smallholder farmers (both dehkan and private) who would like to be involved in economically viable activities, but lack appropriate finance. It is expected that, by supporting rural entrepreneurs, the programme would reach the primary beneficiary group, in terms of knowledge transfer, access to inputs and credit, and guaranteed markets. The financing would be provided to strategic enterprises and farmers within value chains, thus backward and forward linkages would be established. It is also anticipated that an injection of financing would create additional salaried employment, increase demand for farm produce, and professional and input services; hence generating a multiplier effect.

3. There are numerous examples of forward and backward linkages between agricultural producers and other entities within dairy value chains. Traditional farm and enterprise models are a useful but not sufficient tool for measuring the programme's objective of mobilising investments to accelerate economic development. The models presented below are aiming to demonstrate how the programme and beneficiaries would apply the VC approach to assess opportunities for and constraints to economic development. They are for demonstration purposes only and to be used as building blocks for value chain models. The analysis presents typical dairy sub-sector farm and enterprise models that then compose a representative milk production/collection/processing value chain. Moreover, the value chain model estimates average incremental net benefits per USD 1 of investments that would be used for the calculation of an overall incremental benefit stream of the programme.

A. Programme benefits

4. The programme is expected to lead to increased income of farmers, both dehkan and private and household and rural entrepreneurs. Benefits would accrue from: (i) increased fodder crop yields and livestock productivity due to the application of improved inputs/technology and enhanced husbandry; (ii) an increased proportion of marketed farm produce; (iii) reduced losses during production and processing of dairy produce through innovative technology; (iv) improved quality of products, thus attracting higher prices as a result of the demand by processors for more reliable outputs; (v) enhanced access to longer-term credit; (vi) increased employment, either for hired or family labour, for both on-farm and off-farm activities; and (vii) 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 programme will promote directly through the VC development, thus improving the market access, supporting marketing linkages and private sector development, and generally creating a favourable economic environment that encourages farmers/rural entrepreneurs to produce more competitive products.

B. Financial analysis

5. A number of indicative economic activities, which may be supported by DVCDP were identified during the design process. Six illustrative models were prepared to demonstrate the financial viability of potential investments: two dekhan farm models, two private farm models, and two rural enterprise models. All models show the prospective benefits and rate of return derived from the access to required financing (loans), training, demonstrations and advisory services. These models were used as building blocks for the dairy value chain model (VCM).

6. The basis of this analysis is an illustration of the interrelationships between the primary producers and the rural enterprises in the value chain potentially to be supported by DVCDP. Specifically, the dairy VCM describes expansion of dairy herds due to improved access to finance, improved breeds and husbandry leading to a greater productivity of livestock to meet the demand for milk from dairy processors via collection centres.

C. Key assumptions

7. The parameters for the models are based on information gathered during the design missions: interviews with farmers and entrepreneurs, information from the donor agencies operating in Uzbekistan and the on-going HSP and mission 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.

8. Prices. Prices for commodities/inputs reflect annual average and those actually paid/received by the farmer/entrepreneur, and imply potential risks. A list of prices used in the analysis is found in Table 1, Working Paper on FEA (Programme file).

9. Interest. In line with the terms of the on-going HSP, loans to end borrowers would be provided based on the CBU's interest rate, which is about 9% for long-term loans, while the analysis applies an 18% interest rate for agricultural short-term loans (1.5% per month) that is currently prevailing in Uzbekistan.

10. Lending Terms. The length of the seasonal or short-term loans is up to one year. Long-term loans are expected to be repaid in equal instalments over an up to a five-year period, depending on the investment. The long-term loans were assumed to have a one-year grace period. Interest on the entire amount outstanding would be paid during the grace period.

11. Farm/Enterprise Characteristics. The models show only incremental revenues and costs generated by the new investment. In each case, the result of the investment translates into additional demand for produce from primary producers and new permanent jobs.

12. Internal Rate of Return. The internal rate of return (IRR) of 9% is used in this analysis to assess the viability and robustness of investments.[68] The selection criterion for the IRR is to accept all programmes for which the IRR is above the opportunity cost of capital, i.e. 9%. Using the IRR as the measure, the models' sensitivity to the changes in parameters can be assessed by varying the cost of investments, production costs and revenues.

13. More details on production and financial parameters for the models are found in Tables 2-7, Working Paper on EFA (Programme files).

[68] The IRR is a measure of the projects worth that in this case compares the return on the investment with the best alternative use of the funds, i.e. a CBU's refinancing rate.

D. Farm/rural enterprise models

14. A detailed description of the farm/rural enterprise models is provided within the section on value chain model and Tables 2-7 of Working Paper on EFA (Programme files), while the summary is presented in Tables 1 and 2 below.

Table 1: Farm/Rural Enterprise Models - Estimated Costs and Annual Net Benefit

Farm Models	Estimated Investment Costs (US$)			Annual Net Benefits at Full Development (US$)			Incremental annual net benefits per 1US$ of investment (US$)	IRR (%)	NPV (US$)	Return to family labour, US$/day
	Loan	Beneficiary Contribution	Total	Without Programme	With Programme - Full Development	Incremental				
Dekhan Farmer 1 (3 to 5 cows)	3 104	776	3 880	137	2 770	2 633	0,68	20%	3 350	15
Dekhan Farmer 2 (5 to 10 cows)	13 040	3 260	16 300	138	8 453	8 314	0,51	26%	16 660	33
Private Farmer 1 (30 to 50 cows)	52 160	13 040	65 200	5 773	34 098	28 325	0,43	23%	53 127	100
Private Farmer 2 (50 cows)	24 000	6 000	30 000	102	28 836	28 734	0,96	92%	122 901	84
Milk Collection	20 000	5 000	25 000	0	6 750	6 750	0,27	26%	16 255	
Milk Processing	192 000	48 000	240 000	10 000	115 596	105 596	0,44	54%	405 288	

Table 2: Farm/Rural Enterprise Models - Financial Results, Ratios and Switching Values

Models	Switching Values %, after loan repayments *			
	Incremental Revenues	Incremental Production Costs	Incremental Investment Costs	Incremental Outflows
Dekhan Farmer 1 (3 to 5 cows)	-11%	12%	92%	8%
Dekhan Farmer 2 (5 to 10 cows)	-21%	27%	120%	18%
Private Farmer 1 (30 to 50 cows)	-11%	12%	85%	8%
Private Farmer 2 (50 cows)	-58%	203%	361%	23%
Milk Collection	-1%	1%	64%	1%
Milk Processing	-10%	11%	124%	9%

* The switching values show percentage by which the costs would need to rise or benefits decrease before the NPV reached zero, associated with each of the values
(at 9% opportunity costs)

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-programme situation: (ii) sufficient benefit/cost ratios illustrating the worthiness of the investments. The NPV ranges from US$ 3,350 to US$ 405,288, while, the IRRs from 20% to more than 50%, which are more conservative compared to those estimated for similar operations in neighbouring Tajikistan, Kyrgyzstan 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, except for the milk collection, would remain attractive even if costs increase or benefits decrease. This investment would require a more careful analysis of risks associated with supply, however, it is likely that the increase in the input price of milk would lead to a rise in the output price.

16. The indicative models both at farm and rural enterprises show a positive impact on employment. Hired labour details for each of the models are described below. Favourable cash flows from the possible programme financed investments indicated that the improvements in incomes at the farm/rural 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 value chain investment.

E. Value chain model

17. This section provides an example of the practical application of the VC approach as well as the findings of the analysis for the dairy value chain. It intends to provide an indication of how the VC approach would be applied in the context of implementation of DVCDP. As such, it does not represent the only element or indication for supporting particular enterprises, sub-sectors and/or activities and would have to be assessed in conjunction with the other DVCDP eligibility criteria. Moreover, the model takes into account only the incremental revenues and labour opportunities generated by participating farmers and processors, and do not consider those that might be generated by the "extended value chain".

