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USAID KENYA DAIRY SECTOR COMPETITIVENESS PROGRAM

QUARTERLY PROGRESS REPORT
JANUARY 2012 - MARCH 2012
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DISCLAIMER

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List of Acronyms

APSK	Animal Production Society of Kenya
BDS	Business Development Services
CAIS	Center for Artificial Insemination Services
DTA	Dairy Traders Association
DTF	Dairy Task Force
DVO	District Veterinary Officer
ESADA	Eastern and Southern Africa Dairy Association
FHI	Family Health International
GMP	Good Management Practices
HACCP	Hazard Analysis and Critical Control Points
HPI	Heifer Project International
ICT	Information Communication and Technology
IPM	Integrated Pest Management
NKCC	New Kenya Cooperative Creameries
KDB	Kenya Dairy Board
KDSCP	Kenya Dairy Sector Competitiveness Program
KENDAPO	Kenya National Dairy Producers Organization
KENFAP	Kenya National Federation of Agricultural Producers
KLBO	Kenya Livestock Breeders Organization
LOL	Land O'Lakes
MBC	Milk Bulking Center
MOLFD	Ministry of Livestock Development
MOLD (DVS)	Ministry of Livestock, Department of Veterinary Services
MWG	Milkshed Working Group
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
PCPB	Pesticide Control Products Board
PERSUAP	Pesticide Evaluation Report Safer Use Action Plan
PMO	Pasteurized Milk Ordinance
PMP	Performance Management Plan
RMC	Resource Mobilization Centre
SBO	Smallholder Business Organizations
SoW	Scope of Work
SITE	Strengthening Informal Sector Training and Enterprise
SNV	Netherlands Development Organization
SPs	Service Providers
USAID	United States Agency for International Development
WRUA	Water Resource Users Association
WWS	World Wide Sires Consortium

Executive Summary

This report summarizes the key activities implemented and the associated accomplishments for the USAID Kenya Dairy Sector Competitiveness (KDSC) program. The report covers the second quarter of USAID fiscal year 2012 (Jan-March 2012)[1]. The KDSC activities contribute to the achievement of intermediate results under USAID/Kenya Mission's SO7 on "Increasing Rural Households Income."

Being that the program is in the last quarter of the CLIN 4, with only one calendar year remaining for the project implementation, the KDSC program during the period under review has continued to address sector challenges, constraints and stakeholder concerns in all the milksheds and has realized significant achievements. There have been concerted efforts focused on putting in place sustainable solutions and sustainability measures as an exit strategy. This has resulted in mechanisms that will result into the continuity of the program. In this respect, the program has been linking SPs with farmers and tracking how they initiate demand for their services without fully involving the project staff. This has been designed to evaluate the post-project implementation phase and possible adoption of program activities in the future after the exit of the program.

During the quarter under review, the program continued to build the capacity of producers to venture into other marketing avenues that will improve the uptake of their milk. This has been occasioned by a reduction in milk purchase by the processors who have also reduced the prices of milk. Dairy Traders Associations (DTAS) have continued to offer essential services to the farmers in the TransNzoia milkshed by buying their milk at a price of 35-50 a liter, which was better than prices offered by processors. Milk prices in Western region were high and ranged from Ksh 45-70 a liter hence the need to formalize the market which will hence improve farmer's income. Wamuini group continued to market milk through their milk bars and were selling at Ksh 45 a liter. In order to mop up the excess milk in TransNzoia milkshed, Chesoi cooperative society in Marakwet East worked on producing good quality Mala and selling at their milk bar, Ksh 60, improving farmer's income. At the same time, the Naitiri cooperative, located in a milk deficit area, was selling their evening and some morning milk locally at a net price of Ksh 30, resulting in Ksh 2 above NKCC and with no transport charges.

With the constant reduction in price dairy farmers face working with the program, the program has ventured in a generic milk consumption campaign aimed at promoting the consumption of milk at all levels. Started in this quarter, the program has three major components including road shows, school activations and dairy master plan launch. Consultancy firms have been

[1] ***KDSCP CLIN year ends in April 30 however KDSCP Implementation year follows USAID FY structure. KDSC program is currently operating in CLIN Year Four, which runs May 1, 2011 – April 30, 2012, and USAID Fiscal Year Five, which runs October 1, 2011 – September 30, 2012.***

contracted to carry out these activities and the main outputs will be reported in the next reporting period.

In order to mitigate the challenge of using substandard feeds for dairy animals, the program has embarked on educating farmers on use of high quality formulated feeds in early stages of lactation to avoid sharp decline in production later in lactation. Inadequate feeds has been identified as a major cause of low production levels and use of concentrate only increases the cost of production for most of the farmers. Through the intervention of the program in the feed industry especially with the capacity building of AKEFEMA members, the program has realized the increase in production of high quality feeds from 374,967 tons in 2008 to 627,286.2 tons in 2011. This shows an increase of 67% showing that the program has achieved beyond the target of 60% of the program.

The KDSC program continued linking Small Business Organizations (SBOs) to inputs and services to enable organizations to grow their businesses. In this period under review, a total of 21,690 new households joined the program resulting into a total of 283,821 households having benefitted since the beginning of the program. This shows an achievement of 94.6% of the targeted households. The female members benefiting formed 45.7% of all beneficiaries. The program trained 66 new SPs and linked them to the dairy farmers in the program area resulting into a total of 971 SPs linked to the farmers to date as compared to the project target of 500 SPs. The KDSC program also provided market information and access to services and provided training and technical assistance to the producer groups. This has been achieved due to overwhelming response by the SPs to business opportunities presented by the dairy sector.

In order to achieve profit maximization and expanded investment, the program has been working with financial service providers and linking them to dairy farmers for the latter to acquire more funds for expanding their dairy businesses. With regards to this, a total of 7,509 farmers were able to access loans from financial institutions during the period under review. This shows that from the beginning of the program, a total of 50,323 farmers have benefited from the financial institutions and have received loans to enable them expend their businesses. This has surpassed the program target of 45,000 farmers by 11.8%

A total of 15,371 farmers were reached with short term training during the period under review. This has resulted into 113,226 farmers trained in total since the beginning of the program and translating to 74% of the program target. The program reached these farmers through shows, farmer field schools, demos and exchange visits which were organized to build the capacity of dairy farmers in dairy management technologies. The program further enabled 14,215 new members to access BDS services, inputs, technologies, and management practices during the quarter under review. The total number of farmers accessing BDS services by the end of this quarter was 224,308, showing that the project has reached the target of 220,000.

