Republic of Kenya

Smallholder Dairy Commercialization Programme

Additional Financing

Updated Programme Design Report
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## Currency equivalents

<table>
<thead>
<tr>
<th>Currency Unit</th>
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## Weights and measures

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<td>1 000 kg</td>
<td>2.204 lb.</td>
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<td>1 kilometre (km)</td>
<td>0.62 mile</td>
</tr>
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<td>1 metre</td>
<td>1.09 yards</td>
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<td>1 square metre</td>
<td>10.76 square feet</td>
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<tr>
<td>1 acre</td>
<td>0.405 hectare</td>
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<tr>
<td>1 hectare</td>
<td>2.47 acres</td>
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Abbreviations and acronyms

AFFA  Agriculture, Fisheries, and Food Authority
AHITI  Animal Health and Insemination Training Institute
AI    Artificial Insemination
AIE   Authority to Incur Expenditure
ASAL  Arid and Semi-arid Lands
ASCU  Agricultural Sector Coordination Unit
ASDS  Agricultural Sector Development Strategy
AWPB  Annual Work Plan and Budget
CAIS  Central Artificial Insemination Station
CDF   Constituency Development Fund
CECM  County Executive Committee Member
CIDP  County Integrated Development Plan
COSOP Country Strategic Opportunities Paper
CPCG  County Programme Coordinating Committee
CPCT  County Programme Coordination Team
CPFT  County Programme Facilitation Team
CPI   Transparency International’s Corruption Perceptions Index
CRP   Community Resource Person
DCA   Dairy Commercialisation Area
DCA-AP Dairy Commercialisation Area Action Plan
DCAC  Dairy Commercialisation Area Committee
DEP   Dairy Enterprise Plan
DG    Dairy Group
DGAK  Dairy Goat Association of Kenya
DHS   Demographic and Health Survey
DTI   Dairy Training Institute
ERR   Economic Rate of Return
FAO   Food and Agriculture Organisation of the United Nations
FMA   Financial Management Assessment
GDP   Gross Domestic Product
GIS   Geographic Information System
GIZ   Deutsche GesellschaftfürInternationaleZusammenarbeit
GoK   Government of Kenya
HDI   Human Development Index
HIV/AIDS Human Immune Virus/Auto-immune Deficiency Syndrome
ICIPE  International Centre for Insect Physiology and Ecology
IFAD  International Fund for Agricultural Development
IPSAS International Public Sector accounting standards
KAGRC Kenya Animal Genetic Resource Centre
KALRO Kenya Agricultural and Livestock Research Organization
KAPAP Kenya Agricultural Productivity and Agribusiness Project
KARI  Kenya Agricultural research Institute
KCC   Kenya Cooperative Creameries
KDB   Kenya Dairy Board
KENAO Kenya National Audit Office
KenHA Kenya National Highways Authority
KeRRA Kenya Rural Roads Authority
KIHBS Kenya Integrated Household Budget Survey
KM    Kilometre
KM    Knowledge Management
KSB   Kenya Stud Book
KURA  Kenya Urban Roads Authority
KWS   Kenya Wildlife Service
LATF  Local Authority Transfer Fund
LCMIS  Low-Cost Market Information System
LRC  Livestock Recording Centre
M&EO  Monitoring and Evaluation Officer
MFI  Microfinance Institution
MIS  Management Information System
MO  Marketing Officer
MoALF  Ministry of Agriculture, Livestock, and Fisheries
MODE  Market Oriented Dairy Enterprise
MOU  Memorandum of Understanding
NASEP  National Agriculture Extension Strategy
NEMA  National Environment Management Authority
NGO  Non-Governmental Organisation
NSC  National Steering Committee
PC  Programme Coordinator
PCU  Programme Coordination Unit
PIM  Programme Implementation Manual
PMG  Pay Master General
PPDA  Public Procurement and Disposal of Assets Act
PPDR  Public Procurement and Disposal Regulations
PPOA  Procurement Oversight Authority
PS  Principal Secretary
RIMS  Results and Impact Management System
SCAO  Sub-County Agricultural Officer
SCCO  Sub-County Cooperative Officer
SCDO  Sub-County Dairy Officer
SCPIT  Sub County Programme Implementation Team
SCPO  Sub-County Livestock Production Officer
SCSDO  Sub-County Social Development Officer
SCVO  Sub-County Veterinary Officer
SDCP  Smallholder Dairy Commercialisation Programme
SDL  State Department of Livestock
SOP  Standard Operating Procedure
TOR  Terms of Reference
TSP  Technical Service Provider
UNDAF  United Nations Development Framework in Kenya
UNDP  United Nations Development Programme
WFP  World Food Programme
Map of the programme area

Kenya
Smallholder Dairy Commercialization Programme (SDCP)

Design report
Executive Summary

1. **Country Strategy – Vision 2030** aims at bringing Kenya to a newly industrialised middle-income country by 2030, providing high-quality life to all its citizens. Kenya’s Vision 2030 identifies agriculture as one of the key economic sectors expected to drive the economy. The country’s Agricultural Sector Development Strategy (ASDS) 2010-2020 is based on Vision 2030. Kenya’s agriculture is predominantly rainfed and smallholder. ASDS overall objective is to achieve an agricultural growth rate of 7% per year and to reduce food insecurity by 30%² by promoting an innovative, commercially oriented and climate-smart modern agriculture. It is guided by two main strategic thrusts: increasing productivity, commercialisation and competitiveness of agricultural commodities and enterprises; and developing and managing the key factors of production. This is pursued by improving extension services, links between research, extension and farmers, and access to financial services and credit; encouraging the growth of agri-business in marketing and processing/value addition; improving the regulatory framework to control the quality of agricultural inputs and services; increasing competitiveness in the supply of agricultural inputs; and rationalising and harmonising taxation regimes to provide incentives to producers, agro-processors and other service providers.

2. **Rural Poverty:** The incidence of poverty in Kenya dropped from 52.2% in 1997 to 45.2% in 2009. The country ranks 145/186 in the Human Development Index. Over 75% of the country’s population live in rural areas, where poverty was estimated to affect 50.5% of the population in 2009. However, county and sub-county poverty variations are visible. The ASALs have the lowest development indicators and the highest incidence of poverty in the country. The incidence of poverty in the ASALs was 55.3% in 2009 compared to the national average of 45.2% with arid areas having a higher poverty incidence estimated at 75.8% in 2009 compared to 47.6% in semi-arid areas and 41.3% in medium- and high-potential areas. Statistical series indicate significant movements of rural households in and out of poverty and between different poverty categories in the last ten years, highlighting the extreme vulnerability of rural households to external shocks such as poor health, inflation, market volatility, unemployment, riots, violence, displacement, drought and floods. Access to natural capital and the agro-ecological zone in which a household is located - from high rainfall to semi-arid and arid areas are primary determinants of the poverty level and vulnerability.

3. **Food security and nutrition:** According to the global hunger index, Kenya remains a food-insecure country although there have been improvements in the hunger situation over the last five years, moving from a rating of ‘alarming’ in 2008 to ‘serious’ in 2011.³ Overall, about 10 million Kenyans suffer chronic food insecurity and poor nutrition⁴. The underlying causes of food insecurity include: chronic poverty; poor infrastructure; high population growth; climate change; land fragmentation and degradation; poor natural resource management; dysfunctional markets; over-dependence on rain-fed agriculture and limited investments in the Arid and Semi-arid Lands (ASALs)⁵. According to the Global Nutrition Report⁶ Kenya has not made significant progress in reducing the prevalence of chronic undernutrition (stunting) in the last 15 years. From 37% in 1998 the rate dropped by only 3% to 34% in 2014. Most of the counties in Rift Valley are even showing higher rates than the national average reaching up to 42.3% (Uasin Gishu) (DHS 2014).

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¹Mission composition: Stephen Onchoke (IFAD Desk Officer, National Treasury), Daniel Keter (IFAD Desk Officer, State Department of Livestock), Luke Kessei (former Desk Officer, State Department of Livestock), Moses Kembe (Programme Coordinator), MeshackMakongo (Monitoring and Evaluation Officer), Geoffrey Ochieng (Assistant Monitoring and Evaluation Officer), Bernard Kimoro (Dairy Production Officer), Michael Kibiego (Marketing Officer), Winifred Olubai (Group Development Officer), Lorna Mbatia (Dairy Enterprise Development Officer), Christoph Dubelaar (Associate Programme Officer), Robert Delve (Agronomist), Julianne Friedrich (Nutritionist), Samuel Eremie (implementation support Specialist), Davis Atongoza, (Economist/COSTAB Specialist), Jorgen Henriksen (Dairy Value Chain Specialist), Paul Picot (Rural Finance Specialist), Dr Joseph Mugah (Agricultural Editor), GicheruKimani (Consultant Engineer).

²Food insecurity in Kenya as measured by prevalence of undernourishment stood at 25.8% in 2013 (FAO, 2013)

³Global Hunger Index, Challenge of Hunger: Taming Price Spikes and Excessive Food Price Volatility, 2011


⁵KIPPPRA, policy dialogue on food security information needs in Kenya, Nairobi, March 2011

4. **The Dairy Sector:** Kenya has one of the largest and most developed dairy sub-sectors in Sub-Saharan Africa, accounting for about 4% of GDP and with a growth rate of 4% per annum compared to 1.2% for agriculture as a whole. There are presently over 1,000,000 smallholder farmers who depend on dairying for their livelihood. Among the ‘lower end’ smallholders, holding on average one dairy cow has significant benefits in terms of household nutrition, as well as providing manure for crop production, while milk sales can provide a steady stream of cash. At the national level, Kenya has an extensive formal marketing network comprising large milk processors and dairy cooperatives, and an even larger informal market where smallholder farmers and small milk traders make direct sales of raw milk to consumers. The smallholder dairy sub-sector in Kenya is characterised by weak market linkages and unreliable market outlets due to pronounced seasonal fluctuations in milk output and prices, poor rural infrastructure (roads and electricity), as well as lack of management and business skills, and inefficiencies in the post-harvest segment of the dairy value chain.

5. Of the total farm milk production, on-farm consumption (consumed by families or calves) accounts for about 45% of production while the remaining 55% is marketed through various channels. About 42% of marketed milk is sold directly from farmer to consumers; another 32% is sold to milk shops, kiosks, and traders. About 80% of traded milk is sold through the informal sector. The informal sector dominance is mainly due to an inefficient processing sector and consumer preference for raw milk, which is cheaper. The informal traders pay higher farm-gate average prices to producers than the dairy farmer cooperatives and deliver milk to consumers at prices that are up to 40% lower than those of processed packaged milk. While informal milk trade has created substantial employment opportunities for the rural and urban poor, there are concerns about the public health risks from informally marketed milk due to potential for adulteration and poor hygiene in milk handling. Kenya’s processing industry is concentrated near Nairobi and is operating at about 30% of its capacity. Overall, investment in productivity, services and organisation of smallholder dairy producers combined with consolidation of smallholder cooperative societies to develop dairy business hubs is likely to yield significant benefits provided the targeted Dairy Farmers are supported to meet dairy product standards.

6. **Policy and Institutional Framework:** The 2010 constitution brought fundamental changes to the way Kenya is governed with the devolution of administrative responsibilities to the counties, and the consolidation of institutional architecture into a much smaller number of ministries and institutions specifically in the agricultural sector. Kenya’s administrative organisation is now made up of 47 County Governments, with responsibility for county legislation, executive functions, and provision of public services among others. The three main agriculture ministries have been merged into one to address the fragmentation of responsibilities between agriculture and rural development-related ministries, development partners and the Private Sector. The regulatory framework governing Kenya’s agriculture is also undergoing significant legislative reforms following the coming into force of three newly enacted laws - the Agriculture, Fisheries, and Food Authority (AFFA) Act 2013, the Crops Act (2013), and the Agricultural and Livestock Research Act (2013).

7. **Programme Rationale:** Being one of the largest in Sub-Saharan Africa, the Kenyan dairy sector has the potential to generate significant income and employment opportunities for vulnerable smallholders engaged in that commodity. Kenya also has the most competitive processing sectors in the region with an excess capacity. There are therefore significant opportunities for increasing dairy sales both domestically and regionally. In addition to providing an income, dairying can also contribute to improving household nutrition. However, a number of factors prevent smallholder dairy farmers from fulfilling this potential: inadequate access to markets; poor quality of feeds and feeding regimes; seasonal fluctuations in forage availability and hence fluctuations in milk supply to the market; inefficient producer organisations; poor rural infrastructure, and inadequate access to artificial insemination services. To take advantage of the opportunities offered through dairying, smallholder dairy producers require better access to the technical options available for management of their animals and milk production, as well as for improving their dairy enterprise skills.

8. Notwithstanding a reduced implementation period, SDCP was successful in terms of development results achieved with targeted dairy stakeholders. As presented below, it is assessed that SDCP now reaching completion stage, has supported 527 Dairy Groups\(^7\) to increase their benefits from dairy-farming reaching out to over 13,125 small dairy farmers in 9 major milk-producing counties of the country. Out of the membership of these Dairy Groups, 60% were women. The

\(^7\) Against a target of 600
programme has contributed to supporting the Ministry of Agriculture, Livestock and Fisheries (MoALF) develop and operationalize an effective approach to support small-scale dairy farmers, processors and traders to engage into dairy farming as a more profitable commercial enterprise. The additional financing for SDCP will respond to the Government of Kenya’s request to scale up the outreach, the results and impact of the Programme.

9. **Programme Approach:** In line with IFAD’s guidelines, the additional financing to the Smallholder Dairy Commercialization Programme will seek to enhance the outreach, the results and impact of the Programme through (i) a geographic expansion to sub-counties within current counties of intervention where Dairy Groups and Value Chain stakeholders show potential to graduate to market-oriented farming and (ii) the extension of the outreach of activities/components found to have achieved significant development results. Activities financed under the additional financing will remain consistent with SDCP objectives. In scaling up, lessons learned will be capitalised to enhance the Programme approach in the delivery of the Programme services to target groups. In line with Kenya’s pluralistic approach for extension and other service provision to smallholder farmers, more emphasis will also be put on the use of private service providers and institutional partnerships in collaboration with county staff for delivering the Programme support to target groups.

10. In terms of graduation strategy, attention will also be given to supporting up-scaling of dairy farming as a profitable business beyond milk production through refined targeting criteria to assess the potential of groups to graduate to dairy business enterprises. Selection of the Dairy Groups will include a needs assessment for their progression to market-oriented dairy farming and their profiling by the Programme in the MODE scale. Dairy groups that are assessed to be either at MODE 2 or 3 and therefore exhibiting potential to engage in viable and profitable commercial dairy enterprises will be eligible for programme support. They will continue to be supported in developing Group Action Plans/Dairy Enterprise with a capacity-building programme covering:

- **Organizational and enterprise skills:** group dynamics, constitution development, writing of minutes, group development, leadership, conflict management, communication, resource mobilisation, record keeping, financial management, business finance, negotiation skills;

- **Technical skills to benefit from market-driven commercialization:** dairy animal husbandry practices, equipment sanitation and maintenance, milk preservation and loss reduction, milk safety and quality assessment;

- **The development of milk marketing** through quality and standards for milk and its products, market information and product promotion, market demand and consumer preferences, market gaps and monitoring market trends, milk value addition, marketing milk and dairy products.

11. The structured MODE approach for building the capacity of participating Dairy Groups is complemented by tailored training based on the needs identified. Finally, during SDCP’s extension, more attention will also be given to nutrition-sensitive actions such as linking the increased availability of manure through increased livestock production to the establishment of kitchen gardens, promoting dietary diversity through training, micronutrient deficiency and improving nutrition knowledge, attitude and practice. Increased income as a means to improved nutrition at household level will also be embedded in the Programme sensitisation/awareness raising campaigns to help households to make informed decision for better nutrition.

12. **The initial Programme area and target groups** of the Programme covered 9 districts/counties, home to 347,707 dairy farmers across 3 regions, as follows:

- Rift Valley Region: Bomet, Nakuru, Nandi, Trans Nzoia, and UasinGishu;
- Western Region: Bungoma and Lugari (now in Kakamega County); and
- South Nyanza Region: Kisii and Nyamira.

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*Revised guidelines for additional financing for ongoing projects, IFAD, 2014*
13. Within these counties, 25 sub-counties were selected on the basis of a series of indicators including milk density, poverty threshold and road density for marketing purposes. In scaling up the Programme outreach, the focus will be on sub-counties having a required level of production to graduate to commercial activities. Accordingly, within its 25 counties of intervention, the Programme will only scale up to sub-counties assessed to have a “high milk density”, i.e., a milk density of 90,000 or more litres/km²/year. The Programme support will also be scaled up to the dairy communities of 8 new sub-counties assessed to have high milk density. The consolidated Programme area will thus cover 33 sub-counties in 9 counties, with an estimated dairy farmer population of 560,817.

14. Through the additional financing, SCDP will scale-up its outreach to 600 new Dairy Groups\(^9\) corresponding to 15,000 small dairy farmers\(^9\). In addition 200 small-scale milk traders and 200 operators/processors will be targeted for support. Through their attachment to a household, it is expected that the benefits of the programme will reach out to about 91,800 people\(^10\):

- Out of the dairy groups initially supported by the Programme, those assessed to be at MODE 2 and 3 and showing potential to graduate to sustainable and profitable business entities will be eligible for additional SCDP support to move up their dairy enterprises to sustainable and profitable levels. It is estimated that 458 groups (333 at MODE 2 and 125 at MODE 3), representing about 11,400 small dairy farmers reaching out to about 68,500 household members will be carried forward during the extension period.
- About 90 small milk bars and shop operators and 135 mobile milk traders should also meet the conditions to be supported during the extended period. Small milk traders and operators are a target group of SDCP for capacity building in terms of entrepreneurship skills and financial literacy, and technical skills in milk handling and quality control.

15. Overall, through SDCP support, it is estimated that about 1,058 Dairy Groups corresponding to about 26,462 small dairy farmers and 625 small milk traders, processors and operators will graduate to market-oriented farming with increased incomes, better living conditions and nutritional status. Through their attachment to a household, it is expected that the benefits of the programme will reach out to an estimated 162,524 household members.

16. **Programme Objectives**: The overall goal of SDCP is to increase the income of poor rural households that depend substantially on production and trade of dairy products for their livelihoods. This development goal is pursued through two specific objectives:

- Improving financial returns of market-oriented production and trade activities by small operators through improved information on market opportunities, increased productivity, cost reduction, value adding, and more reliable trade relations; and
- Enabling more rural households to create employment through, and benefit from, expanded opportunities for market-oriented dairy activities, in particular as a result of strengthened farmer organisations.

17. **Programme Components**: To achieve its objectives, during the extension period SDCP is re-focused around three technical components:

- **Component 1 - Organization and Enterprise Skills** aiming at providing Programme beneficiaries - smallholder dairy producers, small scale processors and small scale milk traders - with the appropriate organisational, managerial and enterprise skills to fully benefit from market-driven commercialisation of milk production, processing and trading.
- **Component 2 - Technical Support to Smallholder Dairy Products** designed to provide Programme beneficiaries with the technical skills required to participate in and benefit fully from market-driven commercialisation of milk production, processing and trading.

\(^9\) 450 at MODE 2 and 150 at MODE 3

\(^10\) Based on average of 25 farmers per group and 6 members per household
18. **Programme Implementation Framework:** At the national level, the **Lead Agency** for the Programme implementation remains the State Department of Livestock (SDL) in the Ministry of Agriculture, Livestock, and Fisheries. MoALF is responsible for the coordination of Programme implementation, supported by a Programme Coordination Unit. The **National Steering Committee (NSC)** chaired by the Principal Secretary of the State Department of Livestock will continue to provide oversight and strategic guidance on Programme implementation. The **Programme Coordination Unit (PCU)** is responsible for the development of operational strategies and tools for Programme implementation; the financial and administrative management of Programme resources; preparation of AWPBs; mobilisation of implementation partners and oversight of deliverables; contracting of service providers at national level and procurement of services and supplies; setting up and management of the M&E database for reporting on activities, outcomes and impact. The PCU will also act as a Secretariat to the PSC. Before the start-up of the extended period of SDCP, PCU staff will undergo a suitability assessment against updated terms of reference for the positions conducted by an independent panel constituted by the Lead Agency and approved by IFAD. For positions where the incumbents are not found to be suitable, the positions will be filled through competitive recruitment.

19. At the local level, SDCP implementation modalities will be enhanced to ensure alignment to the devolution framework. The Department of Livestock Production is the entry point for Programme management at the county level. (i) A County Programme Coordinating Committee (CPCC) chaired by the Governor or his designated representative, will meet quarterly and provide oversight for implementation at County level, and approve County-based AWPB and annual progress reports; (ii) the Sub-County Programme Implementation Team led by the Sub-County Livestock Production Officer (SCPO) will remain responsible for coordinating Programme implementation at the sub-county level; (iii) ward extension workers will continue to provide support services; and (iv) the County Service Delivery Coordinating Unit Tender Committee will be responsible for procurement awards following the country legal and regulatory frameworks for public procurement. Given identified capacity gaps at the County level, key implementation partners and potential service providers have been identified for execution of planned activities under each component to complement county extension services for successful programme execution. As a condition for first disbursement at county level, the PCU will facilitate the signing of a performance-based MoU between the Lead Ministry and each target County. The MOU will define roles and responsibilities of each party (at national, sub-regional, county and ward levels) for Programme execution including monitoring and evaluation, and financial management requirements.

20. **Programme costs and financing.** The additional financing for SDCP including physical and price contingencies is estimated at US$20.265 million (K.sh 2.126 billion). The IFAD additional loan for the scaling up period is estimated at USD 17 million corresponding to 83.9% of the programme costs. The government will finance the taxes, duties including actual contribution for staff gratuities evaluated at USD 2.116 million, representing 10.4% of total costs. Beneficiaries will contribute USD 1.149 million representing 5.7% of the total costs.
### SDCP Economic and Financial Analysis - Summary tables

#### PRODUCTION

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#### ECONOMICS, ADOPTION RATES AND PAYING

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<tr>
<td>Dairy farming</td>
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<td>5,786</td>
<td>11,375</td>
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<td>Small-scale milk bars</td>
<td>520</td>
<td>579</td>
<td>1,158</td>
<td>2,316</td>
<td>3,982</td>
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<tr>
<td>Mobile milk trucks</td>
<td>120</td>
<td>133</td>
<td>256</td>
<td>512</td>
<td>860</td>
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<tr>
<td>Total</td>
<td>4,036</td>
<td>6,934</td>
<td>13,649</td>
<td>26,044</td>
<td>43,687</td>
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#### SUMMARY

- Total adopting households: 127,630
- Average adoption rate: 4.2%
**Republic of Kenya**  
**Smallholder Dairy Commercialization Programme**  
**Updated Programme Design Report – Additional Financing**

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### Results updated Logical Framework