18. The programme management, however, would be required to have a broader perspective for its planning purposes, taking into account potential value chains, social needs, land management, environmental concerns, etc. balancing between the needs of one value chain with those of others and the aspirations of potential beneficiaries. It is expected that a thorough analysis of constraints and opportunities would lead to the type of decisions/response required for the potential value chains.

19. The model describes the interrelationships between the milk producers, milk collectors and dairy processor in the dairy value chain. It is assumed that improved access to finance enable the primary producers to purchase high breeds and improved inputs thus leading to a rise in milk production for satisfying the demand by the processing facility via collection centres.

20. Table 3 below indicates the constraints identified under this VC together with the possible DVCDP responses.

Table 3: Constraints to Dairy Value Chain and Possible LVCDP Response

Infrastructure	Finance
Constraints	**Constraints**
▪ Lack of appropriate transport facilities ▪ Poor roads	▪ Limited access to finance to invest in breeding improvement ▪ Limited access to finance to invest in improved technology ▪ Lack of finance to improve and increase production of milk ▪ High collateral requirements
Response	Response
▪ Assistance to communities to identify potential sources of finance for infrastructure programmes	▪ Improved access to short-term and long-term financing ▪ Provision of information on commercial sources of credit ▪ Business/management training of potential borrowers ▪ Assistance with business plans/loan applications
Primary Production	**Processing/Linkage**
▪ Lack of land for fodder crops ▪ Low quality of breeding stock ▪ Difficulties in disease control and vaccination ▪ Poor quality control of milk and meat ▪ Low and insufficient use of modern inputs	▪ Inadequate supply of milk (both quantity, quality and stability) ▪ Obsolete processing technologies ▪ Limited hygienic conditions in processing units and poor animal health services ▪ Poor storage facilities (unhygienic) ▪ Limited storage facilities for milk prior to delivery to the retailers ▪ Lack of formal contractual agreements between processors and traders ▪ Lack of wholesale and collection points
Response	**Response**
▪ Business promotion meetings to facilitate exchanges that, e.g.: o help dekhan farmers to benefit from access to private farmers' land after harvest and provision of extension services by them o in turn, help private farmers to have access to innovations and soft-term loans through DVCDP o help processors match their requirements to producer capacities; o link input suppliers with producers, producers with financial institutions ▪ Skills enhancement: o through knowledge/information transfer/training	▪ Skills enhancement: o through knowledge/information transfer/training ▪ Technical support/assistance in identifying suitable technologies, new products and strengthening animal health services; ▪ Business promotion meetings to facilitate exchanges that, e.g.: o contribute to improving industry standards on hygiene, packaging, etc. o link producers, traders and processors o support/formalise common interest groups as a basis for improved negotiating position in supply value chains (through demonstrations and access to soft loans)

Note: DVCDP possible responses are shown in *italics*

21. This model demonstrates cooperation between the farmers who decided to increase and improve their dairy herds, the newly established milk collection centres and the enterprise, which is investing in expansion of its facility and development of new products.

22. Milk Processing. The total investment of the facility would be around UZS 600 billion or US$ 240,000. This would allow the enterprise to annually process 1 200 tons of milk (from 500 ton WOP) into 72 ton of tvorog (light cottage cheese), 40 ton of yellow cheese, 48 ton of sour cream and 120 ton of kefir (local yogurt), while WOP the processor produces only 50 ton of tvorog, 40 ton of sour cream and 50 ton of kefir. The investment would be financed through own contribution of UZS 120 billion (US$ 48,000) and a long-term loan of around UZS 480 billion (US$ 192,000) in Y1 as well as the provision of technical advice. Additional financing requirements include a short-term lending (UZS 260 billion) for six months to maintain the operations between producing-to-stock and sales. The investment would lead to incremental annual net benefits derived from sales of dairy products of a required quality reaching UZS 264 billion at full development (about US$ 105,596 in Y3).

23. Milk Collection. The processors in the programme area are interested in stable supply of raw milk and are currently operating below capacity; however, dekhan farmers produce relatively small volumes of milk and often of inconsistent quality. Yet, farmers have limited opportunities to market their dairy products profitably. Setting up MCCs to supply bulk quantities of raw material to the processors could be a solution. By participating in the programme's extension programme, local livestock producers would be able to ensure that animals are healthy and can provide quality milk to the standards required by the processors. It is envisaged that MCC would be legal entities through cooperation (shareholding) with processors or/and private farmers to overcome the issue of accessing financial services and to ensure formal contractual arrangements/obligations.

24. The model developed for this initiative indicates the likely returns over time to a group of 41 farmers obtaining an investment package for setting up a collection/cooling centre amounting to about UZS 62.5 billion (USD 25 000). The investment would be financed through own contribution of UZS 12.5 billion (USD 5,000) and a long-term loan of around UZS 50 billion (USD 20,000) in Y1. Additional financing requirements include a short-term lending (UZS 54 billion) for three months to maintain the operations. The model demonstrates that at the indicative price margin of 10%, an MCC supplying 2 tons/day of milk for 300 days would have an annual incremental benefit of UZS 16.9 billion (about USD 6,750).

25. Milk Production. The viability of the above investments would dependent on the assurance of a stable production of quality milk by the farmers. It is assumed that 70 dekhan farmers would invest in expansion of their herds from 3 to 5 cows (improved local breed), 12 dekhan farmers would increase number of cows from 5 to 10 (pure breed), one private farmer increase his herds from 30 to 50 cows (pure breed) and one private farmer with 50 cows would invest in a modern fodder preparation equipment and technology to increase efficiency of feeding (high DM/protein content) and optimize costs. They would collectively produce 1 200 tons of milk per year, equivalent to about UZS 1,200 billion.

26. With respect to the individual dekhan farmers' investment, it is assumed that a long-term loan of UZS 7.76 billion (USD 3,104) and UZS 32.6 billion (USD 13,040) would be used by the producers to finance an investment for 2 and 5 high breed heifers respectively, construction of a shed, quality feed and veterinary services. This would allow producing between about 10 255 and 30 210 litres of milk for sale per year by individual farmers. One private farmer would attract a long-term loan of UZS 130.4 billion (USD 52,160) to construct a shed and to purchase 20 high breed cows, quality feed and veterinary services. Another private farmer would use a long-term loan of UZS 60 billion (US$ 24,000) to procure innovative equipment and technology (TA) to produce high DM/protein content concentrated feed leading to higher milk yields. These investments would result in incremental annual net benefits of around UZS 6.6-20.8 billion (USD 2,633-8,314) per dekhan farmer and around UZS 71 billion (USD 28,000) per private farmer.

27. The value chain model shows NPV of US$ 2.3 million and IRR of 34%. In addition, the investment would lead to the creation of about additional 12 full-time jobs at the enterprise and 4,645 person-days of hired labour at farm level (or 18 persons). Table 4 summarizes the expected results for this model.

28. Summary of Value Chain Analysis. This analysis demonstrates the type of procedure that would be used by the programme implementation unit in assessing the potential of proposed investments, both from a poverty alleviation point of view as well as economic potential. The main indicators of the value chain analysis are summarised in Table 4 below.

Table 4: Summary of Dairy Value Chain Model

Indicator	Value
Total Number of Direct Beneficiaries	120
of whom:	
→ Farmers	84
→ On-farm hired labour	18
→ Labourers	18
Total Incremental Investments (000'US$)	852
of which:	
→ Beneficiary contribution/loan	170
Incremental Annual Benefits at Full Development (000'US$)	
Total	460
Farmers	341
VCM NPV (000'US$)	2 296
VCM IRR	34%
Weighted Annual Incremental Net Benefits per US$ Investment (US$) at Full Development	0,54

29. Considering the above model as representative, it is estimated that in terms of hardware investments the programme would reach around 3,751 direct beneficiaries, including 2,604 dekhan/private farmers (2,542/62), 1,116 labourers and 31 entrepreneurs. About two-third of the overall incremental benefits would flow to the smallholder farmers, and the share of their marketed produce would grow by at least 50%. Thanks to the improved breeding and feeding activities, milk yields would grow by at least 25%. It is also estimated that after completion the programme would annually generate around US$ 715 thousand of additional income into the government budget in terms of incremental taxes.