During the period under review, the program continued to promote the use of clean energy through utilization of animal wastes. In collaboration with KENFAP, a total of 32 biogas digesters were constructed in the program area, resulting into 638 biogas constructed by project beneficiaries to date. The use of biogas has contributed into making the cooking very efficient and less tiresome as those who have the digesters attest to it. At the same time, the biogas has been used to power the chaff cutters making it cheaper to operate unlike before when electricity or fuel were being used.

The program has also been at the forefront in making the MBCs work with their beneficiaries to be environmental compliant. By the end of the period under review, a total of 78 milk bulking centres/cooling plants had either been installed or rehabilitated to serve dairy farmers in all the eight milksheds. Out of all cooling plants being used, 88.5% of them met HACCP standards and have met national certification standards. The service providers have continued to promote chaff cutters and generators that enable farmers and bulking centres to perform dairy activities at optimum level. This is expected to improve their feed utilization efficiency and reduce feed wastage at SBO levels. Based on increased demand of dairy technologies, Simba Machinery, the sole supplier of chaff cutters in all milksheds, has been able to open offices in all milksheds and reports good businesses on monthly basis.

A farm level survey conducted in the quarter reveals that the KDSC program has contributed to the increase in cow productivity. Findings from that survey recorded an increase of 57.8% in productivity since the beginning of the project. This shows that the current productivity was found to be 10.1litres/cow/day as compared to 6.4litres/cow/day in 2008. In this aspect, the program has been able to achieve 67.3% of the target of 15litres/cow/day. The cost of production reduced cumulatively by 29.2% against the project target of 25% since the cost of milk production reduced to Kshs. 10.08(US$ 0.126) from KShs 14.20 (US$ 0.178) in 2008. The adoption of the high crude protein and palatable *Lucerne* and *Desmodium* fodder species have significantly reduced farmers reliance on expensive cereal-based commercial concentrates such as dairy meal. High costs were incurred in Lessos milkshed showing that farmers in that region have adopted to purchase of inputs and feeds unlike before.

The gross margin reported by dairy farmers was Kshs 15.76 (US$ 0.197) during the quarter, while the cumulative average of the gross margin since the intervention of the program was KShs 10.56 (US$ 0.132). This shows an increase of 88.6% compared to baseline value. It therefore shows that the program target of 40% has been achieved. The increase in gross margin has been realized by the increase in adoption rate by members to the cost reduction technologies promoted by the program. It also benefitted from steady milk price realized through sale of milk through SBOs with clear marketing structure.

During the period under review, the program has also realized impressive progress in income levels per household. The income realized from dairy was US$ 127.74 (Kshs. 10,219.06) per

month. It therefore shows that the cumulative average income since the beginning of the project was US$78.74 (KShs 6,299) showing an increase of 208% compared to baseline value and this has surpassed the target of 80%. The increase can be attributed to the increase in productivity, reduction in cost of production and increase in average price as a result of project interventions.

During the intervention in the program area, a lot of emphasis has been on utilization of technologies that would result in improved productivity in dairy enterprises. Increased use of productivity-enhancing technologies, especially artificial insemination, has been realized among farmers working with the program. Program data shows a marked increase in the proportion of farmers using AI (80.8%) compared to the baseline proportion (39.9%). The adoption of technology was low in the female headed households (68.2%) as compared to male headed households (82.2%). TransNzoia milkshed registered the lowest use of AI services by farmers (48.8%)

The main challenge reported during this quarter was volatility in the milk market. The inability by the dairy milk processors to absorb milk produced by farmers in the quarter, lead to non-collection of milk, low milk prices and delayed farmer payments. The other challenge was the sudden drop of prices by NKCC that has affected the performance of SBO'S by members opting to sell their milk to milk traders who offer better prices hence affecting the volumes. However, since the price reduction only affected those without supply contracts, it has reinforced the importance of having Supply Contracts with processors which can only be facilitated through cooperatives.

1.0 Introduction

Land O'Lakes is implementing the USAID Kenya Dairy Sector Competitiveness (KDSC) program with the financial support of the United States Agency for International Development (USAID). KDSC is a five-year program that aims to improve Kenya's dairy industry competitiveness. Under this program, Land O'Lakes employs a market-driven value chain approach, utilizing a Business Development Services (BDS) methodology. KDSC will help transform the Kenyan dairy industry into a globally competitive, regional market leader, with the overall goal of increasing smallholder household income from the sale of quality milk. Land O'Lakes is facilitating this transformation, while the industry stakeholders are leading it.

The program objectives are three-fold:

- Increase competitiveness of the Kenyan dairy sector through collaboration among sector stakeholders and increased capacity of public sector agencies to serve the needs of the sector;
- Increase marketing of milk meeting quality standards by producer-owned milk bulking/cooling businesses; and
- Enhance access to business development services and technologies.

In its implementation, the program pays particular attention to environmental and gender concerns and effects corrective action as appropriate. KDSC takes into account the varying roles, assets, knowledge and skills that men, women and youth bring to dairy farming. The program therefore facilitates the implementation of opportunities for integrating youth and family members into dairy value-chain economic activities.

Towards Strategic Objective 7

KDSC contributes to the USAID Strategic Objective 7.0 on "Increased Rural Household Incomes." The program is implemented through a range of activities grouped into three broad components. The components and the associated deliverables are:

Component 1: Enhanced Capacity for Milk and Production Input Quality Certification and Market Promotion

Deliverables include:

- Increased smallholder household income
- Increased use of technology
- Improve and enact industry policies and acts that enhance competitiveness

- Develop and implement/enforce quality certification frameworks and work towards a graded payment system
- Dairy enterprises achieve national/international certifications and enforcing quality regulations on suppliers
- Increase feed marketed under new quality standards

Component 2: Dairy Smallholder Business Organization (SBO) Development

The key deliverables are:

- Producer organizations strengthened.
- Increased number of milk bulking centres (MBC) with Hazard Analysis and Critical Control Points (HACCP) and /or SBOs with national certifications.
- Increased raw milk sales by SBOs under agreements that pay premium for quality.
- Increased gross revenue of milk bulking/cooling businesses from sale of inputs and services other than milk.
- Increased number of SBOs transformed into sustainable businesses entities.
- Increased number of cooling units installed/rehabilitated by SBOs

Component 3: Availability of Dairy Business Development Services

Key outcomes/ impacts will include:

- Enhanced range of business services to producers.
- Increased value of services/inputs provided by business service providers.
- Increased number of smallholders purchasing private sector services at full commercial rates.
- New technologies or management practices made available for transfer.
- Increased number of dairy farmers receiving loans from financial service providers.
- Increased number of smallholders engaged in new, diversified dairy-related enterprises.
- Increased number of dairy farmers receiving short-term training.