<table>
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<tr>
<th>Results hierarchy</th>
<th>Key Indicators</th>
<th>Baseline</th>
<th>Mid Term</th>
<th>End target</th>
<th>Source</th>
<th>Frequency</th>
<th>Responsible</th>
<th>Assumptions</th>
</tr>
</thead>
</table>
| **Goal**          | Income increased for poor rural households that depend substantially on production and trade of dairy products | (i) Incidence of child malnutrition  
(ii) Average percentage of HH assets ownership (radio, TV, mobile, bicycle) | 16.4% of children under 5 years malnourished  
HH ownership assets respectively 40.29%; 12.48%; 38.71% &15.52% for radio, TV, mobile & bicycle | 14% of children under 5 malnourished  
HH ownership assets of 46%; 14.5%; 46%; and 18% for radio, TV, mobile & bicycle | RIMS baseline and impact surveys, household survey | Year 1/4 | PCU | Favourable conditions for dairy trade |
| **Development Objectives** | Increased financial returns and employment opportunities from market oriented dairy production and trade for DG members | 27,000 HH register an increase in annual income from dairy products (after deducting labour costs) | Gross margins K.sh 4,801/cow/month  
21,298 people employed | K.sh 5,200/ cow/month for DG members  
23,000 people employed | DG records | Annual | PCU and DG members |
| **Outcome 1** | Improved organizational and managerial skills for smallholder dairy groups | DGs reaching MODE 3 | 128 | 650 | 862 | SDCP M&E reports | Year 2 and 4 | PCU | Supportive Policy and legal framework |
| **Outputs 1** | Improved group organisation and business skills to access benefits from marketing of milk and dairy products | DG being supported  
DCAC operational  
Apex organizations operational and having contractual arrangements with suppliers of inputs and buyers of milk. | 458 | 1,058 | 1,058 | SDCP M&E surveys/reports | Year 2, 3 and 4 | PCU | Quality services from public and private service providers |
<p>| 1.1. Improved group organisation and business skills to access benefits from marketing of milk and dairy products | 27 | 57 | 57 | | |
| 1.2. Improved access to financial services | DG members and small scale traders | 14,066 (50% women) | 18,000 (at least 60% women) | 21,170 (at least 60% women) | SDCP M&amp;E | yearly | PCU |
| 1.2. Improved access to financial services | 27 | 40 | 40 | | | | | |</p>
<table>
<thead>
<tr>
<th>Results hierarchy</th>
<th>Key Indicators</th>
<th>Baseline</th>
<th>Mid Term</th>
<th>End target</th>
<th>Source</th>
<th>Frequency</th>
<th>Responsible</th>
<th>Assumptions</th>
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<tbody>
<tr>
<td>of targets groups</td>
<td>accessing formal financial services</td>
<td></td>
<td></td>
<td></td>
<td>surveys/reports</td>
<td></td>
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<tr>
<td><strong>Outcome 2</strong></td>
<td>Increased production, productivity and efficiency of smallholder dairy farming</td>
<td></td>
<td></td>
<td></td>
<td>SDCP M&amp;E surveys/reports</td>
<td>yearly</td>
<td>PCU &amp;beneficiaries</td>
<td>Favourable climate conditions and no disease outbreak</td>
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<tr>
<td><strong>Outputs 2</strong></td>
<td></td>
<td>Increase in average milk yield</td>
<td>1,409 liters/cow/yr</td>
<td>2,000 liters/cow/yr</td>
<td>2,466 liters/cow/yr</td>
<td></td>
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<tr>
<td>2.1. Enhanced smallholder dairy farmer production and management skills</td>
<td>HH using recommended technologies and management methods</td>
<td>13,175 HH</td>
<td>18,000 HH</td>
<td>21,170 HH</td>
<td>SDCP M&amp;E surveys/reports</td>
<td>Yearly</td>
<td>PCU</td>
<td></td>
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<tr>
<td>2.2. Increased smallholder farmers technical capacity on appropriate climate resilient feeds and feeding management</td>
<td>HH adopting recommended climate resilient fodder management practices</td>
<td>13,175 HH</td>
<td>18,000 HH</td>
<td>21,170 HH</td>
<td>SDCP M&amp;E surveys/reports</td>
<td>Yearly</td>
<td>PCU</td>
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</tr>
<tr>
<td>2.3. Improved capacity of public/private sector providers to deliver cost-effective AI for resilient breeds and other technical services</td>
<td>HH accessing quality AI services and other technical services</td>
<td>13,175 HH</td>
<td>18,000 HH</td>
<td>21,170 HH</td>
<td>SDCP M&amp;E surveys/reports</td>
<td>Year 1/2/4</td>
<td>PCU</td>
<td>Favourable policy for privatisation of breeding and AI services</td>
</tr>
<tr>
<td>2.4. Improved availability of low-cost climate resilient technologies in programme area</td>
<td>HH investing in viable technologies (biogas units; roof water harvesting units; chaff cutters; small feed mixers)</td>
<td>6,740 HH</td>
<td>13,000 HH</td>
<td>15,870 HH</td>
<td>SDCP M&amp;E surveys/reports</td>
<td>Yearly</td>
<td>PCU</td>
<td></td>
</tr>
<tr>
<td><strong>Outcome 3</strong></td>
<td>Market linkages of small-scale milk producers, traders and processors to</td>
<td>Increase in volume of milk delivered by farmers to processors</td>
<td>1.1 million/l/yr</td>
<td>1.4 million/l/yr</td>
<td>1.7 million/l/yr</td>
<td>SDCP M&amp;E surveys/reports</td>
<td>Yearly</td>
<td>PCU</td>
</tr>
</tbody>
</table>
### Results hierarchy
<table>
<thead>
<tr>
<th>Key Indicators</th>
<th>Baseline</th>
<th>Mid Term</th>
<th>End target</th>
<th>Source</th>
<th>Frequency</th>
<th>Responsible</th>
<th>Assumptions</th>
</tr>
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<tr>
<td>milk markets improved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1. Sub-county governments invest in improved/rural infrastructures for</td>
<td>Feasibility study on climate</td>
<td>Study completed</td>
<td>Study completed</td>
<td>SDCP M&amp;E</td>
<td>1</td>
<td>PCU</td>
<td>County commitment to funding infrastructure</td>
</tr>
<tr>
<td>enhanced market access</td>
<td>resilient rural infrastructure</td>
<td></td>
<td></td>
<td>surveys/reports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2. Improved capacity of dairy groups and small-scale processors to market</td>
<td>Increase in milk with added</td>
<td>171 million/l/yr</td>
<td>188 million/l/yr</td>
<td>SDCP M&amp;E</td>
<td>Yearly</td>
<td>PCU</td>
<td>Stable demand for milk and dairy products</td>
</tr>
<tr>
<td>their products</td>
<td>value sold</td>
<td></td>
<td></td>
<td>surveys/reports</td>
<td></td>
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</table>
Strategic context and rationale

A. Country and rural development context

21. **Economy:** Kenya has a total land area of 582,646 km² and an estimated population of 43 million people. High fertility combined with declining mortality has contributed to a population growth rate estimated at 2.6 per cent. Kenya’s arid and semi-arid lands (ASALs) make up more than 80 per cent of the country’s land mass and are home to approximately 36 per cent of its population. The remaining 64 per cent of the population lives in medium- and high-potential areas in the central and western parts of the country, where the population density is up to ten times the national average of 69 people/km². In October 2014, Kenya became a low-middle-income country. Despite uncertainties in the period leading up to elections, rising insecurity and erratic weather, growth is expected to continue in the next five years at an annual average of 5.9 per cent, facilitated by ongoing infrastructure development. However, the challenges of poverty and income inequality remain.

22. **Rural Poverty:** The incidence of poverty in Kenya dropped from 52.2% in 1997 to 45.2% in 2009. The country ranks 145/186 in the Human Development Index. Over 75% of the country’s population live in rural areas, where poverty was estimated to affect 50.5% of the population in 2009. However, county and sub-county poverty variations are visible. The ASALs have the lowest development indicators and the highest incidence of poverty in the country. The incidence of poverty in the ASALs was 55.3% in 2009 compared to the national average of 45.2% with arid areas having a higher poverty incidence estimated at 75.8% in 2009 compared to 47.6% in semi-arid areas and 41.3% in medium- and high-potential areas. Food security remains a major concern with an estimated 10 million people in the country categorised as chronically food insecure, the most affected being women and children in rural areas. Statistical series indicate significant movements of rural households in and out of poverty and between different poverty categories in the last ten years, highlighting the extreme vulnerability of rural households to external shocks such as poor health, inflation, market volatility, unemployment, riots, violence, displacement, drought, and floods. Access to natural capital and the agro-ecological zone in which a household is located - from high rainfall to semi-arid and arid areas are primary determinants of the poverty level and vulnerability.

23. **Agriculture and smallholder farming:** The agriculture sector remains the backbone of the Kenyan economy, employing 70% of the rural population and accounting for about 65% of export earnings, although its share in the GDP has declined from nearly 40% in the 1970s to 25.3% in 2013. Crop production comprising industrial crops, food crops and horticulture accounts for 82% of agricultural GDP and 94% of export earnings from agriculture. The remaining three subsectors of agriculture - livestock, fisheries and forestry currently account for the remaining 18% of agricultural GDP and 8% of export earnings from agriculture, but still have significant potential not fully exploited. Merely 12% of Kenya's land area is categorised as arable (high- and medium-potential areas) with adequate and reliable rainfall for rain-fed agriculture. The rest of the country is categorised as arid and semi-arid (ASALs) with an annual rainfall ranging from 150 to 550 mm in the arid areas and 550 to 850 mm in the semi-arid areas; it is therefore not well suited to rain-fed crop production. About 80% of people working in agriculture are smallholders accounting for 75% of agricultural output and 70% of marketed production. Production is carried out on farms averaging 0.2-3 ha, for subsistence and commercial purposes. Small-scale farmers produce over 70% of the national production of maize, 65% of coffee, 50% of tea, 80% of milk, 85% of fish, and 70% of beef and related products. Extension services are provided by a limited number of public extension agents focusing mostly on production and with limited linkages with research. Despite recent improvements, access to financial services remains limited with farmers relying mainly on costly and inadequate informal financial systems. Post-production management and handling is limited and the majority of farmers rely on traditional systems for storage and preservation, leading to up to 30% post-production losses. About 80% of rural households sell some of their agricultural produce, but the level of commercialisation ranges from less than 10% of farm output in relatively low-potential counties to 80% in high-potential counties. While

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12 Human Development Index (HDI), 2013

13 National Food and Nutrition Security Policy, 2011
physical access to market has improved, poor feeder road connectivity, lack of market information and limited bargaining power cause farmers to sell mostly at farm gate at low prices. In terms of agricultural models, Kenya has two agricultural production systems:

- **Rainfed agriculture and small-scale production systems** account for 98% of total land under agriculture. However, not all land currently under rainfed agriculture is suitable for such a production system. Out of Kenya’s land area only about 12% is of high and medium agricultural potential with adequate and reliable rainfall for rain-fed agriculture. This potentially arable land is dominated by subsistence and commercial farming activities with cropland occupying 31%, grazing land 30%, and forests 22%. It is also where two thirds of the country’s population resides. Population density in these areas has increased and land has been subdivided into such small sizes that in some areas it is becoming uneconomical for farm enterprises. The potential for growth in agricultural production in these areas can therefore be hardly achieved through expansion of land under farming and would require intensification. The rest of the country, accounting for more than 80% of the land area, is arid and semi-arid (ASALs) with an annual rainfall average of 400 mm and is not suitable for crop cultivation under rain-fed conditions. Droughts are frequent and crops fail in one out of every three seasons. Most of the area is rangeland, suitable for ranching and pastoralism. Farm enterprises comprise mixed crops and livestock. Given the scarcity of land for agricultural production in the high and medium potential areas, the potential for growth in agricultural production through expansion of land under agricultural production is mainly in the ASALs.

- **Irrigated land:** Although less than 2% of agricultural land is under irrigation, it accounts for 18% of the total value of agricultural produce, demonstrating its potential in increasing agricultural production and productivity. The developed irrigation areas can be categorised into three main types: smallholder schemes (43%); public/national schemes (18%); and private schemes (39%). To address the issue of food security and the 10% annual growth rate expected in the agricultural sector as a key economic pillar and driver of vision 2030, the government’s strategies fully recognise that significant efforts must be put in expanding the land under irrigation with most of this land being in the ASALs.

24. **Women and Youth:** Poverty in Kenya has a gender and age dimension as a result of the different roles played by men and women in the society, and because gender disparities exist in terms of access, ownership and control of productive resources, as well as differences in capabilities. Women contribute 80% of labour in food crop production and 50% in cash crop production, but mainly through low-paid casual work. It is estimated that over 40% of smallholder farms are managed by women. Men increasingly migrate in search of off-farm labour, staying away for long periods. In their absence women find it difficult to access resources, services and inputs, most of which are distributed through male-dominated information and social networks. While men have traditionally assumed responsibility over cash crops and large livestock, when they migrate in search of labour opportunities, women also assume responsibility over these farming activities, increasing their workload. Furthermore, women have also additional responsibilities in water and firewood collection, child care and cooking and, in general terms, Kenyan women work longer hours than men. In some rural areas, water collection consumes up to 40% of a woman’s day, averaging between 3 to 5 hours. It is estimated that 80% of women in rural areas spend 1-5 hours per day searching for fuel wood. In ASALs in particular, women spend a great portion of their time searching for water and fuel, in some areas extending from 5 to 10 hours during the dry season. Female-headed households have lower income and higher poverty incidences, lower levels of education, and lower access to capital assets and lack control over property, particularly land.

1. “Youth” in Kenya refers to those who are between 18 and 35 years of age; they account for 30% of the population and 60% of the total labour force. Despite their numerical weight, the youth are not well represented in the national and local political and socio-economic development processes. Most of them are unemployed, underemployed and underpaid, and lack resources to start their own businesses. Lack of access to land and dissatisfaction with agricultural production as a livelihood strategy especially among rural males limits their livelihood options. Yet it is the youth who are most energetic, better educated and more technology savvy. Thus, their exclusion represents untapped potential for increased adoption of productivity-enhancing farming technologies.
25. **Natural Resource management and vulnerability to climate change:** The Kenyan economy relies strongly on natural resources to support people’s livelihoods and to contribute to national income. With a land area of about 60 million hectares, only 15 percent of Kenya’s land is arable supporting about 80 percent of the population; the rest of the land is the fragile arid and semi-arid ecosystem, and land use is largely pastoral. Of the total population, 80 percent live in rural areas and rely predominantly on natural resources for their livelihoods. The urban poor are also dependent on natural resources such as charcoal and wood for their fuel sources. Overall, the natural resource base, mainly forests, wetlands, dryland, aquatic and marine resources, remain under stress following population pressure, deforestation, coastal modification, degradation of the ecosystem, unsustainable use and poor governance of natural resources.

26. On the climatic side, according to the Stockholm Environment Institute\(^\text{14}\), if climate change in Kenya is not addressed effectively, it is estimated that economic costs of its impacts will be 3% of GDP per year by 2030 and possibly 5% by 2050. According to NEMA (2013) the main economic sectors that will be affected negatively by climate change are: agriculture, forestry and land use, water resources, marine and coastal resources, and tourism and wildlife. This vulnerability arises from the high reliance on natural resources. For example, Kenya is ranked as one of Africa’s most water-scarce countries and currently, its population growth could cause water availability per person to fall from the 2008 levels of 792 m\(^3\) to 350 m\(^3\) by 2020\(^\text{15}\). With the occurrence of some climate change effects such as increased temperatures and altered rainfall patterns, this reduction in available water is expected to be even higher. The agricultural sector, which currently contributes over 25% of the country’s annual GDP, will feel the impact of these changing climatic conditions. This is particularly because nearly 98% of crop production is rainfed and over 50% of animal production is in the arid and semi-arid regions. The increased incidences of drought and unreliable rainfall patterns are expected to affect the sector significantly. For instance, recent studies have warned that as maize-growing areas become warmer, production of maize, the country’s main staple crop, will decrease by a fifth. Yields of other staple foods, including beans, will shrink by 68%. It is estimated that at least 300,000 maize farmers will be affected. Human health will also be affected by climate change. For instance, both water- and vector-borne diseases such as cholera, typhoid, and malaria are influenced by climate and climate change will increase exposure. The energy sector is also vulnerable to climate change because of loss of forest cover, population increase, and reduced rainfall for sufficient hydroelectric power generation among other factors (UNDP, 2012). Estimates indicate that 85% of Kenya’s population is reliant on traditional fuels such as wood, charcoal, and agricultural residues while only 23% have access to and use electricity (GoK, 2011).

27. Accordingly, the Government of Kenya has developed strategies and programs to address the challenges and issues that arise from climate change and natural resource management. As mentioned earlier, the increased frequency of drought has led the government to place natural resource management (NRM) and climate change adaptation at the centre of its agricultural and economic development strategy. In cooperation with development partners, the government has introduced legislative and policy reforms to coordinate ecosystem management and the sustainable use of natural resources. The Government of Kenya’s Vision 2030 emphasises boosting smallholder productivity and developing non-farm activities. Other key national policy statements which relate to climate change include: a National Climate Change Response Strategy (2010), which outlines adaptation and mitigation measures that should be integrated in all government planning and development objectives to build adaptive capacity of climate change, especially where persons are most vulnerable. The companion National Climate Change Action Plan (2013-17), has laid solid foundation for reducing vulnerability to climate change and enhancing climate adaptation.

28. **Food security and nutrition:** According to the global hunger index, Kenya remains a food-insecure country although there have been improvements in the hunger situation over the last five years, moving from a rating of ‘alarming’ in 2008 to ‘serious’ in 2011.\(^\text{16}\) Overall, about 10 million Kenyans suffer chronic food insecurity and poor nutrition\(^\text{17}\). The underlying causes of food insecurity include: chronic poverty; poor infrastructure; high population growth; climate change; land fragmentation and degradation; poor natural resource management; dysfunctional markets; over-

\(\text{\textsuperscript{14}}\) SEI, 2009  
\(\text{\textsuperscript{15}}\) WRI et al, 2007  
\(\text{\textsuperscript{16}}\) Global Hunger Index, Challenge of Hunger: Taming Price Spikes and Excessive Food Price Volatility, 2011  
\(\text{\textsuperscript{17}}\) Government of Kenya, “National Food and Nutrition Policy”, June 2011, page 1
dependence on rain-fed agriculture and limited investments in the Arid and Semi-arid Lands (ASAL)\textsuperscript{18}. Recurring droughts lead to an increase in the number of people unable to meet their food needs and require food assistance for survival. The increasing rarity of good seasons between droughts has not given households sufficient time to recover. The cumulative impacts of poor rains in the last ten years have caused an erosion of gains made during good seasons, increasing further vulnerability to shocks. Floods in the coastal and lakeshore marginal agricultural livelihood zones have become a seasonal hazard, limiting the degree to which households are able to improve their productive capacities because of recurring loss of productive assets and/or outputs.

29. Concerning nutrition, the Global Nutrition Report 2014 shows that progress in reducing the prevalence of chronic undernutrition in Kenya (stunting) has been limited. \textsuperscript{19}Estimated at 37% in 1998 the rate of prevalence of chronic undernutrition stood at 34% in 2014, with important differences across the country. Undernutrition is most widespread and severest in the Rift Valley where some counties like UasinGishu record an undernutrition rate of 42.3% (DHS, 2014). The most affected age group are children of 18-23 months. Chronic undernutrition is a result of many different factors such as early pregnancy resulting in low birth weight babies, micronutrient deficiencies, diarrheal diseases caused by environmental health problems, inadequate breastfeeding, and inadequate complementary feeding, (time, quantity and quality). Therefore, in addressing chronic undernutrition, it is important to consider the three domains of nutrition security, namely food security, maternal and child care, and environmental health.

30. Institutional framework: The 2010 constitution brought fundamental changes to the way Kenya is governed, with the devolution of administrative responsibilities to the counties. The institutional architecture was consolidated into a much smaller number of ministries and institutions, specifically in sectors relating to agriculture. Accordingly, Kenya’s administrative organisation is now made up of 47 County Governments. The counties are semi-autonomous units of governance with responsibility for county legislation, executive functions, and provision of public services, among other roles. Within counties, sub-counties and wards are the decentralised units through which county governments provide services to the local population. Overall, the national government is generally assigned policy functions, while county governments have been given the implementation function in the actual delivery of services to the people. The ongoing transfer of functions to the decentralised level is phased and asymmetrical. Functions are planned to be transferred over a period of three years and will not be transferred to all counties at once. Among other factors, the asymmetrical transfer will depend on the capacity of the county to take up the functions. Regarding development priorities at the decentralised level, the Kenyan Public Finance Management Act 2012 provides that every county shall prepare a development plan in accordance with the provisions of the Constitution of Kenya for approval by the County Assembly. The development plan informs the budget priorities for the coming year. The county plans consist of: a 5-year County Integrated Development Plan which informs the county’s annual budget; a 10-year County Sectoral Plan; a 10-year County Spatial Plan using the Geographic Information System (GIS); and where applicable, city and municipal plans. The County Integrated Development Plan (CIDP) reflects the strategic mid-term priorities of the county governments and contains specific goals and objectives, a costed implementation plan, provisions for monitoring and evaluation, and clear reporting mechanisms. Citizen participation is mandatory in the planning process.

31. With regard to agriculture, the three main ministries at national level have been merged into one to address the fragmentation of responsibilities between agriculture and rural development-related ministries. Agriculture, Livestock and Fisheries are now in one ministry – the Ministry of Agriculture, Livestock and Fisheries (MoALF) with three State Departments each headed by a Principal Secretary reporting to one Cabinet Secretary. The regulatory framework governing Kenya’s agriculture is also undergoing significant legislative reforms following the coming into force of three newly enacted laws - the Agriculture, Fisheries, and Food Authority (AFFA) Act 2013, the Crops Act (2013), and the Agricultural and Livestock Research Act (2013). These new laws are expected to transform Kenya’s agricultural sector into a commercially oriented and internationally competitive industry. They unify the 131 laws that have governed agriculture in the past and merge the 24 state corporations associated with agriculture into a single regulating entity (the Agriculture, Fisheries and Food Authority - AFFA), and combine all state agricultural research institutes, including KARI, into one

\textsuperscript{18} KIPPPRA, policy dialogue on food security information needs in Kenya, Nairobi, March 2011

\textsuperscript{19} Stunting is the result of failure to receive adequate nutrition over an extended period of time
organisation (the Kenya Agricultural and Livestock Research Organization) with 18 sector-specific research institutes. Under the new regulatory framework, AFFA will now oversee operations of Kenya’s agricultural sector, which includes: licensing and law enforcement; farmer registration to enable the country to better provide services such as training and extension; a checks and balances system to allow Kenya meet international standards and agreements; and policy guidelines on agricultural issues that local entities must implement in order to ensure that national standards and policies remain consistent country-wide. At the devolved level, the powers of the county include (a) crop and animal husbandry; (b) livestock sale yards; (c) county abattoirs; (d) plant and animal disease control; and (e) fisheries.

32. **Agricultural/Rural Growth and climate change response policies:** The Kenya Vision 2030 is the prospective national strategy for transforming Kenya into a newly industrialised middle-income country providing high quality life to all its citizens. It identifies agriculture as one of the six key economic sectors expected to drive the economy to a projected 10% economic growth annually over the next two decades. One of the strategies for achieving Vision 2030 is by improving regional connectivity. Complementary blueprints to Vision 2030 are highlighted below:

- **The Agriculture Sector Development Strategy 2010-20 (ASDS)** is based on Vision 2030. Its overall objective is to achieve an agricultural growth rate of 7% per year and to reduce food insecurity by 30% by promoting an innovative, commercially oriented and modern agriculture. It is guided by two main strategic thrusts: (i) increasing productivity, commercialisation and competitiveness of agricultural commodities and enterprises; and (ii) developing and managing the key factors of production. The objective is pursued by improving extension services, links between research, extension and farmers, and access to financial services and credit; encouraging the growth of agri-business in marketing and processing/value addition; improving the regulatory framework to control the quality of agricultural inputs and services; increasing the competitiveness in the supply of agricultural inputs; and rationalising and harmonising taxation regimes to provide incentives to producers, agro-processors and other service providers.

- **The 2012 National Agriculture Extension Strategy (NASEP)** aims at empowering the extension clientele through sharing information, imparting knowledge and skills, and changing attitudes so that they can efficiently manage their resources for improved quality of livelihoods. This is to be achieved through the promotion of a pluralistic system for provision of extension services, building on public-private partnerships and on stronger linkages with research. On youth empowerment, the policy provides for sensitisation of the youth on lucrative ventures in the agricultural sector and establishment of processing plants in rural areas for value addition of agricultural raw materials and expansion of employment opportunities.

- **The National Climate Change Response Strategy (2010) and National Climate Change Action Plan (2013)** seek to mainstream an inclusive and equitable low-carbon development pathway for the country in the face of climate change. The Action Plan feeds into Vision 2030's Second Medium Term Plan (2013–17) and lays a solid foundation for reducing vulnerability to climate change and enhancing climate adaptation in the ASALs. It takes adaptation and mitigation efforts identified in the national strategy to the next stage of implementation of interventions in all key sectors including: livelihood diversification, development of human capital, water resources conservation and development, climate-proofed infrastructural development (roads and energy), afforestation and reforestation, and climate-resilient agricultural systems, among others.

33. **The National Food and Nutrition Security Policy (2011)** promotes a vision where “all Kenyans, throughout their life-cycle enjoy at all times safe food in sufficient quantity and quality to satisfy their nutritional needs for optimal health.” Its objectives are to: (i) achieve good nutrition for optimum health of all Kenyans; (ii) increase the quantity and quality of food available, accessible, and affordable to all Kenyans at all time; and (iii) protect vulnerable populations using innovative and cost-effective safety nets linked to long-term development. The National Nutrition Action Plan (2012-17) recognises the importance of dietary diversity as well as improved knowledge, attitude and practices among the population.
B. The Dairy Sector

34. Dairy in the national economy: Kenya has one of the largest and most developed dairy sub-sectors in Sub-Saharan Africa, accounting for about 4% of GDP with a growth rate of 4% per annum compared to 1.2% for agriculture as a whole. The national dairy herd, comprising an estimated 3.5 million head of purebred Friesian-Holstein, Ayrshire, Guernsey, Jersey and their crosses, produces about 3 billion litres of milk per year with over 2 billion litres coming from dairy cattle alone. The crosses constitute over 50% of the total herd while the Friesian-Holstein and Ayrshire dominate the pure breeds. There are over 1,000,000 smallholder farmers who depend presently on dairying for their livelihood.

35. Dairying is concentrated in the highlands and former provinces of Rift Valley, Central and parts of Eastern. However, this geographical picture changes markedly if ‘concentration’ is defined as volumes of milk produced per square kilometre per annum. In this latter case, the high incidence of dairying in the densely populated Western and Nyanza Provinces qualifies them as important dairying areas. Annual milk consumption per capita in Kenya is estimated at 125-150 litres for high-and medium-income urban dwellers and as low as 20 litres for milk purchasing households in rural areas. Households in milk-producing rural areas however consume more than the 20 litres/year. The dairy sector creates demand for wage labour as well as mobile milk trading, and these jobs benefit the very poorest of the rural and urban populations. Among the ‘lower end’ smallholders, holding on average one dairy cow has significant benefits in terms of household nutrition, as well as providing manure for crop production, while milk sales can provide a steady stream of cash.