30. In line with the programme and government goals for economic development the programme management would define an approach that takes into account opportunities available and the constraints recognised across the sub-sector (e.g. those in Tables 3 above). Programme management' role would evolve from provision of services and financing to facilitation and identification of sources of supply. Such an approach would be more sustainable over the long-term as it would not be limited by the finite resources available under DVCDP.

F. Economic analysis

31. DVCDP does not lend itself to the traditional economic analysis of development programmes, i.e. to aggregate benefits from specific households taking up pre-defined packages of interventions as compared to programme costs. In the presented case, the representative value chain model could be used to estimate potential returns to USD 1 of economic investments. The potential range of opportunities for economic advancement in the country is greatly varied throughout the area, and it is anticipated that farmers and rural entrepreneurs would encourage diversity in order to accelerate economic advancement. The programme would support farmers and entrepreneurs to identify those opportunities, thus generating investments beyond those included in programme costs.

32. Prices for majority of local goods were converted into their approximate economic values using a Standard Conversion Factor (SCF) of 0.9 as estimated by the World Bank, and could be justified by the strong government self-sufficiency policy, and as a result a very closed Uzbek economy that is not affected by the world markets. Milk could be considered as a non-tradable commodity as its import constitutes only a fraction in the total production, around 0.6% in value terms. However, an attempt was made to calculate the economic price of milk, which also confirmed no difference with the financial price. Imported inputs and finished dairy products were converted into economic values by deducting the VAT of 20%. The derivation and a summary of economic prices are presented in Table 1 to EFA WP.

33. Opportunity Cost of Labour. A daily wage rate of UZS 15,000 has been assumed for family labour in Economic Analysis as a prevailing labourer rate during the off-season.

34. Benefit Stream. The analysis attempts to identify quantifiable benefits that relate directly to the activities undertaken following implementation of the components, or that can be attributed to the programme's implementation.

35. The illustrative model described above has been used for the calculation of the overall benefit stream, on the basis of economic prices. The summary of economic benefits of the demonstrated value chain model is presented in Table 5, while the details could be found in the previous sections.

Table 5: Summary of Dairy VCM (Economic)

Indicator	Value
Total Incremental Investments (000'USD)	745
Incremental Annual Benefits at Full Development (US$)	372
VCM NPV (000'USD)	1,651
VCM IRR, (%)	28%
Annual Incremental Net Benefits per US$ Investment (US$) at Full Development, USD	0.5

36. In calculating the overall benefits from the model, the following was taken into account:

- Considering the above example as a reasonable assumption of the VC likely to be implemented, an estimated average incremental annual net benefit per 1 US$ of investments is used.
- In particular, an average indicator for the incremental annual net benefits per USD 1 of investments equals to USD 0.5.
- The incremental net benefits were calculated by multiplying this indicator with the amount of estimated investments, but considering the gradual increase of such benefits over the period of nine years.
- An 80 per cent success rate was applied to the models, i.e. it is assumed that only 80% of the investments would achieve the estimated returns.
- The benefits of the VC are calculated for the period of twenty years.
- No financing flows have been undertaken in the calculations as they are either already reflected in the programme costs (the DVCDP financing and beneficiary's contribution for the investment costs) or represent transfer payments (taxes).

37. Cost **Stream.** 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 DVCDP completion. O&M costs have been counted in the calculation of the net incremental benefits of the value chain model. The total economic cost of the programme amounts to about USD 37 million.

Results of the Analysis

38. **Overall Estimated Return of the Proposed Programme**. The period of analysis is 20 years to account for the phasing and gestation period of the proposed interventions. Given the above benefit and cost streams, the base case internal rate of return (IRR) is estimated at 18 per cent. The base case net present value of the programme's net benefit stream, discounted at 9 per cent, is USD 24 million. The summary of economic analysis is presented in Table 7.

39. 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 below. A fall in total programme benefits by 20 per cent and an increase in total programme costs by the same proportion would reduce the base IRR to about 12 per cent.

40. The switching value for total programme benefits is about 47 per cent; while for programme costs it is approximately 88 per cent. A one-year delay in programme benefits reduces the IRR to 16 per cent. With a two-year delay in programme benefits, the IRR falls to approximately 13 per cent.

Table 6: Sensitivity Analysis

Sensitivity Analysis (20-year period)	Base case	Costs Increase			Increase of Benefits		Decrease of Benefits			Delay of Benefits	
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	- 30%	1 year	2 years
IRR (%)	18,2%	17%	15%	12%	20%	21%	17%	15%	13%	16%	13%
NPV (000'USD)	23 962	21 242	18 521	10 360	29 079	34 196	18 846	13 729	8 612	18 022	12 572

41. Risk Analysis. Market and rural finance risks associated with the Programme (described in the section on Risks of the Main Report) may lead to the reduced economic returns. Lack of capacity in implementing agencies and beneficiaries to effectively participate in Programme may result in the delay of realization of benefits. The described above sensitivity analysis allows for the following reservations: the Programme would be economically viable even if benefits decreased by 47% or realization of benefits delayed by 2 years.

42. Greenhouse gas emission. It is expected that the Programme would be reducing GHG emissions as it promotes the “less animals, better animals” concept, while the technology innovation sub-programmes are expected to address environmental issues related to fodder production including pasture monitoring, management and reinforcement and manure management for nitrogen cycle control.

Carbon Appraisal of IFAD Dairy Value Chains Development Programme (DVCDP) in Uzbekistan

Introduction

1. The present annex provides a **Carbon Appraisal analysis** of dairy sector, estimating and targeting mitigation in agriculture with the EX-Ante Carbon Balance Tool (EX-ACT). The paper focuses on the analysis of key constraints to increasing agricultural productivity and enhancing the dairy value chains and thus increasing incomes of DFs and small PFs.

Overview and Analysis of Livestock Sector

Farming systems in Uzbekistan

2. There are three types of farms present in Uzbekistan: (i) Dehkan Farms; (ii) Private (Peasant) Farms; and (iii) Shirkats.

3. **Dehkan Farms (DF).** A typical dehkan farmer owns a household plot of 0.2-0.4 ha, 1-2 cattle and 5-10 small ruminants. The majority of DFs are subsistence (non-commercial) farmers seeking to ensure their own food security as a matter of priority. The MASHAV report however indicates that only 25.1% of income derived from sales and consumption of agricultural produce from household plots, 40% from non-agricultural employment and entrepreneurial activities, 15% from agricultural employment and labour migration, 10.4% from retirement and disability pensions, and 9.5% from allowances for disadvantaged families, including children and other income. Usually the household plot size is just sufficient to produce basic food supplies for the family (wheat, vegetables and fruits) and no or little land is available for producing fodder. The fodder ration typically consists of straw and meadow hay. Some Lucerne may be grown in between orchard trees. Some larger dehkan farms with the bigger number of cattle (5-10 heads) may own extra land outside the village to produce fodder for their livestock and produce a surplus of milk and meat which is supplied to the market or processors... Since the land resources are scarce and all lands have already been distributed, the access to additional land resources remains problematic thus limiting the ability of DFs to expand their production i.e. increase livestock numbers or milk production. The majority of DFs have no legal status, with an estimated 1/3 of DFs are considered as legal entities. Despite their small size (land and livestock), the DFs own over 90% of cattle and small ruminants and are responsible for 95% of milk and meat output in the country. The cattle breeds owned by DFs have low productivity (4-5 liters/day). There are about 455,440 DFs in Kashkadarya oblast and 153,383 DFs in Jizzakh oblast.