Implementation Strategy and Key Activities

KDSC is implemented using innovative, international best practice approaches and methodologies that ensure achievement of expected results and sustainability of impacts long after the end of the program. Using local service providers and facilitators, Land O'Lakes, the implementing agency, supports market-based services/solutions, and action-oriented policy research to overcome both industry-level and enterprise-level constraints to competitiveness at

key points along the dairy value chain. Industry stakeholders have since been engaged to been engaged to identify competitiveness constraints, and propose solutions to these constraints.

2.0 Program Implementation

Being that the program is in the last quarter of the CLIN 4 with only one calendar year remaining for the project implementation, KDSC program during the period under review has continued to address sector challenges, constraints and stakeholder concerns in all the milksheds and has realized significant achievements. There have been concerted efforts focused on putting in place sustainable solutions and to put in place sustainability measures as an exit strategy. This has resulted into putting in place mechanisms that will result into the continuity of the program. In this respect, the program has been linking SPs with farmers and tracking on how they initiate demand for their services without fully involving the project staff. This has been designed to evaluate the post-project implementation phase and possible adoption of program activities in the future after the exit of the program.

The KDSC program has also ventured into marketing of milk through DTA as an expansion in domestic market – both institutional and informal- for the SBOs working with the program in a bid to stabilize milk price across seasons. To safeguard consumer safety, the program is looking into ways of working with the DTA to build the capacity of members on milk handling and hygiene. DTA has been very supportive to the dairy sector and has been able to carry out training on milk quality in all the milksheds in the country. In this respect, the program has been liaising with other stakeholders in milk marketing industry in order to create an avenue for dairy farmers to sell their milk alongside milk processors. The program has therefore been promoting the sale of milk through use of dispensers especially in supermarkets as well as highly populated areas which is aimed at absorbing excess milk that cannot be absorbed by milk processors.

Detailed activities and achievements in the reporting period are summarized below and are organized by program component.

2.1 Component One: Enhance Capacity for Milk and Production Input Quality Certification and Market Promotion

During the quarter under review, the program continued to build the capacity of producers to venture into other marketing avenues that will improve the uptake of their milk. This has been occasioned by a reduction in milk purchase by the processors who have also reduced the prices of milk. Dairy Traders Associations (DTAS) have continued to offer essential services to the farmers in TransNzoia milkshed by buying their milk at a price of 35-50 a liter which was better than prices offered by processors. Milk prices in Western region were high and ranged from Ksh 45-70 a liter hence the need to formalize the market which will hence improve farmer's income. Wamuini group continued to market milk through their milk bars and were selling at

Ksh 45 a liter. In order to mop up the excess milk in TransNzoia milkshed, Chesoi cooperative society in Marakwet East embarked on value addition, producing good quality Mala which they sold at their milk bar at Ksh 60 hence improving farmer's income. At the same time, Naitiri cooperative which is in a milk deficit area were selling their evening and some morning milk locally at a net price of Ksh 30 that resulted into Ksh 2 above the price offered by New Kenya Cooperative Creameries (NKCC) and with no transport charges.

The program has continued to sensitize the farmers on the need to register livestock and conduct milk recording. With new requirements by KLBO to have all inspectors register with Breeder Societies before being allowed to register animals as well as standardization of charges, the animal registration process is running smoothly. The process is running concurrently with training and tagging. During the period under review, a total of 5579 animals were registered with Kenya Stud Book with majority of them (2,005) having been registered in Lessos milkshed.

2.1.1 Generic milk consumption campaign

With the constant reduction in price the dairy farmers experience working with the program, it has become evident that the program must carry out activities aimed at mopping up milk produced at the farmer level. In the recent past, the main processors have resorted to massive reduction of milk prices from as high as KShs 35 per litre to as low as KShs 20 per litre. In respect to this, the program has ventured in to milk generic consumption campaign aimed at promoting the consumption of milk at all levels. Started in this quarter, the program has three major components including Road shows school activations and dairy master plan launch. The following consultancy firms have been contracted to carry out these activities and the main outputs will be reported in the next reporting period.

1. EXP Momentum Ltd - Indoor Stakeholders Launch, Roadshows in Mombasa and Kisumu, and 4 regional launches for the master plan - Sub Value: Kshs 8,116,929. (US$101,462)
2. MoSound Ltd - Nairobi based road shows and groove tours - Sub Value: Kshs 8,002,433 (US$100,030)
3. Inter Management Group - Outdoor Launch in Nairobi, Street and Supermarket activations and HORECA storms - Sub value: Kshs 8,047,128 (US$ 100,589)
4. Regional Development Consultants - School Activations - Sub value - Kshs 5,000,600 (US$ 62,508)

2.1.2 Public Lecture on Breeding at Kabianga University college

KDSCP has continued to promote collaborative approaches with institutions of higher learning, especially reaserch and universities. Kabianga University which has signed an MOU

with the program to help in demo farm development was aided in organizing a sensitization lecture on breeding to the agriculture students and neighbouring farmers. The objective was to start preparing the students and neighbouring farmers on the importance of breeding in dairy. These students will be critical in the management and development of the Demo Farms. Some Demo Farms will be chosen from around the University hence the need to start engaging them immediately. That way the Program is reaching this important class of youth that are professionally agriculturalists. The event took place on 29th March 2012 at the University lecture hall and the main Speaker was KLBO's Training & Extension Manager Mr. Duncan Muyoka Mbai. Those who attended include Deputy Principal, Academics & Student Affairs Prof. Joseph B. Ojiambo, Dean School of Agriculture & Biotechnology Prof M. E. Omunyin, Heads of Departments, lectures, students and farmers. The total attendance was 73 persons.

2.1.3 Milkshed Working Group (MSWG) revives Kericho Agricultural Show

KDSCP has been very instrumental in reviving Kericho Agricultural Show that has remained dormant for nearly 20 years. South Rift Livestock Breeders' Forum (SRLBF) in collaboration with New KCC, KDSCP, Ministry of Livestock Development, Financial institution, Feeds companies, and other stakeholders managed held a historic livestock exhibition event on 23rd and 24th March 2012. The Exhibition which had a mini breeders' show as the major component is the first step in reviving the agricultural show in the region. The Exhibition was attended by 2,760 farmers with 20 exhibitors participating. The Guest of honour was the area member of parliament Hon. Benjamin Lang'at. Other dignitaries present were NKCC Managing Director Dr. Daniel K. Lang'at, Kericho Mayor Mr. Moses Limo and Kabianga University Dean School of Agriculture & Biotechnology Prof. E. M. Omunyin. New KCC were the main sponsors of the Exhibition to a tune of KES 1,855,000. The program intends to use the show to empower the farmers on dairy animal management with aim of improving their income from dairy enterprise.