36. Marketing of dairy products: Demand for milk in developing countries is expected to increase by 25% by 2025 partly due to population growth and disposable income being spent on a greater diversity of food products to meet nutritional needs. At the national level, Kenya has an extensive formal marketing network comprising large milk processors and dairy cooperatives, and an even larger informal market where smallholder farmers and small milk traders make direct sales of raw milk to consumers. In the more formal market, dairy farmer cooperatives are the largest players, playing an intermediary role by supplying milk to both informal traders and formal dairy processors. Despite these opportunities, marketing is a key constraint faced by small dairy farmers and is a main factor behind their low investments towards increased production and productivity. Indeed, the smallholder dairy sub-sector in Kenya is characterised by weak market linkages and unreliable market outlets due to a number of factors including pronounced seasonal fluctuations in milk output and prices, poor rural infrastructure (roads and electricity), as well as lack of management and business skills and inefficiencies in the post-harvest segment of the dairy value chain.

37. Accordingly of the total farm milk production, on-farm family consumption accounts for about 45% of production while the remaining 55% is marketed through various channels. About 80% of traded milk is sold through the informal sector. The informal sector dominance is mainly due to consumer preference for raw milk, which is cheaper, and an inefficient processing sector. Direct local milk sales without intermediaries or transport represents considerable savings to consumers while ensuring higher returns to producers. The informal traders buy milk at farm gate prices that vary from about 40 to 70 K.sh per litre and deliver the milk to consumers at prices that are up to 40% lower than processed packaged milk. While informal milk trade has created substantial employment opportunities for the rural and urban poor, there are concerns about the public health risks from informally marketed milk due to potential for adulteration and poor hygiene in milk handling. Kenya’s processing industry is concentrated near Nairobi and is operating at about 30% of its capacity.

38. Road infrastructure: Poor transport infrastructure is recognised as another major bottleneck to milk production and marketing. The general characterization of the road infrastructure in most rural areas in Kenya is that feeder roads connecting villages and farming areas to one another and to markets are inadequate and poorly maintained. Official estimates by the Government indicate that 85% of feeder roads in the country are in poor condition with accessibility limited to dry seasons. Kenya’s road network is estimated to be 160,886 km long and comprises 61,936 km of classified roads and 98,950 km of unclassified roads. Responsibility for management of roads falls within the Ministry of Roads and Infrastructure Development and is implemented through the Kenya National Highways Authority (KenHA), the Kenya Rural Roads Authority (KeRRA), the Kenya Urban Roads Authority (KURA), and the Kenya Wildlife Service (KWS) (for roads in national parks.)
39. Under the devolved system, all roads in the country have now been re-categorised into two categories: national trunk roads and county roads. National trunk roads (Class A and B and a few roads in class C) will be managed by the three road authorities (now being considered for merging into one) and county governments responsible for management of their respective county roads. Out of the 160,000 kilometres of roads in Kenya, 75% will be managed by the county governments. The county governments are wholly responsible for development and maintenance of minor roads, rural access roads (classified under Special Purpose Roads –SPR) and all unclassified roads.

Table 1: Kenya road network

<table>
<thead>
<tr>
<th>Road class</th>
<th>Paved</th>
<th>Unpaved</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: International Trunk Roads</td>
<td>2,772</td>
<td>816</td>
<td>3,588</td>
</tr>
<tr>
<td>B: National Trunk Roads</td>
<td>1,489</td>
<td>1,156</td>
<td>2,645</td>
</tr>
<tr>
<td>C: Primary Roads</td>
<td>2,693</td>
<td>5,164</td>
<td>7,857</td>
</tr>
<tr>
<td>D: Secondary Roads</td>
<td>1,238</td>
<td>9,483</td>
<td>10,721</td>
</tr>
<tr>
<td>E: Minor Roads</td>
<td>577</td>
<td>26,071</td>
<td>26,649</td>
</tr>
<tr>
<td>SPR: G, L, R, S, T, W</td>
<td>100</td>
<td>10,376</td>
<td>10,476</td>
</tr>
<tr>
<td>U: Unclassified roads</td>
<td>2,318</td>
<td>96,623</td>
<td>98,941</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11,189</td>
<td>149,689</td>
<td>160,886</td>
</tr>
</tbody>
</table>

Source: Kenya Roads Board, 2014

40. In the Programme area, the majority of smallholder farmers has no access to a reliable road network and rely on earth roads to access markets for purchase of inputs and sale of their produce. The type of road used has a positive association with higher household commercialization index. Farmers who have access to tarmac roads have a higher commercialization index than those using earth roads which become impassable during rainy seasons, hence outputs do not easily reach the market. Remote locations of farms coupled with poor road infrastructure results in high transport costs which in turn further reduces the price offered to farmers and, in some cases, completely cuts out some areas from the market. This leads to losses, considering that milk is a perishable product.

41. To contribute to connecting production clusters to collection and aggregation centers, SDCP supported the development of 27 Dairy Commercialization Area Action Plans (DCA-AP) in the Programme area. The Plans were used by communities to lobby for funding, which was used to upgrade 2,737 km of roads and cover them with murram. In addition, the Programme commissioned a study on rural infrastructure including a quantification of the losses due to the poor infrastructure which showed that more than 2.5 million liters of milk worth K.sh. 50 million is lost every year in the Programme area. Based on this study, the Dairy Commercialization Area Committees (DCACs) engaged in discussions with new county governments in the programme area who committed themselves to improve dairy infrastructure such as rural roads and milk cooling tanks through the Constituency Development Fund (CDF) and the Local Authority Transfer Funds.

42. Table 2 shows the road infrastructure network in targeted counties and the priorities of County Governments for rehabilitation/extension. Discussions with County Governments confirm that rural infrastructure development will remain a key priority in the CIDP. Focus will be on improving road access to milk production clusters through installation of culverts and other small bridges across seasonal rivers and drifts, and graveling of road sections, which become impassable during the rainy season. Target counties also committed themselves to complement SDCP support with measures and financial resources as indicated in Table 3 for continued improvement of the road network, enhancing community participation in construction and maintenance of roads.

Table 2: Road infrastructure development in targeted counties and proposed improvements

<table>
<thead>
<tr>
<th>County</th>
<th>Population 2009</th>
<th>Surface area (Km²)</th>
<th>Total length (km)</th>
<th>Tarmac (km)</th>
<th>Earth roads (km)</th>
<th>Surface roads (km)</th>
<th>Planned rehab/ext (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trans Nzoia</td>
<td>818,757</td>
<td>2,496</td>
<td>4060.94</td>
<td>154</td>
<td>1,953</td>
<td>2,953</td>
<td>641</td>
</tr>
<tr>
<td>Bungoma</td>
<td>1,375,068</td>
<td>3,033</td>
<td>1932</td>
<td>127</td>
<td>748</td>
<td>1057</td>
<td>750</td>
</tr>
<tr>
<td>Kakamega</td>
<td>1,660,651</td>
<td>3,035</td>
<td>2753</td>
<td>375</td>
<td>1,628</td>
<td>1,150</td>
<td>1,394</td>
</tr>
<tr>
<td>UasinGishu</td>
<td>894,179</td>
<td>3,346</td>
<td>4620</td>
<td>300</td>
<td>549</td>
<td>3771</td>
<td>974</td>
</tr>
<tr>
<td>Nandi</td>
<td>752,965</td>
<td>2,884</td>
<td>4612</td>
<td>251.7</td>
<td>1824</td>
<td>2879</td>
<td>800</td>
</tr>
<tr>
<td>Nakuru</td>
<td>1,603,325</td>
<td>7,521</td>
<td>6148</td>
<td>911.9</td>
<td>1110</td>
<td>2326.6</td>
<td>1240</td>
</tr>
</tbody>
</table>
Republic of Kenya  
Smallholder Dairy Commercialization Programme  
Updated Programme Design Report – Additional Financing

<table>
<thead>
<tr>
<th>County</th>
<th>Population 2009</th>
<th>Surface area (Km²)</th>
<th>Total length (km)</th>
<th>Tarmac (km)</th>
<th>Earth roads (km)</th>
<th>Surface roads (km)</th>
<th>Planned rehab/ext (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nyamira</td>
<td>598,252</td>
<td>899</td>
<td>1.021</td>
<td>80</td>
<td>298.00</td>
<td>100</td>
<td>212</td>
</tr>
<tr>
<td>Kisii</td>
<td>1,152,282</td>
<td>1317.9</td>
<td>1748</td>
<td>170.8</td>
<td>299.5</td>
<td>669.2</td>
<td>431</td>
</tr>
<tr>
<td>Bomet</td>
<td>724,186</td>
<td>2036</td>
<td>7000</td>
<td>237</td>
<td>826</td>
<td>751</td>
<td>854</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,579,665</strong></td>
<td><strong>26,568</strong></td>
<td><strong>33,895</strong></td>
<td><strong>2,607</strong></td>
<td><strong>9,236</strong></td>
<td><strong>15,657</strong></td>
<td><strong>7,296</strong></td>
</tr>
</tbody>
</table>

*Source: County Development Profiles; County Integrated Development Plans, 2013 – 17*

<table>
<thead>
<tr>
<th>Table 3: Budget allocation in targeted counties for construction and maintenance of roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
</tr>
<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td>Trans Nzoia</td>
</tr>
<tr>
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<td>Kakamega</td>
</tr>
<tr>
<td>UasinGishu</td>
</tr>
<tr>
<td>Nandi</td>
</tr>
<tr>
<td>Nakuru</td>
</tr>
<tr>
<td>Nyamira</td>
</tr>
<tr>
<td>Kisii</td>
</tr>
<tr>
<td>Bomet</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

*Source: County Government approved budget estimates, 2014-15 and 2015-16*

43. Upscaling the programme to new sub-counties, SDCP will support: (i) a feasibility study in new sub-Counties on the state and impact of rural infrastructure on the dairy sector; and (ii) discussion forums between DCACs, partners and County Governments to prioritise road access points which require spot improvements in view of financing. The Programme will also identify climate change resilience measures to take into consideration in road spot improvement.

44. **Dairy policies and strategies:** For the management of the livestock sector, the new Kenya devolution framework provides a two tier-approach as follows:

- The National Government retains functions in policy development, setting of standards, capacity building for counties, technical support services, international relations, and membership;
- County Governments are assigned responsibility for extension services, livestock business and market development, animal husbandry and management, livestock feed production and management; and
- Functions are concurrent for food security, research, implementation of development programmes, animal health, livestock farms, and stations.

45. **The Agriculture Sector Development Strategy** identifies the main capacity challenges faced by the counties in the livestock sub-sector as follows:

- Shortage of livestock extension staff: While counties inherited livestock officers operating in their jurisdiction, the positions of ward extension officers are not fully staffed due to a shortage of resources. Hence, some wards lack staff for extension services to dairy farmers.
- Inadequacy of livestock budget financing: In general, country financial allocations to sub-counties and wards are insufficient for effective livestock extension services and development activities. Extension officers lack transportation and equipment to carry out their duties.
- Inadequacy of training on latest dairy/livestock farming technologies. Some extension officers in the field have not received training for many years, whereas the livestock sector is developing fast with new technologies and challenges.
- Low level of training of farmers. Farmers, in particular female farmers, are usually not adequately informed about the opportunities available in the livestock sub-sector. Consequently, their decision-making and mobilisation capabilities are limited.

46. Accordingly the ASDS makes a number of recommendations for the dairy sub-sector, including: the review of policies, legal and institutional frameworks; the improvement of livestock productivity; the improvement of animal health and quality assurances services; the improvement of access to markets for livestock and livestock products; and the establishment of coordinated livestock databases. In support of the liberalisation process of the dairy sector, there has also been an overall policy shift towards privatisation and substantial effort has been focussed on putting in place appropriate policy legislative frameworks. The new policies and acts of relevance to the dairy industry include: the Kenya Dairy Development Policy (2005 draft); the Dairy Industry Bill 2005 (draft); the Animal Feedstuffs Bill, 2004 (draft); the Cooperative Societies Act, 1997; the Pest Control Products Act 1993; and the National Livestock Policy. Moreover, the Dairy Master Plan 2010-30 proposes strategies and action plans for the transformation of the dairy industry and identifies areas of intervention and investment for improving productivity and competitiveness in the subsector. Its Sessional Paper No 5 of 2013 sets the following objectives for the sector: i) improve the productivity and competitiveness of Kenya’s dairy and dairy products, ii) to positively contribute to the livelihoods of milk producing households, iii) to contribute to national food and nutrition security, iv) to maximize dairy exports in the regional and global markets.

47. Finally, the Kenya Dairy Development Policy 2013 still in draft seeks to promote milk production through better management practices; access to appropriate technology; public education and campaigns on milk consumption; improved quality of milk; and efficient supply of inputs and services. The 2005 Dairy Industry Bill provides the legal framework for the implementation of the Kenya Dairy Development Policy. The draft specifies the law governing the establishment, administration, governance and functions of the Kenya Dairy Board (KDB) to ensure that it becomes more representative of the industry as a whole. KDB is mandated to regulate, develop, and promote the dairy industry and create an enabling environment for increased private sector participation in milk production, processing and marketing. The State Department of Livestock and KDB have carried out a full review of the existing draft Dairy Policy and a legal review of the existing draft Dairy Bill to be approved by Parliament. Also of importance to smallholder dairy producers is quality control relative to animal feeds, access to artificial insemination services and reliable breeds’ records.

48. Dairy Institutions. The mandate of the State Department of Livestock in the Ministry of Agriculture, Livestock and Fisheries includes the formulation and implementation of livestock policies; the co-ordination of programmes in the livestock sub-sectors; information management for livestock; the regulatory management and quality control of inputs, produce and products of the livestock sub-sectors; the management and control of diseases; the provision and facilitation of extension services; the setup of the agenda for livestock research; or the management of the natural resource base for livestock.

49. The Kenya Agricultural and Livestock Research Organization (KALRO) was created under the Kenya Agricultural and Livestock Research Act of 2013 to establish suitable legal and institutional framework for coordination of agricultural research in Kenya with the goals of (i) promoting, streamlining, co-ordinating and regulating research in crops, livestock, genetic resources and biotechnology; and (ii) expediting equitable access to research information, resources and technology and promote the application of research findings and technology in agriculture.

50. Kenya Dairy Board; Animal Genetics institutions (AI, Liquid Nitrogen; Breeds registration); Vaccine Production & distribution; Training and accreditation related institutions; dairy farmer institutions

C. Programme Rationale

51. The Kenyan dairy sector being one of the largest in Sub-Saharan Africa, it has the potential to generate significant income and employment opportunities for vulnerable smallholders. However, as described above, a number of factors prevent smallholder dairy farmers from fulfilling this potential including inadequate access to markets; poor quality of feeds and feeding regimes; seasonal fluctuations in forage availability and associated fluctuation in milk supply to the market; inefficient
producer organisations; poor rural infrastructure and inadequate access to artificial insemination services which result in the use of bulls of unknown genetic potential. To take advantage of the opportunities offered through dairying, smallholder producers need to be better informed and have better access to the technical options available for management of their animals and milk production, as well as for improving their dairy enterprise skills so that they can make better choices that improve their incomes.

52. The IFAD-funded Small Dairy Commercialization Programme (SDCP) came into force in 2006 and is expected to complete in September 2015. Under the leadership of the State Department of Livestock in the Ministry of Agriculture, the overall goal of SDCP is to contribute to increasing the income of the poor rural households that depend substantially on production and trade of dairy products for their livelihoods by: (i) improving the financial returns of market-oriented production and trade activities by small operators, through improved information on market opportunities, increased productivity, cost reduction, value adding, and more reliable trade relations; and (ii) enabling more rural households to create employment through, and benefit from, expanded opportunities for market-oriented dairy activities, in particular as a result of strengthened farmer organizations.

53. As women undertake a substantial share of dairying and form an important share of heads of dairy farms, it was expected that they would derive extensive income benefits from the Programme. Mobile milk traders and milk bar operators also benefited from the Programme support. The total SDCP costs were estimated at USD 19.75 million funded through an IFAD loan of USD 17.49 million and an IFAD Grant of USD 0.84 million to support the Government in implementing institutional and policy reforms for the development of the dairy sub-sector. The government's contribution to the programme amounts to USD 0.92 million, while the one of beneficiaries is of USD 500,000.

54. Notwithstanding a reduced implementation period, SDCP was successful in terms of development results achieved with targeted dairy stakeholders. As presented below, it is assessed that SDCP now reaching completion stage, has supported 527 Dairy Groups to increase their benefits from dairy-farming reaching out to over 13,125 small dairy farmers in 9 major milk-producing counties of the country. Out of the membership of these Dairy Groups, 60% were women. The programme has contributed to supporting the Ministry of Agriculture, Livestock and Fisheries (MoALF) develop and operationalize an effective approach to support small-scale dairy farmers, processors and traders to engage into dairy farming as a more profitable commercial enterprise. The additional financing for SDCP will respond to the Government of Kenya's request the outreach, the results and impact of the Programme through (i) a geographic expansion to sub-counties within current counties of intervention where Dairy Groups and Value Chain stakeholders show potential to graduate to market-oriented farming and (ii) the extension of the outreach of activities/components found to have achieved significant development results.

D. SDCP Results and Lessons Learned

55. Highlights of the development results achieved through the programme support are presented below:

- Graduation of dairy groups to market oriented farming: About 90% of the Dairy Groups supported by SDCP have moved up the ladder towards a market-oriented dairy enterprise level, whereby they have operational structures and another 20% are now organized as business entities generating profit and engaged in value addition. Over 95% of these dairy groups have entered into marketing arrangements with processors.

- Increase in milk productivity: Through the enhancement of their technical skills, Dairy Groups have been empowered to increase milk production per cow from 4 to 12 litres/day; and the average cost of producing 1 litre has dropped by 25% (cost of producing milk reduced from Ksh 24 to 18 per litre) against a target of 20%.

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20 Against a target of 600
21 A comprehensive overview of the results and lessons learned of SDCP implementation is provided in Annex 1.
- **Increase in milk marketing**: Over 120 million litres of value added milk has been marketed, mainly through bulking and cooling, up from 27 million litres. The cumulative value of marketed milk has increased from Kshs. 488 million in 2007/08 to Kshs. 25.8 billion in 2015.

- **Increase in income and job creation**: Dairy Groups that have engaged in business activities generate employment and profit which is shared among members. 81% of the targeted households recorded an increased income from an average of 130 to 386 K.sh per day; it is estimated that about 20,615 jobs have been created through collective milk marketing;

- **Reduction of cattle diseases**: Disease incidences have dropped by 60 – 90% through vaccination and incidences of vector-borne diseases have decreased from 21 to 10%;

- **Improved access to dairy cattle feed and fodder**: Farmers have increased the area under fodder crops to 28,800 up from 10,560 acres. 97 small-scale feed mills have been established by dairy groups in the programme area and 80 dairy group bulking sites have transitioned into fully commercialized sites that are adding value to crop residues;

- **Access to enhanced dairy farming technologies**: Low-cost, labour-saving technologies such as chaff cutters and feed mixers have been adopted by about 25% of farmers in the programme area. The Programme has also linked farmer groups to service providers for water harvesting and other environment-friendly technologies. 80% of the trained farmers have complied with existing regulations on hygienic on-farm milk production and handling;

- **Contribution to dairy policy-making**: At the institutional level, through the Programme support the draft National Animal Breeding Policy and Bill and the draft Animal Feedstuffs Policy and Bill are due for submission to Parliament. The support to Dairy Cattle Breeding and AI Services Policy and Central Artificial Insemination Station CAIS Strategic Plan are awaiting printing. All Dairy Groups have also been trained in dairy-related policies and how they affect their operations;

- **Building up capacity for specialized training to stakeholders in dairy farming technologies**: The Programme financed the construction of a Dairy Conference Centre within the National Dairy Institute (DTI). The facility will enable the DTI to host specialized training for smallholder dairy farmers; small-scale milk traders, shop operators, and processors on subject matters such as dairy technology, hygienic milk production and handling; milk processing and value addition.

- **SDCP effectively engaged with private sector stakeholders in the delivery of services to programme beneficiaries**: Key among them are the main national dairy processors. Brookside Dairies and new KCC who entered into contracts with targets dairy groups farmers for the collection, cooling and marketing of milk providing farmers with a more reliable market for their dairy production and more predictable milk prices. The programme also supported private Artificial Insemination providers to improve outreach in the Programme area. AI services to dairy farmers led to increase in milk yields following breed improvement. Organisations like ABS, Worldwide sires have supplied semen to the dairy farmers including animal husbandry practices training during field days organized by SDCP. Partnership with the private sector was also extended to financial services through a partnership with the Equity Group Foundation who have trained dairy groups on financial literacy as a means of for dairy farmers to access credit from institutions like Equity Bank, Kenya Commercial Bank, Cooperative Bank, and K-Rep Bank. For animal feeds production, SDCP has linked farmers with Kenya Seed Company, Ultravetis Unga Feeds, Kays Feeds, Coopers production for seed production and enhancement of farmer capacities in maintenance of animal health.

- **SDCP promoted the economic empowerment of women dairy farmers**: Under the Programme, women’s economic empowerment is tracked through gender disaggregated data and impact surveys. As mentioned earlier M&E data show that 60% of those who benefitted from the programme’s interventions were women. This was out 13,125 smallholder dairy farmers organized in 527 Dairy Groups. Through the programme’s support, the milk production of farmers per cow increased from 4 to12 litres/day. Data from 2013 mini survey showed that their average income from sale of milk per day had increased from 130.09 to 386.17 KES.
The average cost of producing 1 litre of milk dropped by 25% (from Ksh 24 to 18/litre) against a target of 20%. Over 120 million litres of value added milk has been marketed up from 27 million litres mainly through bulking and cooling facilities. The MODE progression provides additional indication of economic empowerment. Women represented 56% of the 4,073 members who graduated to MODE 3 characterized by stable business activities generating regular income and dividends for members. Results further showed that women’s livelihoods improved as income from sale of milk was predominantly used for activities that met women’s priorities mainly education, food and clothing, and purchase of agricultural inputs. Other uses of the income include purchase of household assets, health care, labour payment and other investments such as purchase of land, shares and motor bikes/bicycles (Mini-Survey May 2013). Under the AF, SDCP’s the M&E system will be further improved in terms of tracking gender equality and women’s empowerment in terms of (i) economic empowerment, (ii) voice and representation, and (iii) equitable workloads. The Women’s Empowerment in Agriculture Index (WEAI) will be used for this purpose. This will allow monitoring of women’s economic empowerment through SDCP support from baseline to completion.

56. While generating these results, SDCP implementation also generated valuable lessons learned which will inform the scaling up of the programme in view of more effectiveness as follows:

- Better targeting is required for progression of Dairy Groups to market-oriented dairy farming: The process of graduation of Dairy Groups was challenging to reach a level where significant surplus could be commercialized, and some groups strain to graduate to business-oriented dairy farming. Targeting criteria should thus consider the groups’ economic activity, level of organization and milk production;

- Setting up specific strategies for gender and youth integration have yielded results such as: (i) setting quotas for women and youth access to services and activities supported by actions that facilitate their participation such as reserving 30% of leadership position to women; (ii) training sessions arranged at convenient times for women; (iii) introduction of gender-friendly technologies e.g. dairy goats, support to credit access; labour-saving technologies such as biogas and other energy saving devises; chaff cutters and small feed mixers; (iv) use of gender-sensitive participatory appraisal methodologies in the planning, implementation and monitoring processes; and (vii) sensitisation and capacity building on gender;

- Delays in processing incremental grants deferred Dairy Groups’ progress towards commercialization: The grant management process should be enhanced to reduce approval layers, specify the roles of the different actors involved, including steps and timeframe for more effectiveness;

- Low quality of technical support to Dairy Groups affected development of results: The unavailability and inadequacy of County Cooperative Department Staff to provide expected support services to dairy groups led to a rejection rate of about 45% of the grant proposals and affected target groups’ results. SDCP implementation modalities should be aligned to the pluralistic approach for extension and other service provision of the National Agriculture Extension Policy to make up for capacity gaps in extension services at county level;

- County subsidies for Artificial Insemination (AI) posed a challenge to private service providers: Some counties introduced different levels of subsidies to AI and animal health services to farmers. This posed a challenge for the SDCP-supported private service providers’ business development. Through cooperation with the counties, SDCP will aim at facilitating a levelled playing field for operators to avoid sudden changes in policies introducing unsustainable subsidies. In addition, it will cooperate with the counties to set-up a quality assurance system for AI services;

- Capacitation of small milk traders and operators requires a specific approach given their mobile and informal nature: SDCP should develop a specific approach to reach out to this target group including incentives and flexible training modalities adapted to their business schedules.
- **Implementation of the Low-Cost Market Information System (LCMIS) has been slow and results limited**: Setting-up the LCMIS was a time-consuming process, while being out shadowed by new and emerging technologies that render the SMS platform inadequate. Data collection and updating of the system have also been challenging owing to the rate at which the information becomes obsolete in a rapidly dynamic milk marketing environment;

- **The school milk programme supported by SDCP did not yield expected development results**: The primary goal for the introduction of a school milk programme under SDCP was the creation of an additional demand supporting the milk commercialization objectives of the Programme. Given that the scheme was highly subsidized by SDCP and that there is no information that parents would be capable of meeting the entire costs of the milk, this activity did not yield the expected outcome. From a nutrition perspective, lessons learned also show that the school milk programme did not target those most in need for addressing chronic undernutrition (stunting), i.e. children in the age group are of 18-23 months. In addition, milk alone is not sufficient to meet the dietary requirements in particular when micronutrient deficiencies are very common. Milk plays its role being an animal sourced protein in communities as meat and meat products still remain unaffordable to targeted households. However, in order to address undernutrition, a more comprehensive approach to increase dietary diversity (incl. consumption of micronutrient-dense vegetable and fruits) is required.