4. **Private Farms (PF).**On average a typical livestock private farm owns a land plot of 10-20 ha of irrigated land, 30-60 dairy/meat cattle and some ruminants. The land is allocated on a per-head basis (0.35 ha per cattle) and is used for producing fodder (Lucerne, oats, triticale, corn, turnip, sugar beet, barley etc.).The majority of PFs are specialized in dairy production and the extra land is specifically allocated by the government for this purpose. Some larger PFs import high quality pedigree cattle (mostly heifers) and cross breed them with the well-known local breed called “Bushuev”. The average price of imported animals is about UZS 8 million/head. The NGO “NaslHizmat” is in charge of importing animals and has customs duty exemption for imported stock. The countries of origin include Germany, Poland, Austria and Ukraine. Some PFs and DFs use semen supplied by the Joint Polish Uzbek AI company to inseminate the Bushuev and other local breeds. The results are encouraging and lead to higher milk yields average around 16 liters/day. The PFs are seen by the government as the drivers of economic growth in agriculture leading to greater food security in the country. Therefore currently the government priority is to attract investments (programme/private) to enable PFs to expand their milk/meat production. In addition such PFs are given a priority in allocating land resources and have access to various credit lines at low interest rates (usually at national bank’s re-financing rate plus government’s and lending bank’s costs). There are about 9,492 PFs in Kashkadarya oblast of which 605 are livestock PFs. There are 459 livestock PFs Jizzakh oblast.

5. **Shirkat.** The shirkat farms were remnants of the former collective farms and are virtually not present at the moment, except for the Karakul sheep breeding company which still has 103 shirkats looking after 1.5 million karakul sheep in the country. A typical shirkat farm is state owned and often owns key resources: land, irrigation network and provides veterinary services to neighboring DFs.

Dairy population of Kashkadarya and Jizzakh oblasts

6. The programme target area includes two oblasts – Jizzakh and Kashkadarya. The total number of cattle in Uzbekistan is 10,607,000 heads, including 4,020,500 milking cows. The total number of small ruminants (sheep/goats) in the country is around 17 million heads. The population of dairy cows in Kashkadarya oblast is 448,600 heads (11% of country's total) and in Jizzakh oblast - 231,200 heads (6% of country's total). Of the total dairy cattle in Kashkadarya oblast 426,400 heads belong to dehkan farms (95% of oblast's total); 17,200 heads to private farms (3.9% of oblast's total); and 5,000 heads to shirkats (1.1% of oblast's total). Likewise of the total dairy cattle in Jizzakh oblast 221,200 heads belong to dehkan farms (96% of oblast's total), 8,500 heads to private farms (3.7% of oblast's total) and 1,500 heads to shirkats (0.3%of oblast's total). The two oblasts have dairy/meat processing facilities and a high potential for taking up the incremental production.

Table 1.Dairy population of Kashkadarya and Jizzakh oblasts

Region/Country	Total cattle (head)	Total dairy cows (head)	Owned by DFs (head)	Owned by PFs (head)	Owned by shirkats (head)
Kashkadarya	1,267,700	448,600	426,400	17,200	5,000
Jizzakh	749,900	231,200	221,200	8,500	1,500
Uzbekistan	10,607,000	4,020,500	3,799,600	186,300	34,600

Kashkadarya Oblast

7. The population of dairy cows in kashkadarya oblast is 448,600 heads Considering only improvements on livestock of 20% in feeding practices of the cattle and 20% of improve of breading, could provide a mitigation impact of 74,781 tons CO2 on 10 years, or 7,478 tons CO2 per year.

4.2. Livestock (and manure management)

Livestock categories	Head number (mean per year)					Technical mitigation option (%)								
	Start	Without project	*	With project	*	Feeding practices*			Specific Agents*			Breeding*		
						Start	Without	With	Start	Without	With	Start	Without	With
Dairy cattle	448,600	448,600	D	448,600	D	0%	0%	20%	0%	0%	0%	40%	40%	60%
Other cattle			D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buffalo	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sheep	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%
Swine (Market)	0	0	D	0	D	Feeding practices: e.g. more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality,...			Specific agents: specific agents and dietary additives to reduces CH4 emisisons (Ionophores, vaccines, bST...)			Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers)		
Swine (Breeding)	0	0	D	0	D									
Please select			D		D									
Horses	0	0	D	0	D									
Goats	0	0	D	0	D									

Project Name	Kashkadarya	Climate	Warm Temperate (Dry)	Duration of the Project (Years)	10
Continent	Asia (Continental)	Dominant Regional Soil Type	HAC Soils	Total area (ha)	0

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq Positive = source / negative = sink										
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	0	0	0	0		0	0	0	0	0
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	8,506,224	8,431,444	-74,781				0	-74,781	850,622	843,144	-7,478
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0		0	0	0
Total	8,506,224	8,431,444	**-74,781**	0	0	0	0	-74,781	850,622	843,144	-7,478
Per hectare	0	0	0	0.0	0.0	0.0	0.0	0.0			
Per hectare per year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Dehkan Farms in Kashkadarya Oblast

8. The population of dairy cows in kashkadarya oblast is 448,600 heads. Of that total 426,400 heads belong to dehkan farms, and improvement of 20% in feeding practices of the cattle and 20% of improve of breading, could provide a mitigation impact of 71,080 tons CO2 on 10 years, or 7,108 tons CO2 per year.

4.2. Livestock (and manure management)

Livestock categories	Head number (mean per year) Start	Without project		With project		Technical mitigation option (%) Feeding practices* Start	Without	With	Specific Agents* Start	Without	With	Breeding* Start	Without	With	Production (meat, milk, etc) in tonnes of product per year Start	Without	With	Total Emissions (tCO2eq) Without	With	Balance
Dairy cattle	426,400	426,400	D	426,400	D	0%	0%	20%	0%	0%	0%	40%	40%	60%	1.4	1.4	1.8	8,085,274	8,014,194	-71,080
Other cattle			D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Buffalo	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Sheep	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Swine (Market)	0	0	D	0	D	Feeding practices: e.g. more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality,...			Specific agents: specific agents and dietary additives to reduces CH4 emissions (enophores, vaccines, bST...)			Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers)						0	0	0
Swine (Breeding)	0	0	D	0	D													0	0	0
Please select			D		D													0	0	0
Horses	0	0	D	0	D													0	0	0
Goats	0	0	D	0	D													0	0	0
Total Livestock																		8,085,274	8,014,194	-71,080

Project Name	Kashkadarya	Climate	Warm Temperate (Dry)	Duration of the Project (Years)	10
Continent	Asia (Continental)	Dominant Regional Soil Type	HAC Soils	Total area (ha)	127920

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq Positive = source / negative = sink										
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	0	0	0	0		0	0	0	0	0
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	8,085,274	8,014,194	-71,080				0	-71,080	808,527	801,419	-7,108
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0		0	0	0
Total	8,085,274	8,014,194	**-71,080**	0	0	0	0	-71,080	808,527	801,419	-7,108
Per hectare	63	63	-1	0.0	0.0	0.0	0.0	-0.6			
Per hectare per year	6.3	6.3	-0.1	0.0	0.0	0.0	0.0	-0.1	6.3	6.3	-0.1

9. Taking into account an increasing of 25% on milk yield the production will increase of 5'969,600 ton milk to 7'163,520 ton milk in 10 years. In terms of emissions the gross emission intensity will decrease from 1.35 ton CO_{2eq} to 1.1235 ton CO_{2eq}.

Production t of product		Gross emission intensity tCO2eq per t of product	
Without	With	Without	With
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
5,969,600	7,163,520	1.35	1.12
5,969,600	7,163,520	1.35	1.12

Private Farms in Kashkadarya Oblast

10. The population of dairy cows in kashkadarya oblast is 448,600 heads. Of that total 17,200 heads belong to private farms, and improvement of 20% in feeding practices of the cattle and 20% of improve of breading could provide a mitigation impact of 2,867 tons CO_2 on 10 years, or 287 tons CO_2 per year. In addition an improve in their fodder crops practices (like crop rotation and no till), could provide a mitigation impact of 20,963 tons CO_2 on 10 years or 2,096 tons CO_2 per year.