Figure 1: Dr. Langat, Director NKCC addressing farmers during the Kericho Exhibition Show

2.1.4 Production and Use of high quality feeds

The program facilitated the development of standards for high quality feeds. During that period, the program built the capacity of stakeholders on the requirements needed to meet the standards that would result into high milk productivity. Through such initiatives, the program realized the formation of AKEFEMA that vets the feed manufactures and rates their feeds in terms of quality. With the formation of AKEFEMA and capacity building of its members, there has been an increase in sale of high quality feeds throughout the country. The AKEFEMA members have been able to supply feeds through SBOs to the dairy farmers under contractual arrangements with the SBO management. The SBOs have left it to individual farmers to decide on how best to acquire the feeds either as individuals or as a group. Members of the cooperatives have been accessing the feeds through their SBOs and payment made through check-off system. Due to the high costs of feeds experienced currently, some SBOs have not been stocking feeds which have resulted in most farmers using bran or maize germ which are of poor quality compared to well formulated dairy meals for production purposes.

In order to mitigate this, the program has embarked on educating farmers on use of high quality formulated feeds in early stages of lactation to avoid sharp decline in production later in lactation. Inadequate feeds have been identified as a major cause of low production levels and use of concentrate only increases the cost of production for most of the farmers. Through the intervention of the program in the feed industry especially with the capacity building of AKEFEMA members, the program has contributed in increasing the usage of high quality feeds by dairy farmers all over the country. The AKEFEMA members have registered a tremendous

increased in productions and sales of high quality feeds. As reported in Table 1, AKEFEMA members increased their production of high quality feeds from 374,967 tons in 2008 to 627,286.2 tons in 2011. This shows an increase of 67.3% showing that the program has achieved beyond the target of 60% of the program. It is therefore anticipated that once the production is maximized, AKEFEMA members will be able to produce more feeds for dairy farmers as they currently operate between 60% and 70% of the installed capacity.

Table 1: Production of high quality feeds by AKEFEMA members

Region	Production (Tons)/Year								
	2011	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**
Nairobi	315,598.6	233,598.2	208,569.8	181,365.6	194,094.5	168,031.6	146,061.6	133,180	125,230
Thika	110,461.1	85,101.5	78,797.7	71,634.24	70,919.1	60,648.3	47,657.27	46,415	44,777
Kiambu	30,266.4	24,213.1	23,949.6	21,008.4	15,676.8	11,934	8,220	1,760	0[2]
North Rift	30,540.7	34,135.8	26,258.3	21,882	23,142.03	16,658	15,621	12,536	4,249
Nyanza	20,189.9	16,966.3	14,068.3	12,107.68	12,690.8	12,962.1	11,200	10,000	12,000
Nakuru	80098.6	58,896.2	44,138.6	39,409.44	33,693.3	34,394	33,243	31,593	23,967
Mt. Kenya	9210.5	7085.4	5,665.9	4,656	3,732.6	4,240	4,056	1,990	1,840
Coast	30920.4	32,345.9	25469.2	22,904	19,409.5	9,723	6,950	6,900	7,400
TOTAL	**627,286.2**	**492,342.4**	**426,917.4**	**374,967**	**373,258.6**	**318,591**	**273,008.9**	**244,374**	**219,463**

2.2 Component Two: Develop Dairy Smallholder Business Organizations

With members benefiting from KDSCP activities, especially those that promote dairy management, there has been an increase in membership in all milksheds. This increase can be attributed to the benefits gained by members of the SBOs working with the program as witnessed in the rural areas. During the quarter, the KDSC program continued linking Small Business Organizations (SBOs) to inputs and services to enable these organizations to grow their businesses. In this period under review, a total of 21,690 new households joined the program resulting into a total of 283,821 households having benefitted since the beginning of

the program. It therefore shows that the program has already achieved 94.6% of the targeted households. The female members benefiting formed 45.7% of all beneficiaries.

Program intervention has continued to record positive results through federation methodology. Through the federation approach, Transnzoia milkshed has been experiencing a healthy milk marketing competition by the cooperatives with Transnzoia milkshed group marketing their milk through Koitogos away from Cherenganyi Dairy Group (CDG) and CDG marketing milk mainly from Cherangany division. The group during the period under review marketed an average of 3,000 liters of milk per day which was lower than the target. Members of the group included Koitogos, Meeboot, Surungai, Kipsaina, Taito, Naitiri, Tongaren, Surungai, and Seum. Jitegemee and Ndalu groups have joined the federation and more groups are expected to join. The group earns a gross pay of Ksh 28 a month and pays the cooperative Ksh 27.30. The group is negotiating a contract with NKCC and is expected to be signed in May 2012 to stabilize the price of milk in the region. CDG remains the leader in milk marketing and delivered a total of 155,253 liters of milk to Buzeki. Tarakwa Kipsombe federation supplies their milk to NKCC through North Rift federation. Koisugur, Chesoi and Kapsowar Mala plant who are members of Marakwet Koisugur federation marketed their milk to Kapsowar mala plant. All the milk was value added to Mala and sold to Schools and shopping centers in the region.

2.2. Increased uptake in technology

Through the continued support by KDSCP in the program areas to attain self-sufficiency at the cooperative and farmer levels, the program has realized a continued and steady uptake of IT and other technologies in all the milksheds. The program has been sensitizing SBO management on the need to move forward and install milk cooperative business software available for easier handling of bulk data. Uptake of IT has been remarkably encouraging in the program area. Different SBOs have been able to purchase computers to hasten data handling. With the computerization of several SBOs working with the program, the program has been able to improve on the management and efficiency at the SBO level. To date, a total of 35 SBOs (28.2%) have been computerized. The computerization has resulted into reduction of periods taken before the payments are made to SBO members. Actually, the SBOs have been able to pay their members on the first week of every month unlike before when the payments were made a month later. This can be attributed to the adoption of ICT that has made the operations at the SBO level very efficient. During the period under review, the program continued to promote the use of clean energy through utilization of animal wastes. In collaboration with KENFAP, a total of 32 biogas digesters were constructed in the program area hence resulting into 638 biogas constructed by project beneficiaries to date. The use of biogas has contributed into making the cooking very efficient and less tiresome as those who have the digesters attest to it. At the same time, the biogas has been used in other instances to power the chaff cutters making it cheaper to operate unlike before when electricity or fuel

were being used. The program has also been at the forefront in making the MBCs working with its beneficiaries be environmental compliant. By the end of the period under review, a total of 78 milk bulking centres/cooling plants had either been installed or rehabilitated to serve dairy farmers in all the eight milksheds. Out of all cooling plants being used, 88.5% of them met HACCP quality standards and have met national certification standards. The service providers have continued to promote chaff cutters and generators that enable farmers and bulking centres to perform dairy activities at optimum level. This is expected to improve their feed utilization efficiency/reduce feed wastage while at SBO levels reduce wastage. Based on increased demand of dairy technologies, Simba Machinery, the sole supplier of chaff cutters in all milksheds has been able to open its offices in all milksheds and reports good businesses on monthly basis.