- **The dairy goat scheme offers income generating opportunities for women and youth**: There is a profitable market for goat milk and products in Kenya and in the region. Goat milk production and marketing has a high potential for the engagement of women as it requires a lesser amount of capital investment, feed and land for goat maintenance. Goats also have shorter generation cycles, which allow the development of a flock over a shorter period of time. The SDCP dairy goat scheme focused on poor women and vulnerable groups with about 1,500 goats distributed to these groups. The dairy goat scheme did not yield the expected results as targeted individual women and vulnerable groups lacked the minimum technical skills and capacity to effectively manage the goats accessed through the programme. This stemmed from the fact the SDCP did not equally target them for capacity building in dairy goat technical and entrepreneurial skills, and enhanced extension services. Accordingly, only those individuals and groups who had the minimum resources and skills in dairy goat management were able to increase milk production for home consumption and to engage in small-scale marketing, and generate income by selling goats of improved breeds.

- **SDCP’s policy and institutional support contributed to the creation of a more conducive environment for the economic development of small dairy stakeholders**: The Programme backed up the State Department of Livestock in organizing the stakeholder consultations for development of the Dairy Industry Bill and the National Livestock Policy, which development was supported through a basket fund under the Agricultural Sector Coordination Unit (ASCU). SDCP also supported the State Department in stakeholder consultations and in the drafting of National Policies and Bills on Animal Breeding and on Livestock Feedstuffs. At the institutional level, the Programme partnered with the KDB for the training of targeted dairy stakeholders on regulatory requirements and licensing, value addition, and promotion of milk marketing through stakeholder engagement and participation. KDB was also funded to develop Low Cost Market Information Systems (LCMIS) on dairy. However, implementation of the LCMIS has been very slow and the technology platform on which it stands has been overshadowed by new technologies that render it inadequate as current trends require real time information which cannot be provided by the system as developed. Data collection and updating of the system have also been challenging owing to the rate at which the information becomes obsolete in a rapidly dynamic milk marketing environment. During the extension period, KDB will remain a key partner in support of the commercialization agenda of the Programme, however given the above the partnership with KDB will re-focus collaboration with the Programme on two areas: (i) training of DGs on formal milk marketing arrangements such as contract enforcement and compliance with the established regulations; and (ii) enhancing the quality-based milk payment system to provide value for quality milk produced and increase returns.

- **The partnership with the Kenya Dairy Training Institute was successful in terms of institutional strengthening**: SDCP significantly invested in the upgrading of the training facilities of the DTI,
namely: (i) the rehabilitation of training rooms and laboratories, and the improvement of the training equipment through the supply of farming, office and transportation equipment; (ii) the upgrading of the herd used for training purpose through funding for paddocking of 40 acres of land, the construction of a zero grazing unit and a hay barn and the supply of 15 dairy cows, 6 dairy goats and 5 camels; (iii) construction of a reference conference hall of regional outreach for training small dairy farmers and stakeholders with a hosting capacity of about 200 trainees.

DTI also partnered with the Programme for the tutoring of Trainers of Trainees on hygienic milk production, loss reduction and value addition, and for training of extension staff of targeted counties on feed formulation, milk standards, dairy management, reduction in post-harvest losses and milk value addition. With DTI, SDCP will capitalize investments in their capacity enhancement and rely on them as a key programme partner for the strengthening of the technical skills of targeted small dairy farmers, small scale milk traders and milk bars/shop operators in hygienic milk handling, testing and quality control; value addition; dairy cow management; entrepreneurship and agribusiness.

II. Programme description

A. Programme area and target group

57. SDCP was designed to reach 600 Dairy Groups corresponding to 24,000 small dairy farmers engaged in dairy production and trading reaching to about 120,000 people in 9 districts/counties as follows:
   - Rift Valley Region: Bomet, Nakuru, Nandi, Trans Nzoia, and UasinGishu;
   - Western Region: Bungoma and Lugari (now in Kakamega county); and
   - South Nyanza Region: Kisii and Nyamira.

58. Within these counties, 25 sub-counties were selected on the basis of a series of indicators including the milk density, the poverty threshold, and the road density for marketing purposes. SDCP support followed a structured Market Oriented Dairy Enterprise (MODE) approach whereby Dairy Groups were categorised and supported to graduate to an effective business level corresponding to MODE 3 as presented below.

<table>
<thead>
<tr>
<th>MODE 1</th>
<th>MODE 2</th>
<th>MODE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy groups are engaged in a collective activity (low volume and profit level)</td>
<td>Dairy groups are considered operational: formally registered, operational structures, accountability systems, and constitution</td>
<td>Dairy groups are further organised as business entities generating profit, engaged in value addition</td>
</tr>
<tr>
<td>Indication that Dairy groups can move to next step</td>
<td>Dairy groups hold regular meetings, maintain records, have bank accounts with a saving culture</td>
<td>Dairy groups have reliable trade relations and enterprise/investment plans</td>
</tr>
</tbody>
</table>

59. The major lesson learned with regard to targeting the first of the Programme was the tension between the poverty criteria and the commercialization objective. Indeed, the poverty focus led the programme to invest considerable time and resources to boost target groups’ milk production to a level commensurate with the commercialization objective. During the extension period, SDCP will scale out its outreach from 25 to 33 sub-counties across its 9 counties of intervention with an estimated dairy farmer population of 560,817 as presented below:

- In its 25 sub-counties of operation, SDCP will only scale up support to new Dairy Groups in sub-counties having a required level of production to graduate to commercial activities; i.e. assessed to have a “high milk density” corresponding to 90,000 or more litres/km²/year. In

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22 Based on average of 40 members per group and 5 persons per household
23 These 9 counties/districts were assessed to have high and medium milk density, the highest overall incidence of poverty, a greater road density
24 At completion, it is assessed that through SDCP support 63% of the targeted dairy groups reached MODE 2 and 24% reached MODE 3.
sub-counties that only have “medium and low level” milk density\textsuperscript{25}, support will be focused on consolidating achievements of Dairy Groups which initially benefitted from SDCP support and which are assessed to have the capacity to graduate to MODE 3 before the end of the programme;

- Support will also be scaled up to the new Dairy Groups of 8 additional sub-counties assessed to have high milk density, namely: Webuye West, Kuresoi South, Bahati, Nakuru Town West, Ainabkoi, Bobasi, and Bomachoge and Borabu.

60. Targeting criteria followed by SDCP for individual dairy group members is as follows:
- Have a maximum of 2 cows
- Have an average of 2.5 acres (0.91 Ha)
- Be marketing not more than 30% of milk production

61. In addition, expanding to new sub-counties with high milk density, the Programme will apply the following criteria to target Dairy Groups:
- Have dairy as key economic activity and produce surplus milk for the market;
- Be assessed be at least at MODE 2 to ensure that they have the potential to graduate to MODE 3 by end of the programme where they should reach technical and financial sustainability;
- Having at least 20 members producing an average of 6 litres/day/animal of milk;
- Commit to target of increasing milk yield through SDCP support and own investments to 12-15 litres/day/animal over a three year-period.
- The group shall have a membership of at least 30% women;
- The group shall have a membership of at least 10% youth;

62. It is expected that the refined targeting criteria will foster economies of scale through business hubs being established under the MODE approach which will ensure a critical mass of dairy farmers for service provision and provide a sound basis for milk bulking and cooling to sustain higher levels of commercialization.

Table 4: SDCP consolidated Target Area

<table>
<thead>
<tr>
<th>County</th>
<th>Target sub-counties during the extension period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consolidation in existing counties</td>
</tr>
<tr>
<td></td>
<td>“Low or medium milk density”</td>
</tr>
<tr>
<td>1. Bomet</td>
<td>Central</td>
</tr>
<tr>
<td></td>
<td>East</td>
</tr>
<tr>
<td></td>
<td>Chepalungu</td>
</tr>
<tr>
<td>2. Bungoma</td>
<td>Tongaren</td>
</tr>
<tr>
<td></td>
<td>Webuye East</td>
</tr>
<tr>
<td>3. Kakamega (ex-Lugari)</td>
<td>Lugari</td>
</tr>
<tr>
<td></td>
<td>Matete</td>
</tr>
<tr>
<td>4. Nakuru</td>
<td>Rongai</td>
</tr>
<tr>
<td></td>
<td>Njoro</td>
</tr>
<tr>
<td></td>
<td>Subukia</td>
</tr>
<tr>
<td>5. Nandi</td>
<td>Emgwen</td>
</tr>
<tr>
<td></td>
<td>Mosop</td>
</tr>
<tr>
<td>6. Nyamira</td>
<td>Nyamira</td>
</tr>
<tr>
<td></td>
<td>Nyamira North</td>
</tr>
</tbody>
</table>

\textsuperscript{25}Between 60,000 and 90,000 litres/km\textsuperscript{2}/year is considered as ‘medium density’, and below 60,000 litres/km\textsuperscript{2}/year is classified as ‘low density’.

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Republic of Kenya
Smallholder Dairy Commercialization Programme
Updated Programme Design Report – Additional Financing

<table>
<thead>
<tr>
<th>County</th>
<th>Target sub-counties during the extension period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consolidation in existing counties “Low or medium milk density”</td>
</tr>
<tr>
<td></td>
<td>Borabu</td>
</tr>
</tbody>
</table>

63. Small-scale milk bars and shop operators will remain the secondary target group of the Programme in their value addition activities, as well as mobile milk traders, the majority of whom are the youth to expand their business, applying the following selection criteria:

- **Small-scale milk bar and shop operators** - be registered with the Kenya Dairy Board, have a business permit from the County, handle a minimum of 80 litres of milk per day and have appropriate business premises. The manager should have a minimum qualification of a certificate in dairy technology and staff should have a valid food handler’s medical certificate from the Public Health Department;

- **Mobile milk traders** - Licensed by Kenya Dairy Board, should handle at least 50 litres of milk per day of which at least 50% is collected from the Programme area and have a valid food handler’s medical certificate from the Public Health Department.

64. Overall, with the extended SDCP support, it is estimated 1,058 Dairy Groups corresponding to about 26,462 dairy farmers and 625 small milk traders, processors and operators will graduate to market-oriented milk farming or trading with increased incomes, better living conditions and nutritional status. In all, it is expected that the benefits of the programme will reach out to an estimated 162,524 household members.

- 458 groups representing about 11,400 dairy farmers reaching out to about 68,500 household members initially supported by SDCP will be carried forward during the extension together with about 90 small milk bars and shops operators and 135 mobile milk traders;

- SCDP will scale-up its outreach to 600 new Dairy Groups corresponding to 15,000 dairy farmers reaching out to 90,000 household members, 200 small-scale milk traders and 200 operators/processors.

65. As women undertake a substantial share of dairying operations and form an important share of heads of dairy farms households, the Programme will target at least 30% women and 10% youth participation in all programme interventions. The programme will make deliberate efforts to ensure that men and women youth have equitable access to opportunities offered through SDCP.

66. Finally, at the organizational level Dairy Apexes will also remain a specific target for SDCP support. Apexes are member based organizations spanning over one DCA, comprised of small scale dairy farmers with affiliation opened to other dairy value chain actors. Apex organizations play a central role in the dairy business hub approach in terms of potential to offer a sustainable range of services to small scale dairy producers including:

- Access to quality inputs at a competitive price including AI, feed and veterinary products;

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26 Based on an average of 25 members per group and 6 people per household
27 333 at MODE 2 and 125 at MODE 3
28 450 at MODE 2 and 150 at MODE 3
- Support for registration and recording of animals;
- Linkages with public and private technical service providers for capacity building; and
- Access to financial services as registered agents of financial institutions.

67. They are also well positioned to broker on behalf of their members marketing contracts with the dairy processors playing mainly a role of aggregator at the DCA level, and negotiating fairer prices. In addition, the apex organization also benefits other stakeholders in the dairy value chain, i.e. small scale mobile milk traders are linked with the Apex as registered agents for milk collection, especially from the producers not organized in groups for the marketing. Small scale milk bar and shop operators contract with Apex for regular and quality supply of milk. However, Apex organizations are evolving in a highly competitive environment and their sustainability depends on the soundness of their governance and management structure, and the quality and affordability of the services they offer. To that end, SDCP support to Apexes will aim at (i) providing them with incremental funding for bulking and cooling equipment, namely main cooler at Apex level and satellite coolers at group level including milk testing materials for member compliance with quality standards; and (ii) building up the capacity of management committees to negotiate competitive contracts with dairy processors ensuring a fair market price and exit clauses. The selection of eligible Apexes for programme support will be based on an assessment of the availability local market, the profitability of their business, their management and technical capacity.

B. Programme Approach

68. In line with IFAD’s guidelines\textsuperscript{29}, the additional financing to the Small Dairy Commercialization Programme will seek to enhance the outreach, the results and impact of the Programme through (i) a geographic expansion to sub-counties within current counties of intervention where Dairy Groups and Value Chain stakeholders show potential to graduate to market-oriented farming and (ii) the extension of the outreach of activities/components found to have achieved significant development results. In scaling up, lessons learned will be capitalized to enhance the approach in delivering Programme services to target groups.

69. Attention will also be given to supporting up-scaling of dairy farming as a profitable business beyond milk production through refined targeting criteria in terms of potential of groups to graduate to dairy business enterprises. The Programme’s approach to capacity-building structured around the MODE level of Dairy Groups of investment grants will also be enhanced to (i) address more effectively the issues of entrepreneurship skills, business development, and financial literacy through specialized service providers in view of increased effectiveness; (ii) ensure better assessment of the technical feasibility and projected profitability of the Dairy Groups’ business proposals; and (iv) give more attention to the promotion of linkages between potential financial products users\textsuperscript{30} and financial institutions. Monitoring of graduation of supported Dairy Groups to an effective business level by the end of the Programme will be given emphasis. To that end, the needs assessment and profiling of the groups will lead to annual entrepreneurial indicators and targets to be reached by the groups and monitored by the Programme.

70. The Private sector involvement will remain central to programme implementation in view of sustainability of development results and impact. The private dairy processors as well as private input suppliers are key stakeholders in Programme implementation, in particular through contractual linkages with the Apex organizations, as a key factor for impact sustainability. Dairy farmers and value chain actors supported by the Programme will also be linked to private financial institutions - Commercial and Microfinance banks, MFIs and SACCOs-for access to formal financial services. In this context, SDCP-sponsored financial literacy programme will contribute to improving the capacity of target groups to better understand financial products on offer and make the right choices to sustain their dairy business development.

\textsuperscript{29} Revised guidelines for additional financing for ongoing projects, IFAD, 2014

\textsuperscript{30} Dairy groups, small-scale traders and processors, and Apexes
71. In line with Kenya’s pluralistic approach for extension and other service provision to smallholder farmers, more emphasis will be put on the use of private service providers and institutional partnerships for delivery of the programme support to target groups in collaboration with county staff. SDCP will facilitate the contracting of private technical service providers working alongside county extension staff for capacity building of DGs and Apex organizations in areas such as technical support for production and processing, enterprise skills building, financial education. It is expected that these service providers will continue to offer such services beyond SDCP support, based on the fee for services approach supported by the programme or through financing by Counties or other development partners.

72. Finally, more attention will also be given to nutrition-sensitive actions such as linking the increased availability of manure through increased livestock production to the establishment of kitchen gardens, promotion of increased dietary diversity to address micronutrient deficiency and improvement of nutrition knowledge, attitude and practice. Increased income as a means to improved nutrition at household level will also be embedded in the programme sensitization/awareness raising campaigns to help households to make informed decisions for better nutrition. In view of that, the Programme will through “Behaviour Change Communication campaigns on nutrition” support the transfer of skills for good nutrition practices at household level through interactive sessions with community members. The promotion of dietary diversity will cover subject matters such as consumption of vegetables and fruits; improved complementary feeding for infants and young children (e.g. improved porridge), opportunities to engage into kitchen gardening by the increased amount of manure generated by livestock, micronutrient deficiency. The education and training of households in the programme area will be conducted by a specialized service provider in the domain of nutrition, hygiene and food safety. The training on vegetable production will be done by the County agricultural extension office. The Programme will provide teaching materials and required materials for training and demonstrations. The expected outcome is that selected households improve their dietary diversity at HH level whereby women and men are exposed to nutrition knowledge (in particular underlying causes of under-nutrition and Infant and Young Child Feeding) and interventions possess knowledge and practices in planning effective household meals and budgeting.

C. Development objective and Impact indicators

73. The overall goal of SDCP, to increase the income of the poor rural households that depend substantially on production and trade of dairy products for their livelihoods, will be further pursued through the additional funding with two specific objectives:

- Improving financial returns of market-oriented production and trade activities by small operators through improved information on market opportunities, increased productivity, cost reduction, value adding, and more reliable trade relations; and
- Enabling more rural households to create employment through, and benefit from, expanded opportunities for market-oriented dairy activities, in particular as a result of strengthened farmer organizations.

74. Four development outcomes are expected:

i. Organizational, managerial and enterprise skills of smallholder dairy groups to fully benefit from market driven production, processing and trading of dairy products improved;

ii. Smallholder dairy farming productivity enhanced and production costs reduced;

iii. Market linkages of smallholder dairy farmers, small scale milk traders and small size milk processors strengthened; and

iv. A conducive environment for the development of smallholder dairy sub-sector created.
D. Programme Components

75. In the context of scaling up activities found to be achieving development results, SDCP extension is re-focused on three of its technical components: (i) Organization and Enterprise skills; (ii) Technical Support to Smallholder Dairy Products; (iii) Development of the Milk Marketing Chain.

Component 1-Capacity building in Organization and Enterprise Skills

76. The objective of the component is to provide Programme beneficiaries, namely smallholder dairy producers, small scale processors and small scale milk traders, and Apex organizations with the appropriate organisational, managerial and enterprise skills to benefit fully from market-driven commercialisation of milk production, processing and trading. To that end during the extension period, activities have been rationalized around the following sub-components: (i) Improved organization, business planning and enterprise development skills; and (ii) Access to finance for enterprise development. Expected outcomes for the component are:

- 90% of Dairy Groups initially supported and 75% of new groups supported during the extension period deliver quality dairy services to their members, with at least 30% of women and 10% youths;
- 90% of Apex organizations initially set up with SDCP support and 75% of the new Apex organizations set up during the extension period deliver quality dairy services to their members;
- 80% of mobile milk traders have increased their business volume by at least 25% and are linked with Dairy Groups and Apex organizations supported by the Programme;
- 80% of milk bars and shop operators have increased their business volume by at least 25% by the end of the Programme.

Sub-component 1.1 – Capacity-building for improved organization and dairy enterprise development skills

The structured MODE approach developed by SDCP during will be scaled up (i) to improve the organization and enterprise skills of a higher number of Dairy Groups; and (ii) to sustain the development of dairy business hubs in the Dairy Commercialization Areas. Based on lessons learnt, more focus will be put on building capacity of the target groups in financial management, strategic and business planning, as well as financial literacy to facilitate financial linkages to sustain investments in dairy enterprises.

A. Capacity-building of DCAs

77. During the extension period, the Programme will support targeted counties in the delineation of new DCAs and the setup of Dairy Commercialization Area Committees (DCACs). The DCAs will continue to be selected as clusters of between 800 and 1 200 dairy farmers. Upon delineation, the Programme will assist DCACs to design their DCA Action Plan (DCA-AP) comprising of development priorities for the dairy value chain in the target area based on the identification of the priority areas/needs to be supported by SDCP using dairy analysis, surveys and value chain mapping available at County level. DCA-APs will include targets in terms of outreach (number of Dairy Groups and members, number of mobile milk traders and milk bar and shop operators) and specify (i) roles of Apex organizations and linkages with the dairy groups and small scale milk traders, (ii) marketing policy and linkage with dairy processors, (iii) support to be provided to the dairy groups, Apaxes, mobile milk traders and milk bars and shop operators; and (iv) priority areas of support under the SDCP Grant scheme. DCACs will also be trained on their roles, leadership and governance, financial management and conflict resolution.

B. Capacity-building of Dairy Groups

78. Dairy groups which already benefited from SDCP support will undergo an assessment to determine their capacity to graduate to MODE 3 and their training needs towards this objective. Only
groups assessed at MODE 2 will be eligible for further programme support to consolidate their achievements in terms of business organization. New Dairy Groups in sub-counties with high milk density will also selected for support under SDCP-Extended period. Each Dairy Group will be assisted to prepare Dairy Enterprise Plans (DEPs) anchored to their DCA-AP. The DEPs will guide the groups’ progression in the MODE process and will be reviewed by the group annually with support by the Programme to track progress and adjust to the evolving environment. Support to DEPs will entail capacity building of Dairy Groups in organizational development and entrepreneurship through:

- Generic capacity building training in organizational development including group dynamics, constitution development, and writing of minutes, leadership, conflict management, communication and resource mobilization. The training content will be aligned to the MODE level of the targeted Dairy Group, and complemented by tailored training based on the needs identified. Household methodologies in gender mainstreaming will also be integrated to assist groups in identifying gender issues and formulate strategies to address them both at group and household level;

- Capacity building in entrepreneurship will comprise of strategic and business planning, record keeping and production of financial statements and operational reports, financial management, including costing and pricing, marketing and branding, customer care and public relations, negotiations skills, human resource management, and relations with regulatory and supervisory bodies. Contents of the training will be adapted to the specificities of the group activities.

79. The Programme will continue to rely on farmers who can serve as Community Resource Persons (CRPs) and support them to develop model dairy farms for demonstration purpose. CRPs will be supported to (i) offer special services to dairy groups such as the facilitation of animal registration; (ii) mentor other farmers especially the youth to undertake dairy farming as a profitable business and/ or desirable occupation; and (iii) for application of household methodologies in gender mainstreaming. To support CRP in their mission, the Programme will develop tool kits including manuals, handbooks and training videos and documentaries on dairy technologies and farming practices promoted to ensure quality and consistency in the information shared with dairy groups. Study events and tours for farmers will continue being supported by the Programme. Organization of educational tours will be driven by the groups’ identified needs to address institutional growth, especially to stimulate and support the development of a dairy business hub. Thematic educational and exchange tours will be encouraged as much as possible, and farmers will be requested to make a contribution as follows: 10% of the cost for new groups in year 1, 20% in year 2, and 30% in year 3.

C. Capacity-building of mobile milk traders and small scale milk bars and shop operators

80. To incentivise small scale dairy traders and processors to enrol in a capacity-building Programme, sessions will be organised at DCA level with flexible hours to allow them to cater for their business schedules. With KDB as one of the main implementing partner for this scheme, training should also facilitate the issuing/renewal of their license. SDCP capacity building programme for small scale dairy traders and processors will cover:

- Design of simplified business plans (analysis of the market and business strategy including possible contractual relations with dairy groups and Apex organizations, simplified activity and financial projections);

- Simplified bookkeeping and preparation of financial statements to assess profitability of the business and design remedial measures in case of low profitability; and

- Individual coaching and mentoring, at least quarterly, in business management.

81. Organization of stakeholder forums, field days and exhibitions will continue being organized by the Counties for this target group with support from the PCU, on a cost sharing basis with partners and service providers. Coordination of the capacity building support and linkages facilitation provided under the Component will be ensured at County level by the County Programme Coordination Team (CPCT) and at Sub County level by the Sub County Programme Implementation Team (SCPIT) with oversight by the PCU.
D. **Capacity building of Apex organizations**

82. The Programme will aim at strengthening Apex organisations to reach organizational, management and financial sustainability, and deliver effective services to their members. Apex organizations set up during the previous implementation period will continue benefiting from capacity building interventions based on an assessment of their training needs. The Programme will also support the creation of new Apex organizations at DCA level to be set up within the first year of the extended period. Training of Apex committee members and management staff in organization and governance and entrepreneurship skills will cover the following areas:

- Writing of the constitution, election of board members and staff recruitment. The objectives and strategy of the Apex will be specified in the constitution in line with the DCA action plan, including specific strategy for linkages with dairy processors;
- Training of committee members and staff on financial management (bookkeeping, liquidity management, financial reporting), production of operational reports, and contracting with dairy processors;
- Participatory design of a 5 years business plan specifying the Apex strategy in line with the economic environment, modalities of implementation, and financial projections with cash flow and income statements, balance sheet and investment plan;
- Specific support for the negotiations and contracting with the identified dairy processors for marketing of the milk and other dairy products meeting the interests of both parties;
- Support to proposal writing for access to financial services;
- Regular coaching, at least quarterly, in areas of management object of capacity building support; and
- Organization of Apex level exchange tours with the objective that new leaders can benefit from experience of successful Apexes.

83. **Implementation modalities:** In order to scale up the Programme’s outreach and considering the relatively high level of expertise and specific experience required to provide capacity building in entrepreneurship skills, implementation of activities will be enhanced through competitive contracting of specialized Technical Service Providers (TSPs) and/or MoU with implementing partners for service delivery. TSP staff will comprise gender sensitive service providers with qualifications on group organization and governance, cooperative management and knowledge of the dairy value chain and local socio-economic environment. TSPs will be recruited under performance-based contracts with minimum performance indicators including (i) number of dairy group and members, Apexes and small scale milk traders/operators/processors trained; (ii) quality of the training assessed through trainees satisfaction surveys; and (iii) impact of the training measured through objective indicators related to soundness and sustainability of the business. The Programme will also enter into a MoU with Agriculture Information Resource Centre to produce field extension materials.