11. In total both programmes could provide a mitigation impact of 23,830 tons CO_2 on 10 years or 2,383 tons CO_2 per year.

3.1.2. Annual systems remaining annual systems (total area must remain constant)

Fill with your description	Management options: Improved agronomic practices	Nutrient management	NoTill./residues management	Water management	Manure application	Residue/ biomass burning	Yield? Yield (t/ha/yr)	Area (ha) Start	Without	*	With	*	Total Emissions (tCO2-eq) Without	With	Balance
fodder	Yes	?	Yes	?	?	NO		0	0	D	9075	D	0	-20,963	-20,963
fodder without	?	?	?	?	?	NO		9075	9075	D	0	D	0	0	0
description 3	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 4	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 5	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 6	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 7	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 8	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 9	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 10	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
							Total (ha)	9075	9075		9075				

Tier 2

* Note concerning dynamics of change : "D" corresponds to default/linear, "I" to immediate and "E" to exponential (Please refer to the guidelines)

Total Annual Systems	0	-20,963	-20,963

4.2. Livestock (and manure management)

Livestock categories	Head number (mean per year) Start	Without project	*	With project	*	Technical mitigation option (%) Feeding practices* Start	Without	With	Specific Agents* Start	Without	With	Breeding* Start	Without	With	Production (meat, milk, etc) in tonnes of product per year Start	Without	With	Total Emissions (tCO2-eq) Without	With	Balance
Dairy cattle	17,200	17,200	D	17,200	D	0%	0%	20%	0%	0%	0%	40%	40%	60%	5.8	5.8	7.3	326,141	323,274	-2,867
Other cattle			D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Buffalo	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Sheep	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Swine (Market)	0	0	D	0	D	Feeding practices: e.g. more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality,...			Specific agents: specific agents and dietary additives to reduces CHI emissions (ionophores, vaccines, bST...)			Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers)						0	0	0
Swine (Breeding)	0	0	D	0	D													0	0	0
Please select			D		D													0	0	0
Horses	0	0	D	0	D													0	0	0
Goats	0	0	D	0	D													0	0	0

Total Livestock	326,141	323,274	-2,867

Project Name	Kashkadarya	Climate	Warm Temperate (Dry)	Duration of the Project (Years)	10
Continent	Asia (Continental)	Dominant Regional Soil Type	HAC Soils	Total area (ha)	9075

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq Positive = source / negative = sink										
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	-20,963	-20,963	0	-20,963		0	0	0	-2,096	-2,096
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	326,141	323,274	-2,867				0	-2,867	32,614	32,327	-287
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0		0	0	0
Total	326,141	302,311	-23,830	0	-20,963	0	0	-2,867	32,614	30,231	-2,383
Per hectare	36	33	-3	0.0	-2.3	0.0	0.0	-0.3			
Per hectare per year	3.6	3.3	-0.3	0.0	-0.2	0.0	0.0	0.0	3.6	3.3	-0.3

12. Taking into account an increasing of 25% on milk yield the production will increase of 997,600 ton milk to 1'178,200 ton milk in 10 years. In terms of emissions the gross emission intensity will decrease from 0.33 ton CO_{2eq} to 0.26 ton CO_{2eq} .

Production t of product Without	With	Gross emission intensity tCO2eq per t of product Without	With
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
997,600	1,178,200	0.33	0.27
997,600	1,178,200	0.33	0.26

Jizzakh Oblast

13. The population of dairy cows in Jizzakh oblast is 231,200 heads. Considering only improvements on livestock of 20% in feeding practices of the cattle and 20% of improve of breading these programmes could provide a mitigation impact of 38,541 tons CO2 on 10 years, or 3,854 tons CO2 per year.

4.2. Livestock (and manure management)

Livestock categories	Head number (mean per year) Start	Without project		With project		Technical mitigation option (%) Feeding practices* Start	Without	With	Specific Agents* Start	Without	With	Breeding* Start	Without	With	Production (meat, milk, etc) in tonnes of product per year Start	Without	With	Total Emissions (tCO2-eq) Without	With	Balance
Dairy cattle	231,200	231,200	D	231,200	D	0%	0%	20%	0%	0%	0%	40%	40%	60%				4,383,948	4,345,407	-38,541
Other cattle			D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Buffalo	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Sheep	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Swine (Market)	0	0	D	0	D	Feeding practices: e.g. more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality,...			Specific agents: specific agents and dietary additives to reduces CH4 emissions (bnophores, vaccines, bST...)			Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers)						0	0	0
Swine (Breeding)	0	0	D	0	D													0	0	0
Please select			D		D													0	0	0
Horses	0	0	D	0	D													0	0	0
Goats	0	0	D	0	D													0	0	0
																		Total Livestock	4,383,948	4,345,407	-38,541

Project Name	Jizzakh	Climate	Warm Temperate (Dry)	Duration of the Project (Years)	10
Continent	Asia (Continental)	Dominant Regional Soil Type	HAC Soils	Total area (ha)	9075

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq Positive = source / negative = sink										
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	0	0	0	0		0	0	0	0	0
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	4,383,948	4,345,407	-38,541				0	-38,541	438,395	434,541	-3,854
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0		0	0	0
Total	4,383,948	4,345,407	**-38,541**	0	0	0	0	-38,541	438,395	434,541	-3,854
Per hectare	483	479	-4	0.0	0.0	0.0	0.0	-4.2			
Per hectare per year	48.3	47.9	-0.4	0.0	0.0	0.0	0.0	-0.4	48.3	47.9	-0.4

Dehkan Farms in Jizzakh Oblast

14. The population of dairy cows in Jizzakh oblast is 231,200 heads. Of that total 221,200 heads belong to dehkan farms, and improvement of 20% in feeding practices of the cattle and 20% of improve of breading could provide a mitigation impact of 36,874 tons CO2 on 10 years, or 3,687 tons CO2 per year.

4.2. Livestock (and manure management)

Livestock categories	Head number (mean per year) Start	Without project		With project		Technical mitigation option (%) Feeding practices* Start	Without	With	Specific Agents* Start	Without	With	Breeding* Start	Without	With	Production (meat, milk, etc) in tonnes of product per year Start	Without	With	Total Emissions (tCO2-eq) Without	With	Balance
Dairy cattle	221,200	221,200	D	221,200	D	0%	0%	20%	0%	0%	0%	40%	40%	60%				4,147,879	4,111,005	-36,874
Other cattle			D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Buffalo	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Sheep	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Swine (Market)	0	0	D	0	D	Feeding practices: e.g. more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality,...			Specific agents: specific agents and dietary additives to reduces CH4 emissions (bnophores, vaccines, bST...)			Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers)						0	0	0
Swine (Breeding)	0	0	D	0	D													0	0	0
Please select			D		D													0	0	0
Horses	0	0	D	0	D													0	0	0
Goats	0	0	D	0	D													0	0	0
																		Total Livestock	4,147,879	4,111,005	-36,874

Project Name	Jizzakh	Climate	Warm Temperate (Dry)	Duration of the Project (Years)	10
Continent	Asia (Continental)	Dominant Regional Soil Type	HAC Soils	Total area (ha)	9075

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq Positive = source / negative = sink										
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	0	0	0	0		0	0	0	0	0
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	4,147,879	4,111,005	-36,874				0	-36,874	414,788	411,101	-3,687
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0		0	0	0
Total	4,147,879	4,111,005	**-36,874**	0	0	0	0	-36,874	414,788	411,101	-3,687
Per hectare	457	453	-4	0.0	0.0	0.0	0.0	-4.1			
Per hectare per year	45.7	45.3	-0.4	0.0	0.0	0.0	0.0	-0.4	45.7	45.3	-0.4

15. Taking into account an increasing of 25% on milk yield the production will increase of 3'096,800 ton milk to 3'716,160 ton milk in 10 years. In terms of emissions the gross emission intensity will decrease from 1.34 ton CO_{2eq} to 1.11 ton CO_{2eq}.