SUCCESS STORY: KDSCP TRANSFORMS THE LIFE OF NG'ARUA COOPERATIVE MEMBER JOYCE NDUTA IN KENYA

Joyce Nduta Kinyanjui is a member of Ng'arua Dairy Farmers Cooperative Society who owns a livestock farmer field school. The LFFS is held in her plot on monthly basis with at least five farmers attending the training in any sitting. During the last field day held in her farm, a total of 100 dairy farmers attended the training. Joyce owns two dairy cows, one heifer and four calves. She reports that she keeps few animals unlike before.

"I used to own five dairy cows that used to give me a total of 5 litres per day. Through KDSCP intervention, I culled my animals and remained only with two dairy cows that give me a total of 30 litres/day. This shows that the productivity of my cows increased from 1 l/cow/day to 15 l/cow/day". The increase in productivity has been attributed to adoption of improved technologies in her farm which include use of silage, use of zero-grazing technology, planting of animal feeds like boma Rhodes, nappier grass, desmodium and sweet potatoes. The other reasons for improved productivity are use of hay, improved breeds through use of AI services, as well as feed preparation through use of chaff cutter.

ry farming **ster**
SCP

Program farmer level capacity building activities have resulted in considerable benefits to the participating farmers. A sample of the benefits included:

A farm level survey conducted in the quarter reveals that the KDSC has contributed to the increase in cow productivity. Findings from that survey recorded an increase of 57.8% in productivity since the beginning of the project (Table 2). This shows that the current productivity was found to be 10.1litres/cow/day as compared to 6.4litres/cow/day in 2008. With regards to project target, the program has been able to achieve 67.3% of the target of 15litres/cow/day. During the month of February 2012, Kabete milkshed recorded higher yields of 16.5 litres/cow/day followed by Kericho with 12.6litres/cow/day and Kinagop with 11.9litres/cow/day. Male dairy farmers recorded higher yields (10.2 litres/cow/day) compared to females with 9.0 litres/cow/day. There was no significant difference in productivity by sex and this can be explained by the fact that since all those interviewed were members of the SBOs, all of them were exposed to these technologies.

Table 2: Productivity of milk in the year 2012 in Lts/cow/day

Respondent Category	Mean Yield 2010 wet season	Mean Yield 2010 dry season	Average yield in 2010	Average yield in 2011	Average yield 2012 Wet season
Baseline – August, 2008	*6.4*	*6.4*	*6.4*	*6.4*	*6.4*
Whole sample	**7.9**	**8.1**	8.0	**8.2**	**10.1**
Sex					
Male	7.9	8.13	8.0	**8.2**	10.2
Female	7.4	7.89	7.6	**8.3**	9.0
Age of farmer					
Youth	7.1	8.22	7.7	**6.1**	11.1
Above 30 years of age	7.8	8.06	7.9	**8.2**	10.1
Milkshed					
Nyeri	8.0	7.01	7.5	**7.2**	**7.2**
Gatanga	7.18	8.05	7.6	**7.5**	**9.1**
Kabete	10.0	10.6	10.3	**11.7**	**16.8**
Lessos	8.3	11.16	9.7	**10.7**	**10.3**
TransNzoia	7.4	6.74	7.1	**4.8**	**8.6**
Kericho	6.8	5.54	6.2	**6.1**	**12.6**
Nakuru	7.0	7.91	7.5	**7.1**	**4.8**
Kinangop	8.1	8.08	8.1	**10.8**	**11.9**

The program has been promoting dairy technologies aimed at reducing the cost of production with an aim of increasing the competitiveness of the dairy sector. During the quarter under review, the program promoted cost-cutting feeding regimes, including adoption of crop residue preservation, hay, silage, leguminous fodder technologies (Lucerne, desmodium, caliandra), and own feed formulation (use of molasses and microbes). During the same period, farmers working with the program experienced increased prices of farm inputs especially animal feeds. These resulted in eroding the benefits gained by using the cost reduction technologies.

However, due to improved usage of dairy technologies, farmers still realized a substantial reduction in cost of production. During the farm level survey, the study found that the cost of production reduced cumulatively by 29.2% against the project target of 25%. As reported in Table 3, the cost of milk production reduced to **Kshs. 10.08 (US$ 0.126).** The adoption of the high crude protein and palatable *Lucerne* and *Desmodium* fodder species have significantly reduced farmers reliance on expensive cereal-based commercial concentrates such as dairy meal. High costs were incurred in Lessos milkshed showing that farmers in that region have adopted to purchase of inputs and feeds unlike before.

Table 3: Cost of production - 2011 and cumulative program figures in US$/litre

Respondent Category	**Cost of production– wet season**	**Cost of production)- dry season**	**Cost of production in 2010 wet season**	**Cost of production in 2011wetseason**	**Cost of production in 2012wetseason**
Baseline – August, 2008	***Ksh. 14.20 (US$ 0.178)***	***Ksh. 14.20 (US$ 0.178)***	***Ksh. 14.20 (US$ 0.178)***	***Ksh. 14.20 (US$ 0.178)***	***Ksh. 14.20 (US$ 0.178)***
Whole sample	0.124	0.139	0.131	0.129	0.156
Sex of household head					
Male	0.121	0.135	0.129	0.120	0.170
Female	0.135	0.155	0.145	0.135	0.127
Age of farmer					
Youth	0.081	0.110	0.096	0.095	0.116
Above 30 years of age	0.125	0.141	0.134	0.145	0.157
Milkshed					
Nyeri	0.198	0.187	0.193	0.189	0.268
Gatanga	0.155	0.150	0.153	0.154	0.141
Kabete	0.096	0.243	0.170	0.145	0.008
Lessos	0.093	0.095	0.094	0.093	0.198
TransNzoia	0.114	0.134	0.124	0.123	0.133
Kericho	0.143	0.069	0.106	0.109	0.084
Nakuru	0.120	0.115	0.118	0.115	0.119
Kinangop	0.081	0.133	0.108	0.099	0.157

(Note: 1US$=KShs 80)

In order to reduce the cost of production of milk in the program area, the program has been promoting the usage of fodder crops in all milksheds. The usage of fodder crops has significantly improved during the period of project implementation. Results from the farm level survey carried out during the period under review, about 96% of farmers had Napier grass (Table 4). The use of fodder trees increased from 2.1% at baseline to 14.1% while Rhodes grass increased from 7.3% to 23.5% during baseline and year four respectively. The adoption of technology has been felt in the program area regarding the use of maize stovers as dairy feed. About 13% of the dairy farmers have adopted the use of maize as fodder crop with majority being recorded in the expansive North Rift area especially in Lessos and TransNzoia milksheds. Maize has strictly

been regarded as human food in the country, especially in Rift valley. The crop, however, is highly nutritious and makes better ensiling material than Napier grass, which is commonly used.