**Sub-component 1.2 - Improved access to finance for dairy-enterprise development**

84. Capacity-building of Dairy Groups in effective organization and enterprise skills will remain complemented by competitive access to investment grants for dairy enterprises to sustain their progress to the MODE 3. The grant scheme will be accessible to Dairy Groups supported by the Programme through calls for proposals to be financed on a cost sharing basis. Apex organizations will also be eligible for grants on a competitive basis to help them develop and sustain their business and provide quality services to their members.  

A. **Grants to dairy enterprises**

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31 DCACs will not be a target group under the grant scheme since it is not their mandate to carry out economic activities
85. Lessons learnt from SDCP execution led to clarification of the rationale of the dairy grants scheme and adjustment of its eligibility and management procedures along the following lines:

- The grant scheme will fill a gap in access to finance by Dairy Groups supported by the Programme who have not reached a development stage where they are eligible for financing by formal financial institutions (lack of track record, business profitability not demonstrated, and/or lack of collaterals). To avoid creating dependence on subsidies, groups will be entitled to only one grant, which should cover eligible needs to make the funded activity profitable and sustainable, and facilitate progress to MODE 3;

- Only Dairy Groups in MODE 2 will be eligible for the scheme. The grant scheme will support Dairy Groups’ activities under 3 windows: (i) production covering commercial forage production and conservation, and feed milling; (ii) marketing comprising of milk bulking, chilling and processing; and (iii) support to management information systems and market information for farmer organizations.

- The group’s proposal should be consistent with the dairy business hub rationale, the DCA-AP and should not induce counterproductive competition between Apex organisations and their group members;

- Specific focus will be on Apex organizations engaged in milk bulking and chilling. They will be eligible for grants for acquisition of satellite coolers (coolers above 3000 litres will be financed under different modalities under Component 3), feed milling equipment, and support for MIS. Apex organisations interested in investing in processing units will be supported to develop proposals to access funding from a financial institution. Feed milling will be supported for economies of scale and as part of strengthening the additional services to members and additional income;

- The group will contribute 10% of the value in cash or in kind. Besides consistency with the DCA-AP, revised criteria for proposal evaluation will include the dairy hub rationale, number of people benefitting from the business directly and indirectly, women and youth targeting, technical viability, projected profitability, job creation potential, and quality of governance and management of the group;

- The grant scheme will include minimum performance indicators to be achieved by the group in terms of profitability, technical and financial management, and outreach which will be specified in the agreement, with the rationale that equipment funded can be repossessed by the Programme in case of under-achievement.

86. Implementation modalities: Under the grant to dairy enterprise scheme, a grant oversight Technical Service Provider (TSP) with a relevant track record will be recruited through a competitive process by the Programme to ensure quality of proposal appraisal, monitoring of the funded activities, technical advice to the groups during monitoring, and oversight on behalf of the Programme to ensure that all parties involved in the process are complying with policies and procedures. The oversight TSP will not be involved in supporting the groups in proposal writing, to avoid conflict of interest. Other TSPs may thus be used to complement County staff to assist the group for proposal writing. Performance-based contracts will be signed with minimum performance indicators comprising of: (i) compliance with agreed upon work plan and timely submission of reports; (ii) timeliness in disbursing grants and compliance with policies and procedures; and (iii) quality of the technical and financial management by the grantees, and sustainability and profitability of the activities funded.

87. The grant scheme appraisal and disbursements processes have also been updated to improve management effectiveness and reduce the timeline for beneficiaries to access SDCP funding, namely (i) the roles and responsibilities of the actors involved in the grant management and supervision have been revised to increase efficiency; (ii) a specialized TSP will be contracted for grant oversight on behalf of the PCU; (iii) direct payments to suppliers will be introduced to hasten the process and reduce the risk of diverting funds.

As mentioned above, in MODE 3 groups are assessed to have the capacity to submit requests for funding to formal financial institutions
Table 5: Revised grant management process

<table>
<thead>
<tr>
<th>Step</th>
<th>Actors involved</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Call for proposals</td>
<td>PCU</td>
<td></td>
</tr>
<tr>
<td>2. Publicity/sensitization</td>
<td>County teams/DCAC</td>
<td>5 days</td>
</tr>
<tr>
<td>3. Proposal development and submission</td>
<td>County teams/TSP</td>
<td>By day 30</td>
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<tr>
<td>4. Preliminary screening by DCAC</td>
<td>DCAC</td>
<td>By day 35</td>
</tr>
<tr>
<td>5. Appraisal by CPCT and County Technical Evaluation Committee</td>
<td>Assistance from TSP</td>
<td>By day 40</td>
</tr>
<tr>
<td>6. Appraisal by oversight TSP</td>
<td>TSP</td>
<td>By day 60</td>
</tr>
<tr>
<td>7. Final Approval by PCU</td>
<td>PCU</td>
<td>By day 65</td>
</tr>
<tr>
<td>8. Information of groups on decision</td>
<td>CPCT</td>
<td>By day 70</td>
</tr>
<tr>
<td>9. Signing of grant agreements</td>
<td>CPCT/DCAC</td>
<td>By day 80</td>
</tr>
<tr>
<td>10. Submission supporting documents for payments</td>
<td>CPCT/DCAC</td>
<td>By day 90</td>
</tr>
<tr>
<td>11. Processing of payments</td>
<td>PCU/CPCT</td>
<td>By day 100</td>
</tr>
<tr>
<td>12. Monitoring of group activity</td>
<td>DCAC/CPCT/TSP PCU</td>
<td>Continuous</td>
</tr>
<tr>
<td>13. Reporting on use, results and impact of grants</td>
<td>CPCT / TSP</td>
<td>Quarterly basis</td>
</tr>
</tbody>
</table>

B. Improved access to formal financial services by the Programme target groups

88. SDCP will seek to increase its performance with regard to promoting linkages between potential financial product users (dairy groups and their members, mobile milk traders, milk bars and shop operators, and Apex Organizations) and formal financial institutions. This will support them to access the range of financial services they need to develop their dairy enterprise businesses in a sustainable manner. Programme activities with respect to improved access to financial services will be focussed on:

- Financial literacy for dairy group members, mobile milk traders, milk bars and shop operators to help them have a better understanding of the financial services on offer in the market. This will also contribute to render these categories of clients credible and “bankable” for the financial institutions. Formal financial services are understood in this context as regulated financial institutions, be they commercial banks, MFIs or SACCOs;

- Facilitating linkages between targeted beneficiaries and formal financial institutions through stakeholders’ forums, field days and exhibitions at different levels (County, Sub County, DCA) where value chain actors can interact with financial service providers;

- Support to Dairy Groups, Apex organizations, mobile milk traders, milk bars and shop operators, on a need basis, to develop bankable investment proposals to financial institutions.

89. Considering that the current offer of financial services is generally adapted to the needs of the targeted beneficiaries, the Programme will refrain from supporting the creation of new member-owned financial institutions at dairy group or Apex organizations levels, but rather promote possible linkages between Apex organizations or groups and the formal financial institutions, in particular as agents. This opportunity will be systematically considered for apex organizations and only for groups with the organizational and management capacity to deliver such services.

90. Implementation modalities: The Programme will enter into partnership with specialized institutions to provide professional financial literacy training for all the target groups supported by the Programme, except for the 83 dairy groups that have already been trained by Equity Group Foundation. Equity Group Foundation has been identified as a relevant institution to partner with considering its successful partnership with the Programme, its widely recognized expertise in this field, and its capacity and willingness to enter into a cost-sharing-based partnership to the tune of 25% of the total cost. TSPs recruited for entrepreneurship skills development will provide support to dairy groups and Apex organizations to develop and negotiate investment proposals on a need basis.

Component 2: Technical Support to Smallholder Dairy Production
91. In line with the value chain approach of the Programme, this component addresses the production constraints which currently limit smallholder dairy farmers’ ability to effectively participate in milk markets. Feed and fodder typically make up 50-70% of milk production costs in the Programme area. On average, the smallholders in the Programme area currently produce 4-7 litres of milk/cow/day. Dairy cattle feed and feeding constitute the greatest limitation to improvement of milk production and cow productivity. Constraints arise from three areas: adequate on-farm availability of feeds for the dairy animals throughout the year; quantity fed to animals even when available in relation to their productivity; and the nutritive value (quality) of both on-farm produced fodder and commercial feeds. Low milk production is due to a combination of a number of key factors including lack of technical knowledge on use and conservation of locally available feed and fodder resources (grasses, plants and fodder trees), limitation due to poor animal breed, animal diseases and occasionally lack of water.

92. Accordingly, the objective of the component is to provide targeted groups engaged in dairy milk production with technical skills to benefit from market-driven commercialization of milk production, processing and trading. To that end, SDCP support will be structured around the following thrusts:

(i) Capacity-building of dairy farmers in production and management skills in the area of disease control and management and routine husbandry skills;
(ii) Increased technical capacity on feeds and feeding management;
(iii) Improved capacity of public and private service providers to deliver cost-effective extension services for breeding management and dairy animal registration;
(iv) Improved availability of viable technologies at low cost including biogas, water harvesting, energy-saving technologies.

93. Under this component, SDCP support for enhanced dairy technical skills will remain tailored to the needs of targeted groups, and the delivery approach will be aligned to the one for capacity building of target groups in organization and enterprise skills, i.e. the Programme will assess the level of the Dairy Group members in dairy production techniques and technologies. Technical service providers and implementing partners will be identified for the training delivery to complement county staff and scale up the programme's outreach. Expected outcomes for the component are:

- 60% of targeted dairy farmers have adopted demonstrated technologies and improve their animal husbandry practices resulting in increased milk production, reduced disease incidences, and increased calf survival;
- All targeted dairy groups have access to effective extension services through a pluralistic approach for extension;
- 80% of targeted dairy farmers have access to quality AI services;
- 25% of targeted dairy farmers have invested in environmentally friendly and climate smart systems, as well as labour saving devices such as biogas and energy saving stoves;

Sub-component 2.1- Capacity building in production and management skills

94. Capacity building in production and management skills is focused on support to DCAs and Dairy Groups for animal vaccination and husbandry skills. During the first part of the Programme, DCACs were supported to setup revolving funds for community based animal vaccination to reduce mortality rate from diseases. With regard to husbandry skills, the support to Dairy Groups concentrated on the following generic areas: routine animal handling practices; dairy animal housing; disease control and management; and calf rearing. SDCP impact study indicates that the community-based vaccination schemes led to a reduction in mortality rates amongst targeted Dairy Groups from diseases such as Foot and Mouth Disease and Lumpy Skin Disease from 25% at the start of the programme to 5% to date. Through the additional funding, SDCP will extend to:
(i) **Newly formed DCACs:** Seed funding to setup revolving funds for community based animal vaccination. The identification of the priority vaccines will be based on existing disease incidences and prevalence in the target DCA. Resources are managed by sub-county veterinary offices to procure vaccines and basic equipment, finance training and logistical support to sub-county veterinary officers for the management of the vaccination scheme\(^33\).

(ii) **Newly selected Dairy Groups:** Its capacity-building programme in routine husbandry and disease control and management.

**Implementation modalities:** Concerning animal vaccination, SDCP on demand will provide new DCAs with seed funding of up to K.sh 500,000 to set up a community-based vaccination scheme. Seed funding will cover the procurement of a starting stock of vaccines based on the needs assessment at DCA level. The funds will be managed by the implementing County veterinary services. To ensure quality, vaccines will be procured through the Kenya Veterinary Vaccines Production Institute. Capacity building of Dairy Groups in animal husbandry will be undertaken by Sub-County Livestock Production Extension Officers complemented by Community Resource Persons. Training methods will include demonstration units on selected technologies and farming practices, field days and farmer to farmer exchange visits in all targeted DCAs on a cost-sharing basis. Dairy Groups will provide demonstration sites for training of their members, while SDCP will finance the trainers, inputs and equipment for demonstrations. The training of county extension officer and CRPs to deliver services to farmers in husbandry skills will be conducted by DTI in the framework of its MOU with SDCP.

**Sub-component 2.2 - Increased technical capacity on feeds and feeding management**

96. Under this sub-component, SDCP’s objective is to build up the skills of Dairy Groups in feed production and feeding management. Through SDCP, DCAs were supported to undertake inventories and assessment feeds and feeding technologies in their area. These assessments led to the development of a training package to address identified technology gaps at DCA-level. Training on dairy feeds and feeding management was delivered through on-farm demonstrations, field days and exhibitions to deliver interventions. In addition, CRPs benefited from residential trainings to offer peer training to group members, while field days and exhibitions, offered an opportunity to farmers to link up with private service providers for the supply of equipment and dairy feed inputs. To address the issue of fodder diseases, mainly Napier grass, SDCP also supported selected target Dairy Groups through seed inputs and training for the multiplication and marketing of disease free planting materials. From the bulked planting materials, over 5,500 farmers established fodder production projects over 10,500 acres of land. The improved availability of fodder at farm-level contributed to the recorded increase in average milk production to 10 – 12 litres/cow/day from 4 – 7 litres before the intervention.

97. The successful approach of SDCP in this area developed will be scaled up to new Dairy Groups in both the old and new Programme area as follows:

- **i)** Feed inventories will be conducted for only the new DCAs. This will enable the Programme to validate adapted feeding techniques to be supported and disseminated;

- **ii)** Demonstrations on selected feeds and feeding management will be organized in DCAs to strengthen farmers’ capacity in feed planning and enable their understanding of cost-benefits of adopting improved feed technologies and practices. The targeted demonstrations will only be for new groups in both the new and old Programme area;

- **iii)** Training of private and public technical service providers for the provision of quality technical services to Dairy Groups on feeds and feeding management techniques in all DCAs; as well as training of selected community members as CRPs on feeds and feeding management techniques and during demonstrations and field days. The Programme will train community members from new DCAs only and service providers from both the new and old DCAs.

98. **Implementation modalities:** The Programme will support new DCAs to undertake feed and feeding practice assessment and inventory using the feed assessment tool developed during the first

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\(^{33}\) The Programme will make provision for motor bikes, fuel and daily allowances.
part of the programme. In this regard, possible implementation partners are KALRO, Egerton University and University of Eldoret through a framework MOU with SDCP. The Programme will also provide funds for logistical support to private and public technical service providers to conduct demonstrations for dairy groups on feed mixing and feeding management technologies. The demonstration sites will be identified by the dairy groups and the Programme will provide funds to groups for purchase of inputs. The Programme will also engage a TSP to train both private and public service providers and CRPs to ensure availability of a pool of resource persons that will support dairy groups increase dairy animal productivity through proper application of nutrition technologies. The development of corresponding field extension materials will be covered under the MoU with the Agriculture Information Resource Centre.

Sub-component 2.3 - Improved capacity of service providers to deliver cost-effective extension services

99. Under this sub-component, the objective of the programme is to support farmers’ access to quality and cost-effective extension services. In this area, the focus will be on skill enhancement for breeding management and dairy animal registration.

100. SDCP invested in improving the access of Dairy Group members to breeding and animal registration through awareness raising and non-residential trainings. At the operational level, SDCP facilitated the training of selected community members as service providers of AI, vaccinations and other advisory services such as animal health and milk production. Dairy groups’ access to improved breeding through AI services led to an upgrade in the quality of their animals in terms of genetics and level of milk yield. Sensitization on their registration with the Kenya Stud Book and Livestock recording centre further increased the value of the animals based on their track-record in terms of parentage and milk yield production. However the registration of animals remains constrained by the fact that farmers are scattered within the DCAs while the Kenya Stud book also has limited staff capacity to conduct the process. To address this issue, SDCP will include in the capacity building programme, awareness-raising of Apexes on the needs to ensure that support for registration and recording of animals is embedded in their services to their members. The role of Apex organizations will be to create awareness amongst dairy farmers, on importance of animal registration and records and facilitate farmer and Kenya Stud Book mobilization for registration campaigns. This will ensure that at the DCA level there is sustainable animal registration and recording of performance. With regard to private AI and bull services piloted by SDCP to improve dairy breeding, it was noted that County Governments have since introduced public (subsidized) AI services and animal health services to dairy farmers. This has posed a challenge for the sustainability of SDCP supported private service providers. In addition, the use of sedentary bulls approach for breeding services also proved to be ineffective because of the high cost of feeding, health management challenges and the risk of disease transmission. Hence, in this area SDCP’s support will be re-focused on support to County Governments in ensuring quality control of AI services from private and public service providers. To this end, the Programme will contract a service provider to design a quality assurance system jointly with the County Governments. The developed system will address the critical aspects of standard operating procedures (SOPs), and supervision and monitoring of AI service provision including reporting mechanisms linked to dairy groups for performance assessment of individual inseminators. To create awareness on the system, the contracted service provider jointly with County Government will design, for printing by the Programme, advisory booklets that will elaborate on the standard operating procedures (SOPs). On the basis of the SOP guidelines, the contracted service provider will then train AI service providers and DCACs to create awareness at all levels.

101. **Implementation modalities:** SDCP will engage through the framework of a MoU, Kenya Stud Book to register and keep ancestry records and Livestock Recording Centre to evaluate the genetic performance of the animals. The two institutions will also provide trainings on the process and procedures of animal registration and record keeping for farmers. With regard to the AI, SDCP will partner with the Kenya Animal Genetic Resource Centre (KAGRC) to develop quality assurance system.

102. In order to accelerate the development of the dairy industry in Kenya, national strategies have highlighted the need to develop appropriate human skills in farm management, milk production, collection, bulking, transportation and processing, as well as marketing and distribution. In this context, SDCP will consolidate achievements with the Kenya Dairy Institute (DTI). Under the oversight
of the Ministry of Agriculture, Livestock and Fisheries, DTI is mandated to lead the offer technical dairy training services to value chain actors covering specialized areas such as dairy management, science and technology, animal husbandry, milk quality control, value addition, technology transfer, business development and entrepreneurship and marketing. To ensure the sustainability of services, the DTI Strategic Plan (2012) set the base for the conversion of the institute into a Semi-Autonomous Government Agency (SAGA) to ensure it is sustainable, commercially oriented and it meets the needs of the dairy industry. While DTI was depending on central government funds, through this conversion, it is foreseen that DTI can operate on a profit-making basis, with an internal rate of return of 15% after interest and tax. To that end, the institute has invested with government and donor support in the improvement on its facilities, and is undergoing a revision of its legal management and governance structure, course portfolio, course fees, marketing strategy, revenue streams and profit centres. The transformation of DTI into a SAGA has a number of advantages including the authority to mobilize financial resources to be managed by the agency; a strengthened capacity to attract skilled manpower through better terms and conditions of service and performance contracts; the authorization to charge fees for services delivered at market rates; or the flexibility to develop industry-driven products and services. In terms of standards DTI has also entered into partnership with specialized dairy institutions in the Netherlands to graduate to internationally recognised standards for DTI.

103. To further DTI’s capacity in the transfer of technical skills to small dairy stakeholder’s, during the extension period, SDCP will support the full operationalization of the dairy training hall constructed through SDCP funding. The focus will be on the completion of the residential facilities for small dairy farmers, traders and operators who will be enrolled in DTI trainings. Currently, trainees are transported back and forth to Naivasha town for accommodation. This arrangement is costly, time wasting and inconvenient for the trainees because some of the training activities such as milking are carried out late in the evening or early in the morning. SDCP will therefore finance planned residential facilities to accommodate small dairy farmers, traders, operators, and trainees, i.e. a 38-room residential facility for accommodation of small dairy farmers, traders and operators on short term training. Works management in collaboration with County Office for Civil Works will take into account lessons learned from execution to prevent construction delays as follows: (i) draft drawings and works specifications including tender documents were developed during the extension period design mission to ensure readiness for implementation; (ii) the description of items and bills of quantities are covered in the draft tender document; (iii) a Clerk of Works who is the technical representative of the programme to supervise construction will be hired by SDCP under clear terms of reference; (iv) Delays in some payments of up to up 3 - 4 months after certification by the Quantity Surveyor leading to delays in construction will be avoided through a temporary raise of the level of the special account or IFAD direct payment within the required threshold.

104. The hostel will consist of a story residential dormitory facility comprising: 38 self-contained rooms on ground and first floor levels, a reception area for guest services and management, a common recreation area, and a utility store. Activities for the construction of the multi-story residential dormitory facility will be grouped in three main categories: (i) Technical design of the building; (ii) Tender of the works; and (iii) oversight of construction works:

- **Technical design of the building** will include (i) the site survey and design brief development by the Programme, DTI and County Works Office. The site proposed by DTI for construction of the residential facilities has been validated by the County Office of civil works; and (ii) preparation of the designs drawings namely the architectural, civil and structural, and the mechanical and electrical layouts. All the listed drawings are provided in in Appendix 4;

- **Tender of the works**: a draft of the Quantity surveyor Tender Documents has been prepared and includes: the bill of quantity, building specifications, equipment specifications, schedule of works, specific requirements for bidders, and a sample letter of advertisement to bidders. The contractor will be selected by the PCU following a transparent selection process in line with the Public Procurement procedures for such contracts.

- **Oversight of the construction works**: to supervise construction works, the PCU will recruit a clerk of works to ensure quality control, monitoring of the construction work progress and coordination between the contractor, the county office of civil works, the DTI and the PCU. The clerk of works will be recruited through a competitive process and will be mobilized for a period of 18 months. The detailed Job description of the Clerk of Works is provided in Appendix 4. During the construction phase, the Clerk of Works will report to the PCU on the
overall progress of the works against initial planning. Specific attention will be paid to quality control of the works carried out and materials used. The clerk of works will also organize construction development meetings and schedule site inspection involving SDCP, DTI and the County works Office. Payment for work done will be based on completion milestones based on certification of works done in close collaboration with the Clerk of Works, the contractor, DTI, the Quantity Surveyor of the county works office and the architect. At the completion of the construction, a site snagging will be carried out to allow correction of identified defects before the final handover.

105. **Implementation modalities:** DTI will be a key programme partner for the strengthening of the technical skills of targeted smallholder dairy farmers, small scale milk traders and milk bars/shop operators in hygiene milk handling, testing and quality control; value addition; dairy cow management; entrepreneurship and agri-business. DTI will be invited by the Programme to submit a competitive technical and financial proposal for evaluation by the Programme’s procurement committee based on set technical criteria and ensuring cost-effectiveness in services to be provided to SDCP target groups. Concerning the construction of DTI residential facilities, responsibilities will be as presented below:

- SDCP will be responsible for oversight of the construction project. As such, SCDP will ensure liaison and facilitation with the County Works office for development of the design documents, recruitment of the Clerk of Works, procurement of the selection of the contractor, supervision of the work in the field in collaboration with the County works office and the architect, execution of payment for work done based on a joint certification report by Clerk of Works, the contractor, DTI, the Quantity Surveyor of the county works office and the architect.

- DTI will identify and provide the space for the building, approve the proposed building designs, attend all construction development meetings and schedule site inspection visits, provide utilities for construction such as water and electricity, ensure additional security on site though ultimate security of the site is the responsibility of the contractor.

- The County office of civil works will be responsible for finalizing development of the architectural, civil, structural, mechanical and electrical drawings, finalizing the development of the Bill of Quantities based on the designs documents, participating in the evaluation of the tenders, attending the site meetings and inspections, approving variations and change orders in close consultation with SDCP and DTI, evaluating payment requests, processing the resultant certifications, and ensuring quality control of the construction works and management of the project execution schedule in collaboration with the contractor.

106. In addition to preparation of technical documents and clear definition of modalities for supervision of the works, in order to ensure completion of the works during the set period of SDCP – Extension, a construction timeline of 20 months has been drawn in consultation with the County Office of Civil works as follows: (i) tender process to take 2 months; construction works to take 12 months, and (iii) a defects and liability period of 6 months. The overall evaluation of the cost of the residential facility is based on an estimated market rate cost of K.sh 35,000/m² of built up area. Based on this assumption, the breakdown of the cost by investment items stands as presented below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget (K.sh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Building Construction &amp; Walkway</td>
<td>32,000,000</td>
</tr>
<tr>
<td>Furniture, Fittings &amp; Equipment</td>
<td>11,000,000</td>
</tr>
<tr>
<td>Professional Supervision – Clerk of works</td>
<td>1,260,000</td>
</tr>
<tr>
<td>Other consultancy/Facilitation by County work office</td>
<td>270,000</td>
</tr>
</tbody>
</table>

**Table 6:** DTI Residential facilities – Estimated budget

**Sub-component 2.4 - Improved availability of viable technologies at low cost**
107. SDCP’s objective under this sub-component is to facilitate the access of dairy farmers to climate smart dairy technologies, including biogas, energy-saving and water harvesting technologies, to strengthen their resilience to climate change. In view of the multifaceted benefits to participating dairy households of the use of biogas, energy saving, and water harvesting technologies, SDCP will extend its support to Dairy Groups’ to access:

i. **Biogas technology as a renewable source of energy at household-level**: On selected farmer sites identified by DCACs, SDCP supported demonstrations to dairy communities on the benefits of the biogas technology. Through a partnership with KENAFF, demonstration sites were set up for fixed dome biogas units, while the partnership with Biogas International allowed the piloting of the flexi-biogas system technology option. The results of this pilot allowed target groups to assess that the latter technology was about half the price of the fixed dome system and hence represented a more viable technology option for small-scale dairy farmers. The pilot also triggered demand resulting in the overall use of this technology rising from 2.5% at baseline to 11% currently. DCA Dairy groups will be invited to identify sites where these demonstrations will be undertaken. Working through its implementation partners34, SDCP will support the set-up of biogas on a cost sharing basis, with the selected farmer contributing at least 35% of the total investment cost in cash or kind;

ii. **Low cost energy and labour and time saving technologies**: SDCP will continue to facilitate the training of Dairy Groups on water harvesting practices mainly roof water catchment, and through a partnership with the GIZ and State Department of Agriculture, the access of participating dairy households to energy saving stoves to reduce the use of wood fuel.

iii. The Programme will also promote climate smart dairy technologies, manure handling, fodder tree planting among others during multidisciplinary field days and exhibitions, thus presenting relevant opportunities and options to dairy farmers. Manure management and handling will entail technologies on collection, management and handling to mitigate release of greenhouse gas emissions.