Production t of product		Gross emission intensity tCO2eq per t of product	
Without	With	Without	With
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
3,096,800	3,716,160	1.34	1.11
3,096,800	3,716,160	1.34	1.11

Private Farms in Jizzakh Oblast

16. The population of dairy cows in kashkadarya oblast is 448,600 heads. Of that total 17,200 heads belong to private farms, and improvement of 20% in feeding practices the cattle and 20% of improve of breading could provide a mitigation impact of 2,867 tons CO_2 on 10 years, or 287 tons CO_2 per year. In addition an improve in their fodder crops practices (like crop rotation and no till), could provide a mitigation impact of 20,963 tons CO_2 on 10 years or 2,096 tons CO_2 per year.

17. In total both programmes could provide a mitigation impact of 23,830 tons CO_2 on 10 years or 2,383 tons CO_2 per year.

4.2. Livestock (and manure management)

Livestock categories	Head number (mean per year) Start	Without project	*	With project	*	Technical mitigation option (%) Feeding practices* Start	Without	With	Specific Agents* Start	Without	With	Breeding* Start	Without	With	Production (meat, milk, etc) in tonnes of product per year Start	Without	With	Total Emissions (tCO2-eq) Without	With	Balance
Dairy cattle	8,500	8,500	D	8,500	D	0%	0%	20%	0%	0%	0%	40%	40%	60%	5.8	5.8	7.3	159,390	157,973	-1,417
Other cattle			D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Buffalo	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Sheep	0	0	D	0	D	0%	0%	0%	0%	0%	0%	0%	0%	0%				0	0	0
Swine (Market)	0	0	D	0	D	Feeding practices: e.g. more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality,...			Specific agents: specific agents and dietary additives to reduces CH4 emissions (bnophores, vaccines, bST...)			Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers)						0	0	0
Swine (Breeding)	0	0	D	0	D													0	0	0
Please select			D		D													0	0	0
Horses	0	0	D	0	D													0	0	0
Goats	0	0	D	0	D													0	0	0
																		Total Livestock	159,390	157,973	-1,417

3.1.2. Annual systems remaining annual systems (total area must remain constant)

Fill with your description	Management options: Improved agronomic practices	Nutrient management	NoTill/residues management	Water management	Manure application	Residue/ biomass burning	Yield? Yield (t/ha/yr)	Area (ha) Start	Without	*	With	*	Total Emissions (tCO2-eq) Without	With	Balance
fodder	Yes	No	Yes	?	?	NO		0	0	D	6885	D	0	-15,904	-15,904
fodder without	?	?	?	?	?	NO		6885	6885	D	0	D	0	0	0
description 3	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 4	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 5	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 6	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 7	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 8	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 9	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
description 10	?	?	?	?	?	NO		0	0	D	0	D	0	0	0
							Total (ha)	6885	6885		6885				

Tier 2

* Note concerning dynamics of change : "D" corresponds to default/linear, "I" to immediate and "E" to exponential (Please refer to the guidelines)

Total Annual Systems 0 -15,904 -15,904

Project Name	Jizzakh	Climate	Warm Temperate (Dry)	Duration of the Project (Years)	10
Continent	Asia (Continental)	Dominant Regional Soil Type	HAC Soils	Total area (ha)	6885

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq										
	Positive = source / negative = sink										
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	-15,904	-15,904	0	-15,904		0	0	0	-1,590	-1,590
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	159,390	157,973	-1,417				0	-1,417	15,939	15,797	-142
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0		0	0	0
Total	159,390	142,068	**-17,321**	0	-15,904	0	0	-1,417	15,939	14,207	-1,732
Per hectare	23	21	-3	0.0	-2.3	0.0	0.0	-0.2			
Per hectare per year	2.3	2.1	-0.3	0.0	-0.2	0.0	0.0	0.0	2.3	2.1	-0.3

18. Taking into account an increasing of 25% on milk yield the production will increase of 493,000 ton milk to 582,250 ton milk in 10 years. In terms of emissions the gross emission intensity will decrease from 0.32 ton CO_{2eq} to 0.24 ton CO_{2eq} .

Production t of product Without	With	Gross emission intensity tCO2eq per t of product Without	With
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
0	0	0.00	0.00
493,000	582,250	0.32	0.27
493,000	582,250	0.32	0.24

Appendix 11: Draft programme implementation manual

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Attachments: Programme Organigramme; other figures, charts and tables

Appendix 12: Compliance with IFAD policies

A. Adherence to IFAD policies

IFAD strategic framework and the DVCDP programme

1. According to IFAD's **Strategic Framework 2011-2015**, small-scale agriculture must be market-oriented to capture the opportunities afforded by growing demand for agricultural products, at the same time that more productive and more sustainable to thrive in an environment of scarce resources, and to become more resilient to a changing climate. The objectives and expected outcomes/ targets of the Dairy Value Chains Development Programme coincide in policy focus and orientation with the ***overarching goal*** of the Fund's Strategic Framework, which is defined as: enabling poor rural people to improve their food security and nutrition, raise their incomes and strengthen their resilience.

2. While this goal is the driving guide of the DVCDP programme, its design takes also into account the **Strategic Framework's Principles of Engagement: (a)** a differentiated approach based on country context, for which targeted activities will seek to respond to the needs of two agro-ecological zones and their associated dairy value chains ; **(b)** comprehensive targeting methodologies and gender mainstreaming approaches, e.g., geographic, gender-based, enabling measures, etc.; **(c)** supporting the empowerment of smallholder, dehkan farmers, to engage in beneficial product delivery arrangements (producer-processor partnerships); **(d)** promoting gender equality and women's empowerment, while creating viable opportunities for rural young people; **(e)** innovation, learning and scaling up, e.g., through pilot programmes, model farms and the PP partnership approach; and **(f)** social, economic and environmental sustainability, in association with the key Government and private sector entities and international development agencies.

3. The IFAD country programme in Uzbekistan is also aligned with: (a) the new IFAD's 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.

4. Adherence to IFAD's principal policies. Similarly, the design of the DVCDP programme 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.

5. Accordingly, the Programme, which is based on key training, technical assistance, educational and technological development and dissemination activities and investments, will promote a gender-sensitive and enabling implementation environment through its farming and processing promotion 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 programme's activities. Land-related issues are addressed by the espoused producer-processor partnerships through which smallholder farmers will have an increased access to fodder land; while these issues will be brought to the attention of the Forum on private-public partnership and rural development.

6. Compliance with targeting and gender principles is detailed in Appendix 2, above; and in rural policies in Working Paper No. 4 (Vol. II of this Design Report). Private sector development concerns

are fully addressed by the pioneering nature of the DVCDP and its alignment with the 4Ps approach for smallholder value chains.

B. Environmental management in Uzbekistan

Environmental context

7. Sustainable development in Uzbekistan includes both environmental and cultural development.

8. The country faces some challenges on water and other environmental issues, arising in large part from unsustainable use of natural resources. This significantly impedes economic development and the improvement of people's living standards. Practically all water resources in Central Asia originate from the year-round snows and glaciers of Kyrgyzstan and Tajikistan. Downstream neighbours like Uzbekistan depend on this supply for their populations, who in turn rely on irrigated agriculture. Yet a need for improved water infrastructure, combined with continuing degradation and salinization of arable land, remain severe and priority challenges. The drinking-water supply for about 5 million people, especially in rural areas, also remains one of the country's foremost environmental concerns. Thus, a strategy of integrated water resources management will need to look at sectorial and inter-sectorial integration, taking into account the competition between irrigated agriculture, hydropower, industry, drinking, and municipal water supply and sanitation. Other critical environmental issues include the persistent aftereffects of the Aral Sea disaster and the need to employ participatory approaches to conservation and management that can protect Uzbekistan's globally significant biodiversity.