Table 4: Proportion of farmers establishing fodder crops/trees

Proportion (%) of farmers planting	Baseline (%)	2009 (%)	2010 (%)	2011 (%)	2012 Wet season
Napier	79.5	81.6	82.1	88.2	95.6
Desmodium	2.1	4.0	0.6	5.0	14.1
Rhodes grass	7.3	13.9	21.1	25.0	23.5
Lucerne	3.7	2.1	4.8	3.2	17.0
Fodder trees	2.1	1.3	1.9	6.5	12.0
Fodder sorghum	1.0	1.7	3.2	3.5	7.6
Caliandra trees	1.7	2.8	2.2	6.8	8.2
Oats	14.1	6.4	12.5	12.6	13.8
Fodder maize	Na	2.7	4.2	**6.0**	12.7

Table 5 shows that during the quarter, the gross margin reported by dairy farmers was Kshs 15.76 (US$ 0.197). Since the inception of the project, the cumulative average of the gross margin since the intervention of the program was KShs 10.56 (US$ 0.132). This shows an increase of 88.6% compared to baseline value. It therefore shows that the program target of 40% has been achieved. The increase in gross margin has been realized by the increased in adoption rate by members to the cost reduction technologies promoted by the program. It also benefitted from steady milk price realized through sale of milk through SBOs with clear marketing structure.

Table 5: Gross Margins and cumulative program figures in US$/Liter

Respondent Category	2010 wet season	2011 Wet season	2012 Wet season	Cumulative moving average
Baseline – August, 2008	***KShs5.80 (US$ 0.07)***	***KShs5.80 (US$ 0.07)***	***KShs5.80 (US$ 0.07)***	***KShs5.80 (US$ 0.07)***
Whole sample	0.094	0.105	**0.197**	**0.132**
Sex				
Male	0.096	0.109	0.181	
Female	0.094	0.091	0.234	
Age of farmer				
Youth	0.120	0.073	0.262	
Above 30 years of age	0.093	0.104	0.189	
Milkshed				
Nyeri	0.060	0.143	0.107	
Gatanga	0.056	0.095	0.139	
Kabete	0.133	0.164	0.269	

Respondent Category	2010 wet season	2011 Wet season	2012 Wet season	Cumulative moving average
Lessos	0.153	0.133	0.180	
TransNzoia	0.121	0.105	0.142	
Kericho	0.050	0.123	0.265	
Nakuru	0.078	0.043	0.210	
Kinangop	0.104	0.088	0.184	

During the period under review, the program has also made impressive progress in income levels per household. These can be attributed to improved access to feeds by dairy farmers, adoption of dairy technologies like conservation of fodder crops as well as enhanced training of beneficiaries on dairy management technologies. As reported in Table 6, the income realized from dairy was US$ 127.74 (Kshs. 10,219.06) per month. It therefore shows that the cumulative average income since the beginning of the project by the end of the quarter under review was US$78.74 (KShs 6,299) showing an increase of 208% compared to baseline value and this has surpassed the target of 80%. The increase can be attributed to the increase in productivity, reduction in cost of production and increase in average price as a result of project interventions.

Table 6: Household income and cumulative program figures (US$/Month)

Respondent Category	2009 -wet season	2010 wet season	2011 wet season	2012 wet season	Cumulative moving average (Kshs/Month)
Baseline – August, 2008	***25.54 (KShs2043)***	***25.54 (KShs2043)***	***25.54 (KShs2043)***	***25.54 (KShs2043)***	***25.54 (KShs2043)***
Whole sample	60.62	63.68	62.91	**127.74**	**78.74**
Sex					
Male	65.08	67.14	65.51	133.64	
Female	46.29	51.84	52.52	108.63	
Age of farmer					
Youth	56.70	61.35	19.13	60.38	
Above 30 years of age	60.72	63.75	62.76	128.74	
Milkshed					
Nyeri	29.62	26.28	65.81	102.98	
Gatanga	21.36	32.12	22.30	71.60	
Kabete	101.97	77.43	153.92	199.76	
Lessos	112.81	123.03	55.99	171.30	
TransNzoia	84.65	77.14	33.99	73.67	
Kericho	17.84	41.98	40.80	69.38	
Nakuru	66.59	74.29	33.90	167.93	
Kinangop	52.75	58.64	72.76	133.26	

During the intervention in the program area, a lot of emphasis has been on utilization of technologies that would result in improved productivity in dairy enterprises. Increased use of productivity-enhancing technologies, especially artificial insemination, has been realized among farmers working with the program. Program data shows a marked increase in the proportion of farmers using AI (80.8%) compared to the baseline proportion (39.9%) as reported in Table 7.

The adoption of technology was low in the female headed households (68.2%) as compared to male headed households (82.2%). TransNzoia milkshed registered the lowest use of AI services by farmers (48.8%)

Table 7: Artificial Insemination technology adoption in 2011

Respondent Category	Technology adoption - AI (%)
Baseline	*39.9*
Whole sample	**80.8**
Sex of farmer	
Male	82.2
Female	68.2
Age of farmer	
Youth	81.8
Above 30 years of age	81.2
Milkshed	
Nyeri	95.1
Gatanga	97.6
Kabete	92.9
Lessos	79.2
TransNzoia	48.8
Kericho	95.2
Nakuru	53.7
Kinangop	90.9

2.3 Component Three: Increase Availability of Dairy Business Development Services

The KDSC implementation method focuses on building capacity of BDS providers, i.e., switching from assisting micro enterprises directly to ensuring sustainable access to services through functioning markets. To achieve this objective, and for effectiveness, outreach, and impact, the program uses a portfolio approach in provision of BDS. This entails working with multiple partners as BDS providers rather than work with one or just a few and also the capacity building of the providers to provide a range of services (with some embedded), rather than just one for increased effectiveness.

2.3.1 Facilitated working linkages between farmers and the SBOs working with the KDSCP

With exit strategy in mind, the program continued providing information on input supply sources, linking producers with the suppliers, linking businesses/enterprises to financial service providers and helping the SBOs and service providers meet conditions to access credit. During the period under review, the program trained 66 new SPs and linked them to the dairy farmers in the program area. This therefore gives a total of 971 SPs linked to the farmers to date as compared to the project target of 500 SPs. The KDSC program also provided market

information and access to services and provided training and technical assistance to the producer groups. This has been achieved due to overwhelming response by the SPs to business opportunities presented by the dairy sector. Due to the increased number of SPs there has been an increase in technological transfer resulting into increased purchase of dairy machinery, ICT accessories like digital weighing scales and computerization, pulverisers and chaff cutters. The SPs have also contributed in the increase of the number of beneficiaries and those trained in the program area.