108. **Implementation modalities**: In view of its extension, SDCP will engage in renewed agreements with implementing partners to expand access to these technologies to new Dairy Groups. Through field days and exhibitions, beneficiaries have been linked to private service providers for water harvesting, manure management and dairy equipment. The development of corresponding field extension materials will be covered under the MoU with the Agriculture Information Resource Centre.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Implementing partner</th>
<th>Purpose of the agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biogas systems</td>
<td>KENAFF, Biogas International, GIZ</td>
<td>To demonstrate to dairy groups available biogas system options. Partners will supply completed units, provide quality assurance during set up, and conduct training of local private and public service providers. The partner will undertake monitoring of the sites and final assessment</td>
</tr>
<tr>
<td>Energy saving stoves</td>
<td>GIZ, SCODE</td>
<td>To demonstrate to Dairy Groups and provide quality assurance on energy saving devices to dairy groups, monitor activity and provide an end of activity assessment</td>
</tr>
<tr>
<td>Water harvesting</td>
<td>SCODE, CITC</td>
<td>To demonstrate to Dairy Groups available water harvesting technologies</td>
</tr>
<tr>
<td>Manure handling and management</td>
<td>SCODE, KALRO</td>
<td>To demonstrate to Dairy Groups novel manure handling and management practices as part of climate change mitigation, and provide training of private and public service providers to build local capacity</td>
</tr>
</tbody>
</table>

**Component 3 - Development of Milk Marketing Chain**

34Biogas International, Sustainable Community Development, and KENAFF
The objective of the component is to improve market linkages of small-scale milk producers, traders and processors to local milk markets and increase the smallholders’ access to the processing industry. Initially, this component was organized around five outcomes: (i) Sustainable low cost market information system (LCMIS) operational and linked to Dairy Information Centre at KDB; (ii) Information gathered on rural infrastructure and strategy for improvement of market access elaborated; (iii) Improved capacity of dairy groups to market their products; (iv) School milk programme tested and ready for upscaling.

Based on results obtained and lessons learned, SDCP will not pursue investments in the setting up of a LCMIS in partnership with KDB and in a school milk programme. As earlier mentioned, the setting up of the LCMIS turned out to be a time-consuming process with the platform being overshadowed by emerging technologies that rendered it obsolete before it became fully operational. Data collection and updating of the system were also challenging owing to the rate at which the information becomes out-of-date in a rapidly dynamic milk marketing environment. Similarly, the school milk programme supported by SDCP did not yield expected development results: The primary goal for the introduction of a school milk programme under SDCP was the creation of an additional demand supporting the milk commercialization objectives of the programme. Given that the scheme was highly subsidized by SDCP and that there is no information that parents would be capable of meeting the entire cost of the milk, this activity did not yield the expected outcome. From a nutrition perspective, lessons learned also show that the school milk programme does not target those most in need for addressing chronic undernutrition (stunting), i.e. children in the age group are of 18-23 months. In addition, milk alone is not sufficient to meet the dietary requirements in particular when micronutrient deficiencies are very common. Milk plays its role being an animal source protein in communities as meat and meat products still remain unaffordable to targeted households.

Although, the dairy goat scheme is very valuable to support less economical active, resource-poor vulnerable groups, the scheme needs to be re-designed in order to address lessons learned from the previous implementation period and this would go beyond the scope of the conditionality for Additional Funding. GoK and IFAD’s enhanced support to dairy goat production, processing and marketing will be explored under a dedicated scheme to ensure attention to an adapted approach, technical packages and the specific needs of target groups to engage in this activity in a sustainable and profitable basis. Therefore, the dairy goat scheme is recommended for grant funding, either through alternative sources of funding or through IFAD grant funding in 2016. A proposal will be developed and submitted as soon as possible.

Accordingly, during the extended period, the support to target groups for milk marketing will be focussed on two thrusts: (i) improvement of market infrastructures and, (ii) capacity building of beneficiaries to improve market access and profitability. Expected outcomes indicators for the component are:

- Dairy stakeholders in targeted DCAs are supported in the inclusion of priority infrastructure for milk marketing in the County Integrated Development Plan in view of financing;
- The quantity of milk delivered on contracts to the processing industry is increased by 50%;
- 20 % more milk with added value is marketed through certified small-scale processors and traders.

Sub-component 3.1 - Improved market infrastructure

The objective of this sub-component is to bring targeted county governments to mobilize internal and external funding for the improvement of marketing infrastructure with emphasis on the dairy sector. SDCP commissioned a study to identify the impact of poor rural infrastructure on the profitability of the dairy enterprise. The findings of this study demonstrated that more than 2.5 million litres of milk with a value of more than K.sh 50 million is lost per year in the Programme area. This loss was mainly attributed to poor road networks especially during the rainy season when the milk production is at its highest. Based on this study, targeted DCAs entered in negotiations with their county governments who under the CIDP made provision for dairy infrastructure such as rural roads and cooling facilities. Capitalizing on the Constituency Development Fund (CDF) and the Local
Authority Transfer Funds, a total of 2,000 km of rural roads were rehabilitated and 10 milk bulking and cooling facilities were installed in the programme area.

114. Building on these results, SDCP will scale up the support to stakeholders for financing rural infrastructure in support of the dairy sector to new DCAs and sub-counties through the following activities:

   i. Support to new DCAs in conducting a feasibility study on the state and impact of rural infrastructure on the dairy value chain in the sub-Counties. This study will identify the priority infrastructures to be renovated or constructed to boost marketing of dairy products in targeted areas;

   ii. Support for negotiations between DCACs and county governments through county consultative fora for the inclusion of identified priority infrastructures of the CIDP and the mobilization of funding through local and external sources of revenue.

115. *Implementation modalities:* The Programme will contract a service provider to conduct the feasibility study on the state and impact of rural infrastructure on the dairy value chain in consultation with concerned County Governments and DCACs. SDCP will provide technical and financial support for the organisation of discussion fora and preparation of plans of action to be included in the County Integrated Development Plans.

**Sub-component 3.2 - Capacity building of beneficiaries for market access and profitability**

116. The objective of this sub-component is to improve the capacity of Dairy Groups to market milk and dairy products. During the first part of the Programme, it was assessed that through SDCP support to Dairy Groups for bulking and cooling sites, the amount of milk undergoing value addition in the target areas increased from 27 at baseline to 120 million litres. Through bulking and cooling facilities, Dairy Groups were also empowered to attract contract farming with the major dairy processors in Kenya. Milk collection and cooling centres demonstrated their potential to serve as “business hubs” where small-scale producers and service providers exchanged products and services. It provided an opportunity for farmers to finance dairy inputs and services through deductions from the milk payment which served as an effective tool to mitigate cash flow constraints to scaling up dairy investments and meet household expenditures. Improvement of the milk quality was also a focus of SDCP support through the partnership with DTI who conducted residential training of community resource persons in milk production, loss reduction and value addition. The selected farmers were used as community resource persons during demonstrations and field days. The use of demonstrations at the group level and identification and training of community resource persons proved to be an effective approach in addressing milk marketing and milk quality improvement.

117. Through additional financing, outreach activities of the Programme in this area will be expanded to target groups through the following activities:

   - *Strengthening of Apexes for the establishment of sustainable dairy business hubs:* The programme will support DCAs in setting up bulk milk coolers as part of their strategy to develop dairy business hubs. In order to identify deserving areas, the programme will conduct feasibility studies based on the criteria developed jointly with Kenya Dairy Board including milk quantity available for bulking, availability of an Apex to manage the facility with premises to host it, linkage of the Apex with dairy processors. DCAs will contribute to the facilities through the funding of the environmental impact assessments and the installation of the equipment including connection to portable water and electrical fittings. The management committee of the target Apex organization will also benefit from training in areas of contract negotiation, milk hygiene and testing. To support Dairy Groups in negotiating competitive contractual arrangements with milk processors, the Programme will design a generic contract for their use.

   - *Capacity building in milk marketing of Dairy Groups, small-scale milk traders and processors:* The Programme’s objective is to enable Dairy Groups to develop market entry strategies including the identification of market niches, competitive pricing and effective market linkages and penetration. To ensure implementation readiness, SDCP will during the last quarter of its
current financing period, conduct a training needs assessment on marketing for new Dairy Groups in view of defining with them a training programme to ensure the profitability, and sustainability of their enterprises. The training package with regard to marketing will also be structured to the MODE level of the targeted dairy group and complemented by tailored training based on the needs identified. It will include promotion of dairy product standards and residential training courses on milk safety, loss reduction and value addition. Capacity building of small scale milk traders and processors will focus on milk handling and quality control and value addition. In order to enhance marketing efficiency of milk traders, the programme will also conduct a study on low-cost applicable milk transportation, cooling, heating and processing technologies. Conclusions of the study will be built into their capacity-building programme.

- Finally, the Programme, working in collaboration with DTI, Kenya Dairy Board, and Egerton University will support the development of milk and dairy product quality assurance system.

118. **Implementation modalities:** Activities will be conducted with technical support from DTI under their MoU with the Programme. The Programme will also utilize CRPs trained at DTI to increase outreach to a much higher number of Dairy Groups. A technical service provider will be contracted competitively to work with technical partners for the development of milk and dairy product quality assurance system targeting small-scale producers, traders and operators. The development of corresponding field extension materials will be covered under the MoU with the Agriculture Information Resource Centre.

E. **Programme Environmental and social category**

119. In line with the IFAD’s approach in Kenya, NRM and climate change as cross-cutting issues are mainstreamed within the programme’s support, to ensure that the programme interventions are sustainable in terms of environmental and socio-aspects of resilience. Mainstreaming is carried out at the farmer and household levels to help target groups upscale environmentally sustainable productive dairy activities. Since NRM and climate change are cross-cutting issues, they are mainstreamed throughout the programme’s technical support to smallholder dairy production and management, to ensure that interventions are sustainable in terms of environmental and socio-aspects of resilience. By mainstreaming NRM and Climate Adaptation the programme will help upscale environmentally sustainable productive dairy activities and enhance the resilience of targeted households and households. This is done primarily by building up target groups’ capacity to adopt climate resilient practices and address the negative effects of climate change such as: (i) increased disease pressure on dairy animals as a result of a better environment for disease causing pathogens, hosts, and vectors; (ii) reduced feed availability and sub-optimal feeding of dairy animals due to greater drought frequency that may inhibit fodder crop recovery and; (iii) higher temperatures and reduced water availability that will directly cause heat stress in dairy animals, which will affect physiological processes (especially breeding), health and mortality. Interventions to improve resilience of dairy producers’ livelihoods through climate change adaptation and mitigation strategies will be promoted in order to increase dairy enterprise productivity and enhanced income through commercialization of undertakings by programme target groups. The Programme’s approach specifically promotes climate resilience practices through the following activities:

- **Appropriate animal husbandry practices and technologies** to improve resilience and to reduce greenhouse gas (GHG) emissions:

  (i) **Support for animal breeding strategy and feeding management** will put attention on the selection of locally adapted and faster growing breeds with improved feed efficiency, are adapted to harsh living conditions (heat, poor nutrition in case of drought) and resistant to parasites and diseases. SDCP will also promote proper feeding management such as fodder conservation and proper feed rations to ensure increased feed availability and efficient utilization of available feed resources to support increased dairy animal productivity and reduced GHGs

  (ii) **Waste management** will entail the promotion of proper practices for manure collection, storage and spreading of waste to reduce direct release of GHGs to the atmosphere, prevent water pollution and soil degradation. Attention will be also be put on management of odor from on-farm
activities which can negatively impact air quality. The programme will also promote the use of biogas systems to recycle animal waste.

(iii) Management of feed crop production will ensure the conservation of natural habitat and important ecosystems such as natural grazing areas. The use of locally adapted and drought tolerant fodder varieties such as fodder sorghums will also be promoted to support year round availability of feeds that supports optimal dairy animal nutrition. This will result in improved dairy enterprise productivity as a result of increased milk production.

(iv) Animal Health and Welfare will cover appropriate dairy cows handling and health care will be promoted to reduce animal stress and ill health therefore increasing productivity and reducing greenhouse gas emissions. To ensure sustained animal health, the Programme will promote proper animal health control and management practices such as the use of vaccinations against priority endemic diseases and the control of disease vectors such as ticks and helminths that reduce the productivity of dairy animals.

- **Capacity building of livestock keepers.** The development of adaptive capacity of vulnerable communities and households on climate change adaptation and mitigation will be critical in addressing adverse effects of climate change and promote enhanced sustainable natural resource management by the communities. In this regard, the Programme will support target groups in capacity development on climate smart dairy production practices including farmers understanding on how to reduce impact of dairy farming on environment (e.g.: agro-ecological technologies and practices for the production and conservation of fodders).

- **Climate resilient livestock management systems** will include (i) construction of shades and provision on water to reduce heat and stress from increased temperature; (ii) management of livestock number by maintaining more productive animal, therefore reducing the emission of GHG; (iii) improved management of water resources through the promotion of water harvest infrastructures (water storage tank, rain water collection).

120. In view of the foregoing, it is considered moderately vulnerable from an environmental and social point of view (category B). Appropriate preventive action and environmental risk mitigation measures will be put in place during programme implementation, e.g. in appropriate animal husbandry practices and technologies. The climate risk associated with programme implementation is considered moderate in the target area. As mentioned above, the Programme through its intervention specifically contributes to building up the resilience of target dairy farmers and households to climate change.

**F. Programme implementation**

121. At the national level, the **Lead Agency for the Programme implementation** remains the State Department of Livestock in the Ministry of Agriculture, Livestock, and Fisheries. MoALF is responsible for the coordination of Programme implementation, supported by a Programme Coordination Unit. The lead agency appoints a desk officer who will act as the interface between the State department of Livestock and the programme.

122. The **National Steering Committee (NSC)** chaired by the Principal Secretary of the State Department of Livestock will continue to provide oversight and strategic guidance on Programme implementation. The NSC currently comprises the following members: the Director of Livestock Production, the Director of Veterinary Services, a representative from the State Department of Agriculture, the Commissioner for Cooperative Development, the National Treasury, the State Department responsible for Social Services, the Department responsible for Youth Affairs, the Kenya National Farmers Federation, the Kenya Dairy Board, and the Kenya Dairy Processors Association. During the extension period, the NSC will be expanded to include two representatives of the participating county governments and two dairy farmer representatives. Private sector representation will be enhanced through membership of the Kenya Livestock Breeders Organisation (KLBO), the Kenya Veterinary Association (KVA) to represent animal health, and the Association of Kenya Feed manufactures (AKEFEMA). The NSC will continue to meet semi-annually to: (i) approve the
Programme's annual work plan and budget and progress reports; (ii) assess the effectiveness of programme management; and (iii) recommend corrective measures where appropriate.

123. The Programme Coordination Unit (PCU) is responsible for the development of operational strategies and tools for Programme implementation; backup of county implementation teams; financial and administrative management of Programme resources; preparation of AWPBs; mobilisation of implementation partners and oversight of deliverables; contracting of service providers at national level and procurement of services and supplies; set up and management of the M&E database for reporting on activities, outcomes and impact with attention to corrective measures and documenting graduation targets. The PCU will also act as a Secretariat to the PSC.

124. In terms of composition, the PCU will be led by a Programme Coordinator and will be composed of the following staff: a Financial Controller and an Accountant Assistant, a Procurement Officer, a Monitoring and Evaluation Officer and an Assistant Monitoring and Evaluation Officer/Management Information System officer, a Dairy Enterprise and Development Officer, a Marketing Officer, a Dairy Production Officer, a Group Development Officer. The PCU will be supported by an Administrative Assistant, two secretaries, drivers and support staff. Before the start-up of the extended period of SDCP, the PCU staff will undergo a suitability assessment against updated terms of reference for the positions conducted by an independent panel constituted by the Lead Agency and approved by IFAD. For positions where the incumbents are not assessed suitable, the positions will be filled through competitive recruitment.

125. At the local level, SDCP implementation modalities will be enhanced to ensure alignment to the new devolution framework. The Counties will be responsible for: (i) Community awareness and sensitisation; (ii) supporting target groups in developing their business proposals for Programme support; (iii) selection of target groups; (iv) participatory identification and inclusion of collective priorities for the Programme into the County Integrated Development Plan; (v) selection of the Programme service providers; (vi) mobilisation of extension services to target groups through frontline extension workers; (vii) group mobilisation and capacity building for Programme implementation; (viii) financial management of the Programme funding at County level; (ix) establishing linkages with local stakeholders through the County/Sub-County Dairy Stakeholder fora; and (x) monitoring and evaluation including preparation of progress reports on Programme execution at the County level.

126. The County Department of Livestock Production is the entry point for Programme management at the county level:

(i) A County Programme Coordinating Committee (CPCC) chaired by the Governor or his designated representative, will meet quarterly and provide oversight of implementation at County level, approve County-based AWPB and annual progress reports. Members of the CPCC will include the County Executive responsible for livestock, the Chief Officer responsible for livestock, the heads of relevant county departments participating in the programme implementation, a representative of Kenya Dairy Board and other relevant stakeholders. The County Programme Coordinator will be the secretary of the CPCC.

(ii) The County Programme Facilitation Team (CPFT) is led by a County Programme Coordinator who is among the appointed senior staff of the County Department in charge of livestock. The CPFT includes the National Treasury Accountant who is responsible for the Programme financial management at County-level, the relevant technical officers of the implementing departments and a representative of the Kenya Dairy Board. The CPFT will coordinate the implementation of Programme activities according to the County level AWPB, and prepare the County level AWPB and progress reports for consolidation by the PCU.

(iii) The County Service Delivery Coordinating Unit Tender Committee will be responsible for procurement awards following the country legal and regulatory frameworks for public procurement.

(iv) The Sub-County Programme Implementation Team (SCPIT), led by the Sub-County Livestock Production Officer (SCPO) will remain responsible for coordinating programme implementation at the sub-county level. The SCPIT members include: Sub-County Veterinary Officer (SCVO), Sub-County Dairy Officer (SCDO), Sub-County Cooperative Officer (SCCO),
Sub-County Social Development Officer (SCSDO), Sub-County Agricultural Officer (SCAO), two Farmers Representatives, and relevant Partners/NGOs.

(v) Ward Extension workers will continue to provide the following services: (i) support to dairy farmer organisations to identify their priorities and submit their requests for support; (ii) delivery of extension messages to farmers and their organisations; (iii) support to dairy farmer organisations and communities in organizational management, in identifying their training needs; (iv) supervise livestock farming activities and collect performance data in the field; (v) and maintain information on collaboration between service providers and farmers as well as the performance of the service providers.

127. As earlier mentioned, given identified capacity gaps at the County level, key partners and potential service providers have been identified for the execution of planned activities under each component to complement county extension services for successful programme execution. Furthermore, the Programme will continue to provide logistical support and training to County agricultural extension workers. Considering that the agricultural extension workers are the front line agents to provide agricultural services to farmers, capacity building of county agricultural offices will include support to strengthen the outreach of agricultural extension agents at ward level through training packages, as well as support for operating costs of the extension workers.

128. As a condition for the first disbursement at county level, the PCU will facilitate the signing of a performance-based MoU between the Lead Ministry and each target County for execution of the Programme. The MOU will define roles and responsibilities of each party (at national, sub-regional, county and ward levels) for Programme execution including monitoring and evaluation, and financial management requirements.
State Department of Livestock - County Government Structure

- Governor
- County Executive Committee Member (CECM)
- Chief Officer
- County Director Livestock
- County Director Agriculture
- County Director Veterinary
- Sub-county Livestock Production Officer
- Sub-county Veterinary Officer
- Ward Livestock Extension Officer
- Ward Veterinary Officer
G. Planning, M&E, Learning and Knowledge management

Programme phasing

129. SDCP was originally designed as a six-year programme with an original entry into force date of 12 July 2006 and a completion date of 30 September 2012. The completion date for the programme was extended by 3 years to 30 September 2015. The reason being that SDCP lost three year years of implementation as (i) the first disbursement took over one year to process; and (ii) during the period 2007-8, 2 years of execution were lost due to the post-election violence which resulted in displacement of programme beneficiaries, and a discontinuation of services from extension services and service providers. The additional financing will support an extension of the programme over a 4 year-period, from April 2016 to March 2020, with investments and technical services to target beneficiaries, spread over 3 years. Year 4 will see the consolidation of the Programme results and its exit while documenting overall development impact and lessons learned. SDCP outreach targets during this additional period are thus commensurate to those achieved to date; i.e. the programme being in its last year of implementation, the results reported to date through SDCP implementation were largely achieved over a 5 year-period.

130. The additional financing over a 4-year period will also ensure cost effectiveness and efficiency in programme management. With a total programme cost of about USD 20.265 million, the programme management takes about USD 3.15 million representing about 16% of total programme costs. Since the programme management costs are mainly constituted of salaries of staff, a longer execution period within available additional funding would lead to inefficient programme management costs (i.e. simulations shows that a five year extension period would lead to programme management costs of about USD 5 million representing 22.4% of total programme costs). Overall, the extended period of SDCP will provide an opportunity to:

- Scale up in current counties of intervention, the programme’s support to new Dairy Groups, mobile milk traders, small scale milk bars and shop operators, Apex organizations, and DCACs in sub-counties having a required level of production to graduate to commercial activities, i.e. categorized at “high milk density” level;

- Consolidate the results of beneficiaries - Dairy Groups, mobile milk traders, small scale milk bars and shop operators- initially supported by the Programme and are assessed as having the potential to develop sustainable dairy enterprise businesses;

- Consolidate the achievements of Apex organizations assessed as having the potential to become sustainable by the end of the Programme

131. Implementation readiness and measures to ensure achievement of targets are pursued through the following factors:

- The targeting criteria have been refined to consider only Dairy Groups assessed to be at least at MODE 2 with a minimum level of dairy economic activity, internal organization and milk production, to ensure that they have the potential to graduate to MODE 3 by end of the programme where they should reach technical and financial sustainability. It is expected that the refined targeting criteria will foster economies of scale through business hubs being established under the MODE approach which will ensure a critical mass of dairy farmers for service provision and provide a sound basis for milk bulking and cooling to sustain higher levels of commercialization;

- SDCP will upscale its outreach to new beneficiaries in current counties of intervention. These counties have gained significant experience in programme implementation at that level with trained Community Resource Persons (CRPs). This will be capitalized during the extension period to achieve expected results;

- The PCU will complete the identification of new DCAs and the selection of eligible beneficiaries during the transition period October 2015 – March 2016 to ensure (i) implementation readiness by the start of the extension period; and (ii) that they benefit from
SDCP support through the graduation process to dairy entrepreneurship over a 3-year period;

- The programme execution modalities have also been enhanced in terms of outreach capacity through contracting/partnering with specialized services providers and implementation partners to complement the extension staff capacity for capacity-building services to target groups. Service providers and implementation partners will be contracted during the transition period leading to the extension to ensure implementation readiness;

- During the extension period, the programme will focus on activities for which an operational know how has been developed by the Lead Agency/PCU and which have yielded results; i.e. capacity-building of dairy stakeholders in entrepreneurial and technical skills and the development of milk marketing.

**Annual planning and budgeting**

132. The programme will be implemented on the basis of approved Annual AWPB developed by the beginning of each fiscal year. The activities to be financed by the Programme will stem largely from the community/county level. The above described participatory approaches used for community level planning by the sub-counties will lead to the selection of eligible beneficiaries to programme support. These eligible investments will be collated at the county level and integrated into the county work plan and budget along with any county level investment or institutional support activity. The County Programme Facilitation Team in charge of implementation with technical guidance from the County Support Team will be responsible for preparing the consolidated County AWPB.

133. Counties AWPB will be reviewed and consolidated by the PCU based on the Programme operational and financial targets. The M&E/KM Team will prepare a consolidated AWPB including activities at the PCU level, in conformity with the GoK planning cycle. The PCU will ensure that all collaborating agencies/partners also have their work plans and budget captured in the consolidated AWPB. The AWPB will be submitted for approval to the Steering Committee and to IFAD for non-object to proceed with activities approved for funding.