9. At the same time, Uzbekistan is one of the world's largest producers of fossil fuel, primarily natural gas. Its rich fuel endowment is currently used to provide highly subsidized energy to the entire economy, benefiting rich and poor alike. This has proven inefficient, however, and may exhaust resources of oil and gas rapidly. Low costs to consumers of major energy resources also do not create incentives for efficient energy use. With regard to both energy and environmental issues, environmental education can increase knowledge and awareness in Uzbekistan about relevant challenges and help people and policymakers alike to make more informed decisions and take responsible action.

10. Climate change. Climate change is closely related to the country's water management issues, given its strong impact on traditional agricultural practices and water resources. In Uzbekistan, climate change is characterized by steady warming with increasing aridity. It is, moreover, expected to further exacerbate the natural disasters that threaten two-thirds of the country's population. Climate-related droughts in Uzbekistan already have increased in frequency and intensity, resulting in cutbacks in agricultural production. The severity of the possible impact of such events necessitates a strengthening of national bodies' preparedness and further assessment of vulnerabilities, with encouragement of more climate-resilient development and work on both mitigation and adaptation.

Agriculture, soils, and land degradation

11. The Uzbek population has increased rapidly from 26.7 million in 2007 to 30.7 million in2014. About half of the total population continues to live in rural areas. Of these, almost two-thirds (about 10.0 million people) who make their living from agriculture, live under the threat of desertification. Given the present water use practices, as described above, this figure is expected to rise.

12. The government's 2010 State of the Environment report stated that soil salinization had dropped from 66 per cent of arable land in 2006 to 50 per cent in 2009. In 2009, the water quality analysis of "return" flow water (i.e., used water being discharged back into watercourses and aquifers) of more than 15.7 million cubic meters (m3) indicated poor treatment and contamination. The use of livestock manure was also on the decline, forcing a greater dependence on artificial fertilizers. Overgrazing had affected nearly 74 per cent of grazing lands, fuelling erosion and desertification.

Institutional Challenges

13. Environmental protection needs to be mainstreamed in Uzbekistan's national policies and strategies. Fragmentation of environmental powers among ministries and agencies has to be overcome to allow for more effective, coordinated, and timely decision making on environmental matters. In this regard, the capacity and authority of Goskompriroda, as the key environmental enforcement authority, needs significant strengthening. Information, analysis, and data availability on the environment have to be improved for timely and informed decision making. Regular preparation of high quality and widely available documentation on the state of the environment would help in this regard.

14. Three key actions, defined by the government as essential for addressing climate change, include: (a) improving monitoring, reporting, and statistical analysis of climate change data; (b) changing the pattern of energy and water use and agricultural production (including reducing desertification); and (c) building institutional capacities of agencies responsible for climate change actions.

15. Moreover, the overall natural resource legislative framework requires enhancement to completely meet the requirements of the Millennium Development Goal No. 7, while the specific complex of laws and regulations regarding the Aral Sea disaster can be strengthened to comply with United Nations environmental conventions. Increasingly, policies that aim at reducing energy consumption, better managing energy practices, including through renewable energies, and increasing the level of energy performance in both public buildings and residences should be encouraged.

16. Finally, strengthening the contribution of culture to sustainable development will be vital, given Uzbekistan's particularly rich cultural heritage. The country is being encouraged to take an approach to heritage that is both holistic and integrated, with sufficient inventories of cultural resources. At the same time, incorporation of the principles of culture into national sustainable development policies requires further strengthening. Capacity to preserve, conserve and safeguard that heritage in a sustainable manner will benefit from improved coordination. The field of creative industries, which encompasses crafts and design, among others, can help Uzbekistan benefit from development opportunities if local markets are strengthened and better access is provided to international markets.

C. Environmental evaluation and impact management

The Programme area

17. The programme's overall objective is to increase incomes of the smallholder producers (dehkan farmers and private commercial farmers) through supporting the dairy value chains and its actors in the selected geographical areas. More specifically the programme will promote Public Private Productive Partnerships linking dairy producers to processors. The programme will work in two provinces —Kashkadarya and Jizzak. The key criteria for selecting the two regions included the number of dairy cattle and potential for enhancing the dairy value chains; and the socioeconomic characteristics of the identified target groups. Special attention will be given to the developmental constraints and potential pf rural women and young people, as widely presented in the relevant sections of this design report.

18. Farming systems. There are three types of farms in Uzbekistan: (a) Dehkan Farms; (b) Private Farms; and (c) Shirkats.

19. Dehkan farms. A typical dehkan farm (DF) owns a household plot of 0.2-0.4 ha, 1-2 cattle and 5-10 small ruminants. The majority of DFs are subsistence farmers seeking to ensure their own food security. Usually the household plot size is just sufficient to produce basic food supplies for the family (wheat, vegetables and fruits) and no land is available for producing fodder. Some larger dehkan farms own extra land outside the village to produce fodder for their livestock and produce a surplus of

milk and meat which is supplied to the market or processors. The extra land is allocated by the local government at DF's request and is allocated on a per-head basis (0.35 ha per head of cattle). Since the land resources are scarce and all lands have already been distributed, the access to additional land resources remains a severe constraint thus limiting the ability of DFs to expand their production i.e. increase livestock numbers or milk production. The majority of DFs have no legal status with the exception of some larger farms. Despite their small size (land and livestock), the DFs own over 90 per cent of cattle and small ruminants and are responsible for 95 percent of milk and meat output in the country. The cattle breeds owned by DFs have low productivity (4-5 litres/day).

20. Private farms. On average a typical livestock private farm (PF) owns a land plot of 10-20 ha of irrigated land, 30-60 dairy/meat cattle and some ruminants. The land is allocated on a per-head basis (0.35 ha per cattle) and is used for producing fodder (Lucerne, oats, triticale, corn, turnip, sugar beet, barley, etc.). The majority of PFs are specialized in dairy production and the extra land is specifically allocated by the government for this purpose. Some larger PFs import high quality pedigree cattle (bulls and heifers) and cross breed them with the well-known local breed called "Bushuev". Some use semen supplied by the Joint Polish Uzbek AI Company to inseminate the Bushuev breed. The results are encouraging and lead to higher milk yields (at least 16 liters/day). The PFs are seen by the government as the drivers of economic growth in agriculture leading to greater food security in the country. Therefore currently the government priority is to attract investments (programme/private) to enable PFs to expand their milk/meat production. In addition such PFs are given a priority in allocating land resources and have access to various credit lines at low interest rates (usually at national bank's re-financing rate plus government's and lending bank's costs).

21. Shirkat. The shirkat farms are remnants of the former collective farms and virtually are no longer present in the production landscape of the country, except for the Karakul sheep breeding company which still has 103 shirkats looking after 1.5 million karakul sheep in the country. A typical shirkat farm is state owned and often owns key resources: land, irrigation network and provides veterinary services to neighbouring DFs.

22. Agro-ecological zones (AEZ) of Uzbekistan. Uzbekistan has an arid, continental climate that is characterized by cold winters and hot summers and low precipitation in most parts of the country. The country can be divided into three agro-ecological zones based on the landscape, elevation, temperatures and precipitation. The predominant zone (western and central parts of the country) is the Desert and Steppe Zone characterized by: (a) landscape – lowlands and plateaus in western parts and vast valleys in central part; (b) the elevations of 50-150 meters above sea level with some elevations in eastern part up to 400 meters; (c) the annual mean of temperatures ranging from 10-15C; (d) precipitation level 100-200 mm; (e) agriculture conditions are suitable for livestock rangeland production with limited opportunities for crop production due to limited water resources.