2.3.2 Facilitated working linkages between farmers and the Financial Service Providers

Financial service providers have been the main source of funding for established enterprises including dairy. In order to achieve profit maximization and expanded investment, the program has been working with financial service providers and linking them to dairy farmers for the latter to acquire more funds for expanding their dairy businesses. With regards to this, a total of 7,509 farmers were able to access loans from financial institutions during the period under review. This shows that from the beginning of the program, a total of 50,323 farmers have benefited from the financial institutions and have received loans to enable them expend their businesses. This has surpassed the program target of 45,000 by 11.8%.

2.3.3 Facilitated capacity building of over 15,371 dairy farmers in the quarter

A total of 15,371 farmers were reached with short term training during the period under review. This has resulted into a total of 113,226 farmers trained since the beginning of the program and translating to 74% of the program target. The program reached these farmers through shows, farmer field schools, demos and exchange visits which were organized to build the capacity of dairy farmers in dairy management technologies. The program further enabled 14,215 new members to access and BDS services, inputs, technologies, and management practices during the quarter under review. The total number of farmers accessing BDS services by the end of this quarter therefore was 224,308 which show that the project has reached the target of 220,000. Program interventions focused on training dairy farmers to equip them with the necessary technical skills to increase herd productivity and incomes. The training forums, organized in collaboration with key stakeholders such as private service providers, Ministry of Livestock extension personnel and Kenya Dairy Board (KDB) covered diverse topics such as feed/fodder production, appropriate feeding regimes, feed conservation and formulation, modern breeding techniques and milk handling hygiene. Other areas covered include infertility, dairy as a business and disease control. There was emphasis on the on-farm demonstration on feed conservation techniques to enable smallholders conserve feed to stabilize milk yield and farmer incomes.

SUCCESS STORY: FROM A SECOND HAND CLOTHES DEALER TO A DAIRY SERVICE PROVIDER THROUGH KDSCP

Having completed her secondary education, Mary Gichuki trained as a Tailor and later became a second hand clothes dealer. She provides services in the field of dairy, business and tree seedlings. The farmer owns four acres farm is located in Gitiha (Lari), Kiambu County of central Kenya. With her little education, Mary surprised her visitors from India with her prowess in botanical names. "Listening to Mary Gichuki referring to different botanical names of fodder trees in her compound, one would mistake her for an agricultural Extension officer" Confesses Dr Sigh, a research officer and a lecturer from India–University of New Delhi. He made this statement during a recent visit by international delegates who visited the family's "Bamato" farm in November 2011. In 2006 Mary was identified for a training organized by ICRAF at Nakuru. The training was on fodder seed and nursery management as well as business skills. Following the training the 28 participants drawn from national level resolved to form an organization that would help them expand this initiative. This is when Kenya Association of Tree Seeds and Nursery Organization (KATRESNO) was registered. Mary took this training very seriously that she is the most aggressive of the 5 active service providers. She is the only active woman. Through involvement with KDSCP, Mary has been able to get a certificate of recognition where she was recognized as the most consistent Service provider in the milk shed. The program has been able to improve her economic status and is proud to be associated with it."I have done the following recently: bought 4 high quality in-calf heifers, an electric chaff cutter ,a water pump, 100 chairs and a tent for quests during trainings which is also available for hire, a plot … and am able to service Kshs 300,000 loan comfortably. I have also created employment opportunities to 3 women. My seed stock stands at Kshs 200,000 and clothes around 150,000", explains Gichuki.

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2.4 Environmental Degradation Mitigation Measures

In order to comply with environmental conditions in areas of intervention, the program has continued to promote activities (at the farm, service providers and at bulking centre level) that mitigate management practices that may result in environmental degradation were also emphasized in the quarter under review. The KDSC program continued to encourage program beneficiaries to work towards sustainable management practices that reduce soil erosion, soil and water pollution, and emissions, among others, to safeguard the sectors' future contribution to national economic growth. This is in recognition of the fact that agriculture is and will be (in the short to medium term) the mainstay of Kenya's economy.

With respect to mitigating environmental degradation, during farmer trainings on disease control, emphasis was put on proper pesticide (cans) waste disposal through incineration or dumping in pit latrines to protect the environment. Drug withdrawal periods have been emphasized to be observed especially for mastitis cases. During the farm level survey, it was found that the farmers practicing withdrawal periods after deworming and spraying are very low (below 10%) across gen. A majority of farmers (90%) practiced disposal of acaricide and pesticides containers. This difference is due to the toxic and fatal nature of these chemicals. The project also trained dip attendants and part of the curriculum was the safe disposal of acaricide wastes and waste containers. During the quarter under review, over 50,000 animals were dipped under good dip management practices. Proper waste disposal has been over emphasized during trainings of farmers at the SBO level.

The program has also been encouraging farmers to adopt the use of biogas as a cooking option as this is expected to maintain a clean environment. The program, through collaborative approach, has been working with SPs who promote the use of biogas as well as KENFAP. Through the program intervention, total of 32 biogas digesters were constructed in the program area hence resulting into 638 biogas digesters. At the same time, the program has been promoting the use of energy saving jikos is also being promoted with a new SP-Pekisma Enterprise. Through the engagement of ECLOF, another stakeholder and also an FSP are promoting a solar system that is affordable and easy to install. The SP is being linked with the groups.

The program is also encouraging the farmers to prepare multipurpose trees and shrubs during the dry period to be transplanted during the dry season. A tree nursery in Kipsaina has been identified to supply the seedlings and seeds during the planting season for establishment in the farms. Three farmers have fully implemented biogas units. The program in conjunction with Norbrook (K) Ltd is training dip attendants on safe disposal of acaricides.

The program has also engaged staff from MOA to train farmers on issues of organic farming and soil conservation. This is being done during LFFS sessions, seminars and during field days.

2.5 Gender and Youth intervention

Program efforts to promote gender and youth intervention have registered positive results. Members of Rugika Youth are dealing in fodder growing, mostly Napier. The young farmers in the milkshed have taken conservation matters seriously, as many have planted fodder trees and wind breakers, made bench terraces to control soil erosion and to increase ground cover. The Program has continued to encourage Tongaren Dairy Group to be more aggressive in dairy activities. This group is also offering computer services to the SBO as the youth have a computer school. The members have been encouraged to invest in the dairy business and commercial hay making though further training is required. The main challenge of the youth is their availability as they are sparsely distributed in their activities; the project will work with them to address this challenge. In order to address this challenge, KDSCP has been using sports as an avenue to get youths in these project areas involved in dairy activities. This has been designed in such a way that dairy issues are discussed before the beginning of sports activities.