134. The PCU will complete the identification of new DCAs and the selection of eligible beneficiaries during the transition period October 2015 – March 2016 to ensure (i) implementation readiness by the start of the extension period; and (ii) that they benefit from SDCP support through the graduation process to dairy entrepreneurship over a 3-year period. The transition period will also be used to contract private service providers or sign agreement with selected implementation partners to expand the programme outreach during the extension period. The selection of beneficiaries will be conducted by the County Facilitation Teams with SDCP support as follows:

- Targeted sub-counties will be supported to identify new DCAs based on eligibility criteria assessed through available data and reports. The DCAs will be selected as clusters of between 800 and 1 200 dairy farmers. SDCP will support the DCAs in the setup of DCACs, their training on their roles and responsibilities, and the design of their DCA Action Plan (DCA-AP) during first quarter of the extension period;

- New Dairy Groups, mobile milk traders, small scale milk bars and shop operators will be selected for programme support based through a call for expression of interest following community awareness at DCA level, based on revised eligibility criteria. Capacity building of target groups should be based on DCA-APs;

- Dairy Groups, mobile milk traders, small scale milk bars and shop operators already supported will undergo a capacity assessment against set criteria. Those assessed as having their potential to move up the commercial ladder by the end of the programme will be eligible for continuous support during the extension period. Capacity building of these groups will start at the outset of the extension period based on existing DCA-Aps;

- The set-up of new Apex organizations will be completed within the first 6 months of the extension period to ensure that they can benefit from a comprehensive capacity building package enabling them to sustainably perform their crucial role under the dairy business hub
model by end of the Programme. Given their recent creation, it is expected that all Apex organizations set up under current financing period will continue to benefit from SDCP support throughout the extension period. Support to Apexes will be based on an assessment of their capacity building needs. Achievement of annual targets will be assessed through the TSPs on annual basis. Failure to achieve minimum performance targets over two consecutive years will lead to a discontinuation of the Programme’s support and subsidized equipment repossessed.

135. With regards to the selection of Dairy Groups, those assessed in MODE 2 will be eligible for SDCP support up to a 3-year period by the programme, while groups assessed in MODE 3 will receive support for a maximum 2-year period as follows:

- **Dairy groups in MODE 2** will benefit from a comprehensive capacity building package in organization, entrepreneurship skills building including linkages with input suppliers and marketing outlets and financial literacy so that they reach MODE 3 by the end of the extended period. They will have the opportunity to submit proposals under the Grant scheme to help them develop profitable and sustainable dairy enterprise related collective activities aiming at enhancing and sustaining the dairy enterprises of their members.

- **Dairy groups in MODE 3** will benefit from a tailor made capacity building programme based on assessment of their capacity building needs aiming at strengthening their organization and management, linkages with input suppliers and marketing outlets, and setting up or developing their linkages with formal financial service providers. Financial literacy programme will also be offered to these groups.

136. All grants to Dairy Groups will be disbursed within the first year of the extension period. Call for proposals shall be issued within the first 6 months of the extension period, with a maximum delay of 100 days between the call for proposal and grant disbursement. Grants for Apex organizations will be disbursed within the first 18 months of the extension period, since these grants will support investments complementary to the support provided for cooling equipment under component 3. The programme will conduct jointly with beneficiaries an annual assessment of their business performance against agreed indicators, which could lead to adjustments in their business plan and/or the programme support as required to ensure that their business is sustainable by end of the Programme.

### Table 8: SDCP extended period - Beneficiary phasing

<table>
<thead>
<tr>
<th>Number of beneficiaries</th>
<th>Y1</th>
<th>Y2</th>
<th>Y3</th>
<th>Y4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counties</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Sub-counties</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>DCAs</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>New dairy groups35</td>
<td>600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing dairy groups46</td>
<td>458</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Dairy Groups</td>
<td>1 058</td>
<td>1 058</td>
<td>1 058</td>
<td>1 058</td>
</tr>
<tr>
<td>New Apex organizations</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Existing Apex organizations</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Apex organizations</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>New mobile milk traders</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing mobile milk traders</td>
<td>136</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total mobile milk traders</td>
<td>336</td>
<td>336</td>
<td>336</td>
<td>336</td>
</tr>
<tr>
<td>New milk bars and shop operators</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Existing milk bars and shop operators</td>
<td>189</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total milk bars and shop operators</td>
<td>289</td>
<td>289</td>
<td>289</td>
<td>289</td>
</tr>
<tr>
<td>Dairy groups receiving grants</td>
<td>120</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Apex organizations receiving grants</td>
<td>20</td>
<td>30</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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35450 in MODE 2 and 150 in MODE 3.  
36333 in MODE 2 and 125 in MODE 3.
Beneficiary selection will be led by counties with support from TSPs following a bottom-up and gender/youth sensitive approach starting at the Community level which will encompass the following steps:

- **Information and awareness-raising among stakeholders.** During the transition period, the PCU will support counties to conduct information and awareness-raising campaigns at DCA level targeting dairy farming communities and other dairy value chain actors and stakeholders in eligible areas. The Programme information and awareness campaigns will cover the Programme objectives, approach, services and type of support offered, modalities to access Programme support including updated eligibility criteria. Campaigns will be based on effective communication tools such as radio messages, pamphlets, and community meetings. County representatives will be supported by facilitators of the selected community-based organisation in rolling out these campaigns;

- **Selection of target groups.** Interested target groups will submit an Expression of Interest at the Sub County level. Selection of eligible dairy groups and other beneficiaries (mobile milk traders, small scale milk bars and shop operators) will be made based on eligibility criteria assessment. The Programme will facilitate the setting up of community-based selection committees including representatives of Sub-County authorities, local leaders and community representatives with attention to equitable women and youth representation. Submissions of interest will be ranked by category of beneficiary and best EOIs will be selected in line with the planned number of beneficiaries;

- **Election of DCAC and design of DCA-AP.** Once beneficiaries have been selected, DCAC committees will be elected at DCA level by representatives of dairy groups and other beneficiaries, and other relevant stakeholders, and will be subsequently trained by the Programme on their roles and responsibilities. The DCA–AP will be designed under responsibility of the Sub County livestock office through a participatory process involving DCAC, representatives of selected dairy groups and other beneficiaries, and other relevant stakeholders. Identification of the priority areas/needs to be addressed by the Programme will be done using existing reports, surveys and dairy value chain mapping and analysis available at County level or with development partners operating in the area.

- **Support to target groups for formulation of their Dairy Enterprise Plan.** At DCA level, County frontline extension workers with backing from selected TSPs will support selected dairy groups and other beneficiaries to design their dairy enterprise plans (DEP) and related capacity building support plan. Interested dairy groups will be assisted to design a proposal for consideration under the grant scheme and in line with their DEP;

- **Setting up of Apex organizations at DCA level:** Creation of Apex organizations will be done under a participatory process involving dairy groups’ representatives, other selected beneficiaries and DCACs. This will be done once dairy groups and other beneficiaries have been selected at DCA level and have been assisted to develop their dairy enterprise plans. Apex organizations will be assisted to design their strategic and business plan with support from TSP, and a related capacity building plan will be designed accordingly. They will also be assisted to design proposals under the grant scheme based on their business plan;

- **Evaluation of proposals submitted under the grant scheme and disbursement of the grants.** The evaluation of proposals will be done under responsibility of the CPFT with oversight from a TSP as per the revised policies and procedures documented in the revised grant manual. The grants will be disbursed to the groups by the PCU. Oversight of grant implementation will be provided by the PCU and CPFT with assistance of a TSP where necessary;

- **Technical support and monitoring of programme beneficiaries:** Under the oversight of the CPFT, the County frontline extension agents in close collaboration with the DCAC will ensure the mobilisation of the contribution of beneficiaries to their dairy-business project. County extension officers will also be responsible for mobilising dairy groups, Apex organizations and other beneficiaries for capacity development and technical support so that they can take full advantage of Programme support. Capacity building activities and technical support including facilitation for linkages for milk marketing and with financial service providers will be carried
out by the county extension staff in collaboration with public institutions and TSPs engaged by the programme for specialized subject matters. Building on the M&E tools developed by the PCU, the County extension agents will keep data on targeted groups covering their dairy farming MODE for dairy group members, the support they have received from the Programme and other partners, and performance, results, and impact. Monitoring of the use and impact of the grants will in particular be done quarterly by the CPFT and PCU with support from the TSP recruited to oversee the grant scheme implementation.

138. Each County will sign a performance-based MoU with selected dairy groups, mobile milk traders, small scale milk bars and shop operators, Apex organizations and DCACs stipulating the roles and responsibilities of the parties, including the monitoring and reporting requirements on the use and impact of Programme technical support and grant for investment, as well as remedial measures/sanctions in cases of non-compliance with contractual commitments. Counties’ monitoring and evaluation will include self-monitoring by targeted beneficiaries based on programme templates and contractual agreements, and field reports by the County extension officers and TSP staff. Counties will provide quarterly reports to the PCU based on set performance indicators. Reports will be part of the performance-based requirements for programme funding at the county level.

Monitoring and Evaluation

139. Support to the development of the dairy sector is a priority of the country’s Agriculture Sector Development Strategy reflected through the Kenya Dairy Master Plan 2010-30. SDCP is also a direct contribution to the advancement of the development results agreed between the Government of Kenya and the United Nations in Kenya, under the United Nations Development Framework in Kenya (UNDAF 2014-18), namely Strategic result 1 - Inclusive and sustainable economic growth.

140. In order to monitor and report on the achievement of the programme development results and impact, at the start-up of the extended period, the Programme’s M&E/Knowledge Management system will be improved to fulfil three main objectives: (i) serve as a management tool to guide SDCP’s implementation strategies and allocate resources accordingly, and (ii) measure and report periodically on progress towards targets for achieving expected development outcomes and impact; and (iii) capitalise and disseminate results and lessons learned. The Programme’s monitoring system will be deployed at the three levels of Programme management: national PCU, county and sub-county implementation and support teams. The system will be based on the quantitative and qualitative indicators provided in the Programme’s logical framework and aligned to IFAD’s recommended framework for Results and Impact Management (RIMS). In view of that, based on the updated logframe, the PCU should define what should be measured to assess by gender (i) the effective graduation of targeted small dairy producers, traders and operators to market-oriented dairy farming; (ii) increase in income generation, and (iii) poverty reduction and nutrition improvement at household level. To that end, at the beginning of the extended period, building on the logframe, the PCU should lead the definition of a relevant set of reporting indicators and the conducting of a sound baseline to track progress towards expected development outcomes and impact. Indicators should be limited in number, simple to compile and easy to interpret and communicate. All indicators should be linked to quantitative targets to make it possible to ascertain that a certain target has been achieved.

141. The revision of the SDCP M&E/KM system should be initiated during the transitional period leading to the extended period and be operational within 3 months of its start up. This activity should be conducted with support from a specialised M&E/KM service provider who will support the PCU in (i) developing its Monitoring and Evaluation framework, (ii) developing a Computerized Management Information System for storing and analysing data and information to track progress; and (iii) training the PCU, key county and implementing partners technical staff on the Monitoring and Evaluation framework and the Computerized Management Information System and support capacity building of implementing partners and M&E staff at county level.

142. The Programme M&E Officer will continue to be responsible for the M&E and knowledge management of the Programme, and in particular, for: (i) consolidation of AWPBs, in collaboration with the entire PCU; (ii) progress reporting on outputs and outcomes; (iii) status reports for supervision missions; (iv) ad-hoc reports as required; and (v) the Programme Completion Report. At county and sub-county levels, the CPFT and the SCPIT, respectively, will back up extension frontline workers and implementation partners in collection of information, and follow up and update the data in their respective domain of competence.
143. The PCU will submit by-annual progress reports according to a format acceptable to IFAD. These reports will cover physical as well as financial progress. Physical reporting will be done against a set of indicators based on the log frame. Financial reporting will be done against the approved budget. Since some of the actual implementation will be contracted out to service providers or private sector partners, monitoring requirements will be included in MOUs/agreements as part of their contractual obligations.

Table 9: Possible SDCP Partners for enhanced programme support & outreach

<table>
<thead>
<tr>
<th>Institution/Specialization</th>
<th>Capacity-building Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical University of Kenya</strong></td>
<td></td>
</tr>
<tr>
<td>- Entrepreneurship Development and Skills</td>
<td>Training of extension staff, service providers and farmers.</td>
</tr>
<tr>
<td>- Business Planning and Development</td>
<td></td>
</tr>
<tr>
<td>- Gender Household Methodology</td>
<td></td>
</tr>
<tr>
<td><strong>Jomo Kenyatta University of Agriculture and Technology</strong></td>
<td></td>
</tr>
<tr>
<td>- Entrepreneurship skills</td>
<td>Training of extension staff for SDCP</td>
</tr>
<tr>
<td>- Innovations and technologies</td>
<td>Training of farmers through outreach programme on various agricultural technologies</td>
</tr>
<tr>
<td>- M&amp;E Systems/GIS</td>
<td></td>
</tr>
<tr>
<td>- Integrated marketing</td>
<td></td>
</tr>
<tr>
<td><strong>Cooperative University College</strong></td>
<td></td>
</tr>
<tr>
<td>- Financial management for cooperatives</td>
<td>Training of extension staff, service providers and Cooperative organisations</td>
</tr>
<tr>
<td>- Performance management</td>
<td>Training of GIZ service providers.</td>
</tr>
<tr>
<td>- Marketing Management</td>
<td></td>
</tr>
<tr>
<td><strong>Kenya National Farmers Federation</strong></td>
<td></td>
</tr>
<tr>
<td>- Agribusiness and value chains</td>
<td>Training of extension staff, service providers and farmers.</td>
</tr>
<tr>
<td>- Farmer empowerment</td>
<td>Training at Governors’ round table;</td>
</tr>
<tr>
<td>- Business development</td>
<td>Training of farmers</td>
</tr>
<tr>
<td><strong>Dairy Training Institute</strong></td>
<td></td>
</tr>
<tr>
<td>- Dairy farming proficiency</td>
<td>Training of dairy technical and extension staffs, farmers and dairy industry practitioners</td>
</tr>
<tr>
<td>- Value Addition and Processing</td>
<td></td>
</tr>
<tr>
<td>- Expanding curriculum to include business management /entrepreneurship</td>
<td></td>
</tr>
<tr>
<td><strong>Egerton University</strong></td>
<td></td>
</tr>
<tr>
<td>- Dairy farming proficiency</td>
<td></td>
</tr>
<tr>
<td>- Value Addition and Processing</td>
<td></td>
</tr>
<tr>
<td>- Animal production;</td>
<td></td>
</tr>
<tr>
<td>- Enterprise development;</td>
<td></td>
</tr>
<tr>
<td>- Economic analysis;</td>
<td></td>
</tr>
<tr>
<td>- Environmental management</td>
<td></td>
</tr>
<tr>
<td><strong>University of Eldoret</strong></td>
<td></td>
</tr>
<tr>
<td>- Animal production;</td>
<td>Training of dairy technical and extension staffs, farmers and dairy industry practitioners</td>
</tr>
<tr>
<td>- Enterprise development;</td>
<td></td>
</tr>
<tr>
<td>- Economic analysis;</td>
<td></td>
</tr>
<tr>
<td>- Environmental management</td>
<td></td>
</tr>
<tr>
<td><strong>Equity Group Foundation</strong></td>
<td></td>
</tr>
<tr>
<td>Advise on financial literacy;</td>
<td>Training of extension staffs, farmers and financial service practitioners on financial education and entrepreneurship</td>
</tr>
<tr>
<td>Capacity building on financial services</td>
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<tr>
<td><strong>KALRO - Dairy Research Institute</strong></td>
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<tr>
<td>Research on veterinary and livestock</td>
<td>Capacity building for technicians and farmers through training, demonstrations and technology dissemination</td>
</tr>
<tr>
<td>development</td>
<td></td>
</tr>
<tr>
<td>Contribute to livestock policy development</td>
<td></td>
</tr>
</tbody>
</table>
## Institution/Specialization

<table>
<thead>
<tr>
<th>Capacity-building Experience</th>
</tr>
</thead>
</table>

### Kenya Veterinary Vaccine Production Institute – Kabete
- Vaccine production

### Animal Health and Insemination Training Institute (AHITI) - Kabete
- Training on animal health; Inssemination

### Kenya Animal Genetic Resources Institute
- Development of improvement materials
  - Supply of semen, liquid nitrogen & AI equipment
  - Training of AI technicians

### Kenya Dairy Board
- Regulation
  - Promotion and provision of enabling environment for private sector participation

### Directorate of Cooperatives
- Cooperative policy, education and training
  - Training of groups on business related aspects
  - Facilitation of registration of cooperative societies

### Kenya Stud Book (KSB)
- Animal registration

### Livestock Recording Centre (LRC)
- Milk recording
  - Monitor performance of livestock

### Agricultural Information Resource Centre
- Production of agricultural extension materials

## H. Procurement and Governance

144. A Financial Management Assessment (FMA) has been undertaken as part of the SDCP add-on design. Kenya's inherent risk is high as measured by Transparency International's Corruption Perceptions Index (CPI). The annual CPI in 2014 puts the country at 145th position out of 177 scored countries, scoring 25, which falls in the high-risk category (<3). Taking into account other control areas, the overall SDCP fiduciary risk assessment at design is assessed as high (See Appendix 8). Mitigation measures are thus proposed to reduce the risk assessment to medium.

145. **Financial staffing.** In response to the assessed fiduciary risk and ensure effective oversight of programme financial management responsibilities to Counties, the programme finance team will comprise a Financial controller and Administrative/Accountant assistant both seconded by the National Treasury/ Accountant General’s office. In addition, each participating County has a Sub-County Accountant (From the National Treasury) to handle the day-to-day SDCP accounting requirements. This staffing level is considered adequate for the volume of SDCP transactions.

146. **Flow of funds/disbursements.** The designated account is still off-shore. The designated account funds flow through a chain of layers: (i) the Pay Master General (PMG); (ii) the Line Ministry Development account; (iii) the PCU operational account; (iv) the PCU, where advances are made to participating Counties; and (v) the counties, which transfer the grants to eligible groups/ beneficiaries.

147. The above layers have, to a large extent, contributed to delays in implementation. The channel from the offshore account (City bank NY) to the Programme account takes long. In addition, the Authority to incur Expenditure (AIE) takes very long; usually by August such AIEs are not yet issued by the line Ministry. This usually significantly affects project disbursement and implementation. With the SDCP add-on, it is suggested that the designated account be in-shore in the Central Bank of Kenya. Secondly, it is possible to remove the County layer in disbursing approved enterprise grants to
beneficiaries. Given the high level of documentation involved, it will be possible for the PCU to directly remit funds to beneficiary group bank accounts or suppliers. This will reduce the period spent in transferring funds to eligible beneficiary groups and thus improve disbursement efficiency. In addition, the design team noted gaps in treasury planning; the timing of cash flows is not systematically forecast. As part of the training of the newly posted Programme Accountant, treasury planning will be emphasised. Another measure to improve disbursement efficiency will be to introduce the Programme Accountant as an agent able to access bank statements online (but not transact) for all project bank accounts operated by the counties. The suggested funds flow chart assumes that the existing loan and grant funds would be fully substantially disbursed before the add-on funds start flowing.

148. _Internal Controls:_ The GoK internal controls are strong and include checks and balances. These controls will be detailed in the SDCP Programme Implementation Manual (PIM). The PCU Programme Financial controller is will be introduced as an agent (non-transacting) on all the Programme County level bank accounts to make it easy to obtain bank statements, which will in turn facilitate monitoring of drawings and the processing of withdraw applications. Thus Aging analysis of funds drawn by the counties but not yet accounted for should be carried out by the Programme Accountant. Sub-AIEs will be used for each transfer to the counties thereby achieving activity tagged imprest advances as opposed to general transfers. To the extent possible, intermediate layers will be avoided in transferring funds to beneficiary groups; e.g. with sufficient documentation it will be possible to make the transfers directly to the bank accounts of suppliers/ beneficiary groups. At the county level, the national treasury accountant will be a signatory to the Programme bank account in addition to the designated County Programme Coordinator (This is in itself a deterrent to the risk of funds diversion given that this National officer does not report to county structures but to the National Treasury/ Accountant General’s Office). Budget control will be through the Programme accounting software, and use of vote books at county level.

149. _Accounting systems, policies and procedures:_ A simple off-shelf accounting package will be installed at the PCU with ability to generate expenditure trends by component, category, and activities using a chart of accounts coding that will cut across the budgeting, expenditure requisition and other items. Counties will continue to use simple vote books (but under the common chart of accounts) to record transactions. These will be forwarded on monthly basis to the PCU that will be the account processing/consolidation hub.

150. _Financial Reporting and Monitoring_ will be in accordance with International Public Sector accounting standards (IPSAS) - Cash basis of accounting as has been adopted in Kenya. In addition, the proposed accounting system should be able to help improve on financial reporting and monitoring with a clear audit trail.

151. _Audits:_ The Kenya National Audit Office (KENAO) will undertake the external audit of the Programme funds and the related counterpart funding in accordance with IFAD audit guidelines. A reputable internal audit firm will be engaged to perform rolling internal audits.

**Procurement**

152. With the enactment of the Public Procurement and Disposal of Assets Act (PPDA) 2005 (with subsequent revisions), the Public Procurement and Disposal Regulations (PPDR) - to which there are ancillary regulations like the Preference and Reservations, and Revocation Regulations - Kenya today has in place a sound and comprehensive legal framework for public procurement with a clear hierarchical distinction. The PPDA and PPDR clearly establish the procurement methods to be applied based on stipulated financial thresholds, advertising rules and time limits, the content of tender documents and technical specifications, tender evaluation and award criteria, procedures for submission, receipt and opening of tenders, and the complaints system structure and sequence. The PPDA and PPDR cover goods, works, consulting and non-consulting services for all procurement using national – and as applicable - donor funds. Both documents are published and widely distributed within government. In addition to the PPDA and PPDR, the country procurement processes are made more effective by the existence of numerous procurement documents, including the Records Management Manual, the Public Procurement Policy document, the Procurement Projects Manual and the Procurement Manuals each for Health, Works, Schools and Colleges, ICT, Non-Intellectual Service Sector, and the Insurance Sector. These documents provide a detailed progressive and procedural activity framework within which to carry out the procurement processes.
With the recent devolution of procurement authority and activity, County Government Procurement Regulations on how to undertake public procurements in the Counties has already been developed. Overall, the country legal framework for public procurement provides clear guidance for procurement practitioners and providers. There are checks and balances within the system which, if utilised, ensure that public procurement is undertaken transparently and competitively.

153. With regards to procurement conducted through IFAD-funded programmes in Kenya, the overall assessment is partially satisfactory with a number of areas requiring improvement due to the following anomalies:

- **Planning, execution and monitoring of procurement projects** and activities are usually not handled in a timely manner. This culminates in delays in the bidding, evaluation and negotiation sub-processes, and ultimately contract management.

- **Tender/Bidding documents**: Delays in preparation and finalisation of the bidding documents are caused by various factors, including production of over- or under-specified equipment by requisitions and user units, incompleteness of terms of reference by requisitioners, absence or incompleteness of qualification and evaluation criteria and frameworks, inconsistencies in use of procurement methods, and evidently low capacity and/or performance of project procurement staff. There is some difficulty with the use of the Shopping method and its bidding document, the Request for Quotation. Also, there is a latent misunderstanding and resultant misuse of consulting services procurement – the documents, the methods, the evaluation, and what to negotiate or not to negotiate.

- **Evaluation process** needs to be considerably improved. Following from the incomplete evaluation criteria in the bidding documents, the evaluation processes are neither consistent nor effective with the Merit Point evaluation method being used where the Compliance should have been, and vice versa. It is also clear that the coordination of consensus evaluation is an issue, with evaluation reports being submitted even where individual scores are markedly disparate.

- **Contract Administration and Management**: The basic premise of contract administration and how it correlates with contract management needs to be clarified.

154. It is recommended that the legal and regulatory framework of Public Procurement Oversight Authority (PPOA) be used for procurement. There are two basic exceptions: (i) the use of the PPOA framework and documents are viable to the extent that they are not in contravention of or disagreement with the provisions in the IFAD procurement guidelines and by extension the IFAD Procurement Handbook; (ii) irrespective of the result of assessment, all procurements under International Competitive Bidding (over the equivalent of USD 200,000) for Goods and Works will follow the World Bank procurement procedures for loans, grants and credits; (iii) irrespective of the result of assessment, all procurements for consulting services (over the equivalent of USD 200,000) will follow the World Bank procurement selection and employment procedures for loans, grants and credits. SDCP procurement provisions will build on the following:

- **MoALF Tender Committee**: Items common across more than one county will be procured nationally (in bulk) with contract award decisions taken by the ministerial tender committee. For items such as milk cooling tanks/ accessories and construction of hostels for the DTI conference centre, that cannot be bulked and procured nationally, SDCP will rely on and use the County Service Delivery Coordinating Unit Tender Committee (as the legal authority to approve contract awards at that level).

- **Ad hoc Evaluation Committees**: Each competitive procurement package will have ad hoc evaluation committees comprising members skilled in the subject matter at hand. These will be appointed by the Programme Coordinator (PCU) or the country programme coordinator on recommendation of the Procurement specialists/unit. Evaluation committee members should not be restricted to only PCU members; to ensure sufficient skill mix, independent external members may also be used.
155. The GoK legal and regulatory framework for public procurement prescribes specific thresholds to be used to determine the procurement methods for the standard procurements. IFAD Prior Review no objections will be required for all items over USD 50,000 for services and USD 100,000 for goods and works. These thresholds will be reviewed as required.