23. The Piedmont Zone is characterized by: (a) the undulating terrain intermixed with open plains; (b) 400-1000 meters above sea level; (c) annual mean temperatures from 12-14C; (d) precipitation level below 400 mm mainly in winter and spring; (e) agriculture conditions are suitable for crop production/orchards/gardens in flat irrigated/rainfed areas, livestock production in pasture areas.

24. The Highland Zone is characterized by: (a) landscape – mountainous interspersed with highland plains; (b) the elevations above 1,000 meters; (c) the annual mean from -5 to +5C; (d) precipitation level exceeds 600 mm mainly as snow in winter season; and (e) agriculture conditions are suitable for summer grazing, growing wild fruits and medicinal herbs within the forest areas.

25. The Programme's AE zones. The Kashkadarya province falls mainly into the piedmont zone with some small areas of the desert and steppe zone in the north-western part and the highland zone in the south-eastern part. The Jizzak province has the desert and steppe zone in the northern part, the piedmont zone in the central part and small area of highland zone in south-eastern part.

Environmental evaluation and impact management

26. **Impact of climate change on livestock production.** The Second National Communication of Uzbekistan on the UNCCCF outlined future climate programmeions for the country. The general trend indicates that the mean temperatures will continue to rise and level of precipitation will fall. This will result in greater aridity and variability with the increased probability of extreme events such as droughts and frosts. Climate change (temperatures, precipitation, variability, etc.) will affect the livestock sector with respect to animal health, nutrition and availability of fodder. For instance, rising temperatures, the frequency and severity of events may result in heat stress in animals which in turn will lead to lower productivity. The indirect effects include reduced pasture productivity and increased exposure to new pests and diseases. Programmeed climate changes will affect water availability and thus the availability of fodder, especially in rain-fed areas.

27. Adaption measures. The agricultural sector, including livestock sub-sector, will need to develop measures to address issues of adverse climate change impact such as: (a) use of efficient irrigation systems (e.g. drip irrigation); **(b)** introduction of drought (frost) resistant varieties of crops and species of livestock; **(c)** changes in cropping patterns to take advantage of prolonged growing period; **(d)** soil conservation practices (e.g. minimum/zero tillage); and **(e)** improved pasture management, including pasture rotation and rehabilitation and other.

Environmental and social safeguards

28. Dairy production intensification and related farming production raises issues on environmental sustainability, as intensification of dairy farming requires expanded fodder cropping. Planting field crops such as maize for feeding cattle imply an erosion risk on steep slopes. Awareness of potential livestock-related risks and opportunities on the part of the programme's design has led to including, as part of the activities to be promoted, those that will have positive impacts on the environment such as the "less animals, better animals" concept, inclusive of dissemination of manure management techniques for proper nitrogen cycle management and potential additional on-farm income.

29. To address this and other possible environmental impacts, the Programme will formulate an Environmental and Social Management Plan that will comprise: adequate mitigation measures; climate-smart agriculture practices and adaptation to climate change activities; and the necessary compliance with IFAD environmental, social and climate change safeguard procedures whilst seeking a sustainable management of natural resources in the targeted regions.

30. Specific measures. The environmental impact of the proposed interventions under the Programme is likely to be positive. Expertise and knowledge acquired by farmers will allow them: (a) to better adapt to climate change by using drought (frost) resistant fodder crops and species of dairy cattle; (b) to preserve soil fertility by using minimum/zero tillage techniques and improved pasture management systems, including pasture rotation and rehabilitation; (c) to gain access to alternative sources of energy by processing manure (bio-gas technology) and thus reducing the damage to the environment; and (d) to produce organic fertiliser by using the vermi-compost technology to process manure and thus again reducing the damage to the environment. The impact will be further enhanced through access to the dedicated financing facilities for key value chain actors: dairy processors, private farmers, dehkan farmers; and private veterinarians.

Environmental classification

31. The programme is classified as a **Category B** operation. This rating is the result of the identified and few negative environmental impacts that are expected from its field activities. Investments in improved forage production, climate smart agriculture/livestock production and green agribusinesses and green finance are expected to result in positive outcomes. The programme is expected to reduce pressure on natural resources by introducing more environmentally sound natural resource management practices and by diversifying livelihoods. These developments will also

enhance the resilience of rural households to climate change and reduce their vulnerability to extreme weather events.

Appendix 13: Contents of the Programme Life File

A. Programme design cycle: key meetings and events

IFAD Programme ID Number: 1714

Programme Design and Learning Cycle

- Concept Note Formulation Mission: 17-26 June 2014
- Meeting of the in-house *Country Programme Management Team (CPMT)* on the Concept Note, ***Livestock Development Programme*** (IFAD Rome): 15 July 2014
- Meeting of the *Operational Strategy and Policy Guidance Committee (OSC)* (OSC Number 2014/24/NEN): 30 July 2014
- Concept Note Review by Government of Uzbekistan: August 2014
- Detailed Design Mission. Field work: 23 November-13 December 2014
- Meeting of the in-country CPMT/ Wrap up meeting at the Ministry of Agriculture and Water Resources (Tashkent). Discussion of the mission's Aide-Memoire, ***Dairy Value Chains Development Programme (DVCDP)***: 10 December 2014
- Meeting of the in-house pre-QE/CPMT on the Programme's draft Design Document (IFAD Rome): 11 February 2015
- Quality Enhancement Review Panel (QE): … 2015
- Review by Government of Uzbekistan of the Detailed Design Report: March 2015
- Design Completion Mission: March-April 2015
- Quality Assurance Review (QA): June 2015
- Review by Government of the Design Completion Report: July 2015
- Draft President's Report: July 2015
- Loan Negotiations: end-July 2015
- Executive Board: September 2015

B. Programme design documents

- Minutes of the in-house *Country Programme Management Team* meeting on the draft Concept Note, ***Livestock Development Programme***: 15 July 2014
- Programme Concept Note Document. 20 July 2014
- Issues Paper of the *Operational Strategy and Policy Guidance Committee* on the Concept Note: 30 July 2014
- Terms of Reference. Detailed Design Mission: 20 October 2014
- Minutes and Decisions of the *Operational Strategy and Policy Guidance Committee*: 14 November 2014
- Aide-Memoire. Detailed Design Mission. ***Livestock Value Chains Development Programme***: 10 December 2014
- Minutes of the in-house pre-QE/CPMT meeting on the draft Design Document: … 2015
- Programme's Detailed Design Report (Vol. I Main Report and Appendixes) (Vol. II. Working Papers): February 2015
- Maturity Assessment Template (MAT), for Quality Enhancement (QE): February 2015
- Aide-Memoire. Final Programme Design Mission. ***Dairy Value Chains Development Programme***: 3 April 2015
- Final Programme Design Report (Vol. I Main Report and Appendixes) (Vol. II. Working Papers): May 2015
- Response to QE Comments: May 2015

C. DVCDP working papers

Working Paper No. 1
Dairy Value Chain and Innovation Capacity Built

Working Paper No. 2
Poverty, Targeting and Gender

Working Paper No. 3
Inclusive dairy value chains for competitive industry (rapid dairy value chain analysis)

Working Paper No. 4
Rural Finance in Uzbekistan: IFAD Intervention Proposal

Working Paper No. 5
DVCDP COSTAB Tables File

Working Paper No. 6
Economic and Financial Analysis (set of Excel files)

D. Relevant country strategy and government documents

Republic of Uzbekistan. **United Nations Development Assistance Framework, 2010-2015**

Asian Development Bank. **Uzbekistan. Country Partnership Strategy. 2012-2016**

World Bank and Associate Institutions (IFC, IDA, MIGA). **Country Partnership Strategy for the Republic of Uzbekistan for the period FY12-FY15**

FAO. **FAO Country Programme Framework in the Republic of Uzbekistan, 2014-2017**

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