Programme Supervision, Mid-Term-Review and Completion

156. Programme Supervision will continue to be carried out directly by IFAD jointly with the Lead Agency. One supervision mission and one follow-up mission will be conducted every year to review effectiveness of the programme approach in targeted sub-counties, monitor the achievement of outputs, outcomes and impact.

157. A light Mid-Term Review will be organised by the Lead Ministry at the end of the second year of the extension period to: (i) assess achievements and interim development results, and effectiveness of implementation; (ii) identify key lessons learnt and good practices; and (iii) provide recommendations to ensure sustainability of results beyond completion.

158. Reporting arrangements: The PCU will submit by-annual progress reports according to a format acceptable to IFAD. These reports will have to include physical as well as financial reporting. Physical reporting will be done against a set of indicators based on the log frame. Financial reporting will be done against the approved budget.

I. Programme costs, financing, benefits and sustainability

Programme costs and financing

159. As of 30 June 2015, the SDCP loan and grant are disbursed at 80.35% and 90.2%, respectively. Ongoing contracts/commitments including the procurement of bulk milk coolers (totaling K.sh 52.6 million) and planned activities in the 2015/16 AWPB equivalent of USD 2.4 million should bring the disbursement level to 98% in line with targets by the programme end.

160. The total costs for SCDP extension, including physical and price contingencies, are estimated at US$ 20.265 million (K.sh 2.126 billion). The cost of activities under Component 1 - Organization and Enterprise Skills are assessed at US$ 4.588 million (K.sh 459 million) representing 23% of the total base costs; the estimated costs of Component 2 - Technical Support to Smallholder Dairy Products accounts are US$ 4.150 million (K.sh 416 million) representing 21% of the total base costs; while the costs for the Component 3 - Development of the Milk Marketing Chain are estimated at US$ 7.272 (K.sh 729 million) being 37% of the total base costs. Programme management accounts for US$ 3.150 million (K.sh 316 million) representing 16% of the total base costs with cross cutting activities cost US$ 0.408 (K.sh 41 million) representing 2% of the total base costs. The table 10 below presents a breakdown of the programme costs by component. The detailed cost tables and additional summary tables are presented in Appendices 9 to this main report.

<table>
<thead>
<tr>
<th>Programme component</th>
<th>(Kshs Million)</th>
<th>US$ '000</th>
<th>Local</th>
<th>Foreign</th>
<th>Total</th>
<th>Local</th>
<th>Foreign</th>
<th>Total</th>
<th>Exchange Costs</th>
<th>% Base</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross cutting issues</td>
<td></td>
<td></td>
<td>33</td>
<td>8</td>
<td>41</td>
<td>327</td>
<td>82</td>
<td>408</td>
<td></td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Components</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Organisation and Enterprise skills</td>
<td>368</td>
<td>92</td>
<td>459</td>
<td>3,670</td>
<td>916</td>
<td>4,586</td>
<td>20</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Technical Support to Smallholder Dairy Producers</td>
<td>328</td>
<td>88</td>
<td>416</td>
<td>3,271</td>
<td>880</td>
<td>4,150</td>
<td>21</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Development of a milk marketing chain</td>
<td>654</td>
<td>75</td>
<td>729</td>
<td>6,523</td>
<td>750</td>
<td>7,272</td>
<td>10</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Programme Management and Coordination</td>
<td>303</td>
<td>13</td>
<td>316</td>
<td>3,019</td>
<td>130</td>
<td>3,150</td>
<td>4</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total BASELINE COSTS</td>
<td>1,684</td>
<td>276</td>
<td>1,960</td>
<td>16,809</td>
<td>275</td>
<td>19,566</td>
<td>14</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Contingencies</td>
<td>37</td>
<td>2</td>
<td>39</td>
<td>366</td>
<td>23</td>
<td>390</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price Contingencies</td>
<td>110</td>
<td>16</td>
<td>126</td>
<td>289</td>
<td>40</td>
<td>309</td>
<td>13</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total PROJECT COSTS</td>
<td>1,831</td>
<td>295</td>
<td>2,126</td>
<td>17,445</td>
<td>2,820</td>
<td>20,265</td>
<td>14</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
161. **Financing Plan.** IFAD additional loan for SCDP is estimated at US$ 17 million corresponding to 83.9% of the Programme costs. The government will finance the taxes and duties, including actual contribution for staff gratuities evaluated at US$ 2.116 million, representing 10.4% of total cost. Beneficiaries will contribute US$ 1.149 million representing 5.7% of the total cost. The details of financing arrangements are shown in the table below.

<table>
<thead>
<tr>
<th>Components by Financiers</th>
<th>IFAD Additional financing</th>
<th>Beneficiaries</th>
<th>GoK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>%</td>
<td>Amount</td>
<td>%</td>
</tr>
<tr>
<td>Cross cutting issues</td>
<td>348</td>
<td>84.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Components</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Organisation and Enterprise skills</td>
<td>4,004</td>
<td>84.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>B. Technical Support to Smallholder Dairy Producers</td>
<td>3,628</td>
<td>85.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C. Development of a milk marketing chain</td>
<td>5,887</td>
<td>76.9</td>
<td>1,149</td>
<td>15.0</td>
</tr>
<tr>
<td>D. Programme Management and Coordination</td>
<td>3,133</td>
<td>97.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total PROJECT COSTS</strong></td>
<td>17,000</td>
<td>83.9</td>
<td>1,149</td>
<td>5.7</td>
</tr>
</tbody>
</table>

162. **The total combined SCDP investment and incremental recurrent costs**, including physical and price contingencies are estimated at US$ 40.01 million. The total investment for Component 1, Organization and Enterprise Skills is US$ 9.81 million (24.5%) while the cost for Component 2 - Technical Support to Smallholder Dairy Products is US$ 8.69 million (21.7%). Component 3 - Development of the Milk Marketing Chain amounts to US$ 10.85 million (27.1%), Component 4 – Support to Policy and Institutions, takes US$ 2.91 million (7.3%), Project Management costs US$ 7.35 million (18.4%) and Preparatory Activities costs US$ 0.41 million (1.04%). The Table 12 below presents a breakdown of the costs by component and sub-component and by financier.

<table>
<thead>
<tr>
<th>Components by Financiers</th>
<th>GOK</th>
<th>IFAD Loan 1</th>
<th>IFAD Add Fin</th>
<th>IFAD Grant</th>
<th>Benef.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>%</td>
<td>Amount</td>
<td>%</td>
<td>Amount</td>
<td>%</td>
</tr>
<tr>
<td>Cross cutting activities</td>
<td>0.07</td>
<td>16.0</td>
<td>-</td>
<td>-</td>
<td>0.35</td>
<td>84</td>
</tr>
<tr>
<td><strong>Components</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Organisational and Enterprise Skills</td>
<td>0.76</td>
<td>7.8</td>
<td>4.99</td>
<td>50.8</td>
<td>4.00</td>
<td>40.8</td>
</tr>
<tr>
<td>B. Technical Support to Smallholder Dairy Producers</td>
<td>0.78</td>
<td>9.0</td>
<td>4.06</td>
<td>46.7</td>
<td>3.63</td>
<td>41.8</td>
</tr>
<tr>
<td>C. Development of the Milk Marketing Chain</td>
<td>0.69</td>
<td>6.3</td>
<td>2.68</td>
<td>24.7</td>
<td>5.89</td>
<td>54.3</td>
</tr>
<tr>
<td>D. Support to Policy and Institutions</td>
<td>0.24</td>
<td>8.2</td>
<td>2.05</td>
<td>70.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>E. Programme Coordination and Management</td>
<td>0.50</td>
<td>6.8</td>
<td>3.72</td>
<td>50.6</td>
<td>3.13</td>
<td>42.6</td>
</tr>
<tr>
<td><strong>Total PROJECT COSTS</strong></td>
<td>3.03</td>
<td>8</td>
<td>17.49</td>
<td>43.7</td>
<td>17.00</td>
<td>42.5</td>
</tr>
</tbody>
</table>

**Summary benefits and economic analysis**

163. Under SDCP Market Oriented Dairy Enterprise approach (MODE), Dairy Groups are categorised and supported to graduate to an effective business level corresponding to MODE 3 where they are assessed to be organized as viable and profitable business entities. This means that they have reliable trade relations and enterprise/investment plans, generate profit, are engaged in value addition and consequently contribute directly towards increasing the income of the poor rural households that depend substantially on production and trade of dairy products for their livelihoods. Overall, throughout the extension of SDCP, it is estimated that 1058 Dairy Groups corresponding to about 26,462 smallholder dairy farmers, and 625 small milk traders, processors and operators will graduate to market-oriented farming or trading with increased incomes, better living conditions and
nutritional status. As already indicated, through their attachment to a household, it is expected that the benefits of the programme will reach out to an estimated 162,524 household members. Hence, SCDP will provide an opportunity for increased returns to smallholder dairy farmers and milk operators production and marketing with direct benefits including:

- Increase in milk yields following (i) breed improvement through support for Artificial Insemination (AI) services; (ii) better fodder production, conservation and on farm feed formulation and (iii) improvement in animal health management;

- Reduction in production cost per litre of milk mainly attributable to the capacity building related to efficiency of feeds and fodder production and conservation which represents 70% of production cost;

- With an employee average of 3 employees per operator SDCP will support job creation, with the number of people employed in the milk bars should reach about 585 people;

- Reduction in post-harvest losses linked to capacity building in hygiene milk production, loss reduction and value addition. In addition, post-harvest equipment and training provided by SDCP will strengthen the capacity of smallholder dairy farmers to use improved animal husbandry practices;

- Micro processing promoted by the Programme will contribute to increased value addition;

- The promotion of labour-saving technologies such as biogas, chaff cutters and small feed mixers will to ease on farm labour.

164. Dairy Farming Models: The two farming models developed under SDCP remain relevant and have been updated making use of SDCP experience and impact studies in view of enhancement. These models are: (i) the semi-intensive dairy farming which is a mixture of free-range grazing associated with some fodder and supplementary feeding and (ii) the intensive dairy farming characterised by zero-grazing, which saves more land. Results obtained during the first phase of SDCP and financial analyses show that the opportunities for the Programme to contribute to the increase the incomes of smallholder dairy farmers through the promotion of these models. Annual family income increases substantially in both models, which confirms the high profitability of dairy farming. The table below summarises results of the financial analysis for these models, fully developed in appendix 5 of the report.

Table 13: Dairy production Models - Summary of financial analysis results
Summary of Results of Financial Models (10-Year Averages): Semi Intensive

<table>
<thead>
<tr>
<th></th>
<th>Without Programme</th>
<th></th>
<th>With Programme</th>
<th></th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average annual income before labour costs</td>
<td>56.527 USD</td>
<td>52.067 USD</td>
<td>110.583 USD</td>
<td>105.539 USD</td>
<td>95.6%</td>
</tr>
<tr>
<td>Average annual income after labour costs</td>
<td>52.067 USD</td>
<td>105.539 USD</td>
<td>736 USD</td>
<td>1,305 USD</td>
<td>77.3%</td>
</tr>
<tr>
<td>Average return to family labour (pers.day)</td>
<td>736 USD</td>
<td>1,305 USD</td>
<td>89 Pers.days</td>
<td>101 Pers.days</td>
<td>13.1%</td>
</tr>
<tr>
<td>Production cost/lt. of milk produced</td>
<td>35.9 USD</td>
<td>27.3 USD</td>
<td>47.8 USD</td>
<td>36.5 USD</td>
<td>-23.8%</td>
</tr>
<tr>
<td>Production cost/lt. of milk sold</td>
<td>47.8 USD</td>
<td>36.5 USD</td>
<td>Pers.days</td>
<td>Pers.days</td>
<td></td>
</tr>
<tr>
<td>Average annual labour requirement (pers.d)</td>
<td>89 Pers.days</td>
<td>101 Pers.days</td>
<td>13.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average annual hired labour (pers.d)</td>
<td>18 Pers.days</td>
<td>20 Pers.days</td>
<td>13.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average annual family labour (pers.d)</td>
<td>71 Pers.days</td>
<td>81 Pers.days</td>
<td>13.1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary of Results of Financial Models (10-Year Averages): Intensive

<table>
<thead>
<tr>
<th></th>
<th>Without Programme</th>
<th>With Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KES</td>
<td>USD</td>
</tr>
<tr>
<td>Average annual income before labour costs</td>
<td>51,132</td>
<td>511</td>
</tr>
<tr>
<td>Average annual income after labour costs</td>
<td>40,020</td>
<td>400</td>
</tr>
<tr>
<td>Average return to family labour (/person/day)</td>
<td>227</td>
<td>2.3</td>
</tr>
<tr>
<td>Production cost/lt. of milk produced</td>
<td>52.2</td>
<td>0.52</td>
</tr>
<tr>
<td>Production cost/lt. of milk sold</td>
<td>69.6</td>
<td>0.70</td>
</tr>
<tr>
<td>Average annual labour requirement (persondays)</td>
<td>222</td>
<td>231</td>
</tr>
<tr>
<td>Average annual hired labour (persondays)</td>
<td>44</td>
<td>46</td>
</tr>
<tr>
<td>Average annual family labour (persondays)</td>
<td>178</td>
<td>185</td>
</tr>
</tbody>
</table>

165. *Post-harvest Coolers’ Models.* Increase in cooling facilities and small processing capacity will contribute to improving smallholder dairy producers’ market access. The dairy enterprise model based on 5,000 litres of raw milk per day produced by targeted farmers and supplied to large processors and/or traders forms the basis of the financial analysis. With an initial outlay based on recent tenders at about K.sh 13 million (USD 130,000), such a business has potential to generate a high Internal Rate of Return (IRR) of 26.5% with a Net Present Value (NPV) of K.sh 8.08 million.

166. *Small-Scale Milk Processors/Milk Bars:* SDCP will continue support to milk marketing and processing activities beyond the production and/or cooling phases along the value chain approach. In particular, the Programme will support small-scale milk processors and mobile milk traders, who operate in the informal sector, although most of them are licensed and meet to some degree the required regulations. Their main characteristic is that they focus on the consumer market for fresh milk and traditional dairy products, thus operating largely outside the pasteurised milk and dairy product chain managed by larger dairy processors. With an initial outlay of K.sh 1.5 million, such businesses have potential to generate an Internal Rate of Return of 19.6% and a Net Present Value of KES 2.4 million.

167. *Mobile Milk Traders:* The mobile milk traders also known as “hawkers” represent more than one third of total milk marketing agents. These operators predominantly work independently or rely on family labour to carry out their milk business. Most of them do not have premises and are unlicensed by Kenya Dairy Board. Traders operate from a low cost base and provide a market link due to farmers’ inability to be sufficiently organised to market their own milk. With a start-up capital of only about KES 15,000 such a trader has potential to earn KES 163,700 (USD 1,637) per annum inclusive of own salary.

168. *The Economic Analysis* shows that the Programme has the potential to generate an economic rate of return (ERR) of 21.1% over a 20-year period. From the two dairy models presented, weighted average shows that the household annual economic benefit will increase by K.sh 57,614 (equivalent to about USD 576). The weighting is based on the result of a gross margin mini survey conducted by SDCP which shows that semi intensive dairy farming is more popular with beneficiaries than the Intensive (Zero Grazing). Post-harvest benefits have also been calculated on the basis of the targeted number of coolers, milk bars and milk trade to arrive at the aggregate benefits. The economic benefits based on the Dairy models are presented in the table below.

<table>
<thead>
<tr>
<th>Production system</th>
<th>Milk yield/ Cow (Litres)/a</th>
<th>Income after labor</th>
<th>Breed type</th>
<th>Weighted average incremental income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without Project</td>
<td>With Project</td>
<td>Without Project</td>
<td>With Project</td>
</tr>
<tr>
<td>Semi Intensive Dairy Farming</td>
<td>1,003</td>
<td>1,906</td>
<td>53,831</td>
<td>106,887</td>
</tr>
<tr>
<td>Intensive (Zero grazing)</td>
<td>1,600</td>
<td>2,970</td>
<td>43,027</td>
<td>115,389</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

169. *Sensitivity analysis linked to potential risks:* A number of scenarios were tested to establish the economic viability of the Programme in the event of adverse factors: (i) if milk prices drop by 20%;
(ii) if fodder costs increase by 30%; (iii) if replacement of herd occurs after every 5 years. Concerning the first scenario, in times of milk gluts especially during wet seasons, all milk processors respond by discouraging new deliveries through price cuts. It is expected that investments in milk cooling facilities and the promotion of milk bars under SDCP will contribute towards mitigating this risk as milk price fluctuation is simply a matter of supply and capacity to offload into the market. The second scenario corresponds to the effect of recurring droughts that can significantly affect the production of fodder. A proxy has been factored in the sensitivity analysis as increased costs of fodder production. The third scenario relates to a potential risk of livestock disease outbreak which could result in significant deaths of cows in spite of the animal health management arrangements and good animal husbandry practices that are being promoted by the Programme. A proxy has also been factored in a replacement of the herd after every 5 years. As shown in the table 15 below, a sensitivity analysis concludes that the investment remains profitable even in cases of milk price dropping and cost increasing (fodder cost and herd replacement).

Table 15: Sensitivity Analysis

<table>
<thead>
<tr>
<th>ERR - Base scenario</th>
<th>21.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERR – Milk prices drop by 20%</td>
<td>10.2%</td>
</tr>
<tr>
<td>ERR – Increase in fodder costs by 30%</td>
<td>20%</td>
</tr>
<tr>
<td>ERR – Disease outbreak: Herd replacement every 5 years</td>
<td>15.1%</td>
</tr>
</tbody>
</table>

Table 16: Risk identification and mitigation measures

<table>
<thead>
<tr>
<th>Risks</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak technical capacity to operationalize programme strategies and execute programme activities</td>
<td>- Outsourcing technical service providers and implementation partners to complement county staff</td>
</tr>
<tr>
<td></td>
<td>- Building capacity of community resource persons to complement extension service delivery</td>
</tr>
<tr>
<td></td>
<td>- Provide counties with operational strategies and technical tools for Programme execution under each component (Training Manuals, Training videos, Documentaries)</td>
</tr>
<tr>
<td>Weak capacity of devolved structures to manage implementation of activities</td>
<td>- Capacity building and implementation support to county structures for programme implementation are embedded in the programme organizational framework and activities</td>
</tr>
<tr>
<td></td>
<td>- Empower county-level authorities with resources for close-up monitoring/supervision/timely update/feedback</td>
</tr>
<tr>
<td>Price variability due to supply and demand and market access challenges</td>
<td>- Capacity building of beneficiaries on market research</td>
</tr>
<tr>
<td></td>
<td>- Development of contracts between buyers and sellers</td>
</tr>
<tr>
<td>Outbreak of disease leading to reduction in dairy herd, milk production decline</td>
<td>- Develop disease contingency plans entailing disease surveillance/animal health management including community based animal health revolving fund</td>
</tr>
<tr>
<td>Climate-induced reduction in animal feed</td>
<td>- Strengthen community based resilience systems</td>
</tr>
<tr>
<td></td>
<td>- Feed conservation mechanism will be intensified</td>
</tr>
<tr>
<td></td>
<td>- Utilise information from metrological departments</td>
</tr>
<tr>
<td></td>
<td>- Introduce drought resistant pastures and fodder</td>
</tr>
</tbody>
</table>
Risks | Mitigation Measures
--- | ---
Lack of access to adapted financial services to sustain dairy enterprise development beyond SDCP support | - Financial literacy to provide knowledge on various financial products  
- Linkages of targeted groups with financial institutions providing adapted financial services

Sustainability

170. SDCP is anticipated to contribute to the improvement of livelihoods of targeted dairy farmers in nine counties and build increased resilience into their livelihoods and production systems, through promotion and up-scaling of dairy farming as a profitable business. To build ownership and sustain investments on targeted small scale farmers, participatory and bottom-up approaches with emphasis on community development, grassroots institution building and county government empowerment are built in the programme implementation approach. Overall, the sustainability of SDCP investments and development results will be ensured through the following complementary thrust:

- **Promotion of a community-driven development approach.** SDCP support strategy is based on: (i) the extensive use of participatory approaches in project planning, implementation, monitoring of activities, community engagement and institutional collaboration which enhances community involvement and ownership of Project activities; (ii) technical and social capacity building of stakeholders to enhance sustainability, including the use of community resource persons to provide extension services insuring availability of technical support at affordable cost by beneficiary farmers; and (iii) promotion of low-cost, energy saved and adapted technologies to farmers conditions;

- **Institutional sustainability.** SDCP implementation modalities is based on providing technical and logistic support to the county to enable them to: (i) improve their outreach of livestock extension agents at ward level and ensure continuous training and advisory services to farmers and (ii) ensure quality control of private technical services provided to farmers. Collaboration of county extension workers in designing beneficiary groups' Dairy Enterprise Plans (DEPs) facilitates integration of farmers' priority support needs in the County Integrated Development Plans, thereby ensuring continuity and sustainability of support after the end of SDCP.

- **Establishment of farmer-managed community structures to provide extension services to farmers.** Under SDCP, Dairy Commercialization Areas (DCAs) and dairy marketing cooperatives are promoted to manage business arrangements and related support services such as capacity building of dairy farmers for improved business skills and enterprise management, fostering ownership and sustainability of programme activities at community level.

- **Community contribution to project cost and technology transfer.** Emphasis on initial cost-sharing of SDCP investment to beneficiaries ensures effective ownership. Moreover, empowerment of dairy groups through technology transfer and dissemination of knowledge will contribute to creation of sustainability of social capital. Through enhanced entrepreneurial capacities, communities are expected to take up running business enterprises such as milk cooling and processing as well as taking initiatives to seek extension services, developing business proposals for financing by financial institutions, and brokering contracts with nationwide milk processors on their own.

- **Participation of the Private Sector.** In line with Kenya’s pluralistic approach for extension and other service provision to smallholder farmers, the design provides for more emphasis on the use of private service providers as well as institutional partnerships for delivery of the Programme support to target groups in collaboration with county staff. The private sector involvement is expected to contribute to increased efficiency and sustainability of the Programme. In this regard, services such as Entrepreneurship Development Skills, Business Planning and Development, Dairy Farming Proficiency, Value Addition and Processing, Financial Literacy and AI among others will be provided by the Private Sector.
- **Promotion of partnerships and linkages with key stakeholders** such as: (i) ICIPE and FAO for research and piloting of the site-specific animal health packages, (ii) IFAD-supported Biogas International and KENAFF for promotion of alternative biogas systems and others. In addition, the programmes maintained ongoing collaboration with other partners such as CDF, Heifer International, Kenya Agricultural and Livestock Research Organisation (KARLO), New Kenya Cooperative Creameries (KCC), microfinance institutions; Local Authority Transfer Fund (LATF), and GIZ will ensure and enhance continuity of programme interventions beyond IFAD support.

- **Economic and financial sustainability.** SDCP is engaged in a dairy value chain approach, which embodies commercial incentives and private sector participation as the keys to sustainability. The Programme will continue to provide support for farmer groups, milk bars/processors, mobile milk traders to build forward and backward commercial linkages that financially self-propel on the basis of commercial incentives as opposed to subsidy dependence. Support is generally in the soft areas of facilitation, training and brokering. Provision of direct financial support or subsidisation is not consistent with the sustainability objective. Concerning the grants to dairy enterprises, there are arrangements to ensure that the grants received by groups do not end up creating a dependence syndrome:
  
i. Beneficiaries have to match the grants and this creates much-needed ownership. Grants such as those for acquisition of post-harvest milk coolers require a cash beneficiary contribution in the range of 35%.
  
ii. During the extended period, revised criteria for proposal evaluation have been designed as follows: consistency with DCA action plan and dairy hub rationale, number of people to benefit from the business directly and indirectly, women and youth targeting, technical viability, projected profitability of the activity, job creation potential, and quality of governance and management of the group.
  
iii. Before grants are approved, the proposal will go through an independent Technical Services Provider (TSP) review whose task among others will be to ensure compliance with the revised proposal evaluation criteria.
  
iv. Indicative financial models included in the updated financial and economic analysis show that there are sufficient financial incentives in the kinds of projects eligible for grant financing. The grant scheme is justified as it fills a gap in accessing finance by the dairy groups supported by the Programme, for the groups that have not reached a development stage where they are deemed eligible for financing by formal financial institutions (due, for instance, to lack of a track record, failing to demonstrate business profitability, and/or lacking collateral). To avoid creating dependence on subsidies, a group will be eligible for only one grant, which should cover all the identified eligible needs to make the funded activity profitable and sustainable, and facilitate progress to MODE 3, when groups are expected to be able to access finance from formal financial institutions. Eligibility criteria to the grants have been rationalized accordingly, and only groups in MODE 2 will be eligible for the scheme. At MODE 3, groups are assessed to have the capacity to submit requests for funding to formal financial institutions.
  
v. The cost per beneficiary combining both original SDCP and the additional financing is USD 1,492 per beneficiary household or USD 254 per beneficiary individual. Results of the economic analysis show that the Programme has the capacity to generate an economic rate of return (ERR) of 20.9% over a 20-year period. A price drop by 20% lowers this ERR to 10.2% while an increase in fodder production cost by 30% lowers the ERR to 20%.