Gender is a factor the program continues to emphasize, especially when it comes to the decision-making process. The program is mobilizing women in the milk sheds who are now fully participating in dairy activities. The Kitale women's initiative has appreciated the program in which they coordinate groups of women who are willing to join the already existing SBOs within the milkshed and most of them are already participating in dairy farming. In pursuant to gender roles, all the project meetings and the FFS that were being conducted in the quarter have been tailored to match with appropriate times as agreed upon by the members both men and women, the women in particular prefer morning or afternoon (not early morning or late evening). This has been strictly adhered to in the planning of the FFS and SBOs meetings.

In Lessos milk shed, the program has observed that fewer women are being trained in the FFS, this is attributed to the aspect of dairy owner cum manager being the male in the family. This has led to mobilization of women to attend such meetings against the cultural values that prefer men to attend meetings unlike women. As a result of this campaign, there has been some progress in Lessos with women coming into LFFS.

2.6 Challenges

Volatile milk market**:** A challenge in the quarter has been the inability of the dairy milk processors to absorb milk produced by farmers in the quarter, leading to non-collection of milk in some cases, low milk prices and delayed farmer payments. In Lessos and TransNzoia milksheds, NKCC reduced the price of milk for those with contracts from KShs 35 to KShs 22 per litre of milk. However, those selling through hawkers got much lower prices from NKCC.

Due to the reduction in milk prices, farmers from those areas managed to seek alternative marketing avenues that would guarantee competitive prices. In places like Gatanga, SBOs have ventured into milk bar business where they sell their milk as value added to the ready market. In this situation, they sell milk at KShs 60 per litre compared to KShs 20 per litre offered by processors.

Market distortion**:** Some development programs being implemented in the program area continue to perpetuate dependency attitudes by paying farmers and funding purchases or giving away inputs and dairy equipment. Some stakeholders still expect payments from the project for attending capacity building sessions, while some service providers demand payment to train farmers. The program has been able to put in place measures to address this challenge through capacity building of the dairy farmers. KDSCP uses an approach in which farmers who are members of the dairy societies make contributions in order to acquire cooling plants from their milk proceeds. At the same time, the program has established a mechanism in which dairy farmers are linked directly to service providers who offer services and inputs to these farmers and payments are made through check-off system on behalf of the farmers by the processors. This has enabled members to understand that whenever they want to access any service, it is them who bear the cost.

Milk collection infrastructure**:** The program has continued to advise farmers on the need to have their own cooling units in their SBOs. However, based on the financial requirements, there has been a slow uptake of this aspect in the project area. Members of some of the SBOs have been able to contribute towards this and have managed to purchase cooling units. However, majority of the cooperatives have not been successful in this. To address this, the program has embarked on involving other development partners that include the government and banks to provide financial assistance. Constituency development fund has been utilized in some of the areas while at the same time, the program has linked SBOs with financial institutions in order to acquire loans. The program has also contributed by providing technical assistance to the cooperatives towards the development of viable and bankable business plans that can expedite the loan processing.

2.7 Lessons Learnt

Sudden lowering of prices by NKCC, a major raw milk buyer has affected the performance of SBO'S by members opting to sell their milk to milk traders who offer better prices hence affecting the volumes. However, since the price reduction only affected those without supply contracts, it has reinforced the importance of having Supply Contracts with processors which can only be facilitated through cooperatives.

The organization of farmer groups into business organizations has enabled dairy producers to increase their bargaining power with the processors. The formation of federations has resulted in increased milk prices at the farmer level and the same time qualifying of members for bonuses given by processors.

Increased capacity building of service providers has resulted in increased sales of their products. Linkages facilitated by KDSCP program between service providers and farmer cooperatives have enabled farmers to invest in technologies like digital weighing scales, computerization and biogas equipment at affordable rate. This has led to realization of the objectives of the program in enhancing development of small business organizations.

Collaboration with other agencies has yielded positive results for the program. There has been continuous engagement of other stakeholders in the industry which has culminated into reaching out to many dairy farmers with range of benefits. Some of the stakeholders include FHI, KDB, DTA and ministry of livestock development.

2.8 Work plan for Year 5:

Table 8: Work plan for Year 5

Quarter[3]	Q 1			Q2			Q3			Q4			Anticipated Outputs/Outcomes	Responsible
Month	1	2	3	4	5	6	7	8	9	10	11	12		
2.1 Component One – Enhance capacity for milk production input quality certification and market promotion														
Activity 2.1.1: promote the work of the DTF and promote a donor working group		x			x				x		x		2 DTF meetings held to promote Synergy and leverage funds for the sector	KDB/KDSCP
Activity 2.1.2: Promote Quality Standards and Support Policy reform initiatives		x	x	x	x	x	x	x	x	x	x	x	Generic consumption campaigns/Increase in milk consumption.	KDPA/KDSCP/KDB/ Consultants
Activity 2.1.3: Promote market expansion of milk and value added dairy products.			x			x			x			x	20 counties sensitized and funds leveraged to support the Dairy sector.	MOLD/KDSCP/ Consultants
Activity 2.1.4: Facilitate institutional and association capacity building		x		x		x			x		x		Develop a Sow and award and monitor number of labs sensitized towards accreditation with 17025 certification	KENAS/KDSCP/Consultants
2.2 Component Two - Develop Dairy Smallholder Business Organizations (SBOs)														
Activity 2.2.1: Promote smallholder business development model				x			x			x			12 additional Cooling units installed and or rehabilitated/Launched	Consultants/Facilitators/ SBO management
Activity 2.2.2: Promote solutions and create SBO Business Plan and Milkshed Action Plans.	x	x	x	x	x	x	x	x	x	x	x	x	10 additional SBOs transformed into substantial business entities above the break-even point	SBO Management/KDSCP/Consultants
Activity 2.2.3: Promote Embedded Services within Dairy Smallholder Business Organization and Processors.		x	x	x	x	x		x	x	x	x	x	At least 4 additional Processors offering Embedded services	KDPA/KDSCP/ Consultants
Activity 2.2.4: Encourage Quality based systems and contracts.			x	x	x	x	x						Ensure 4 additional best practices are posted on KDSC website	KDSCP/Consultant
2.3 Component Three - Increase Availability of Dairy Business Development Services														
Activity 2.3.1: Continuous needs Analysis for Dairy Industry business development service.	x								x				75 existing and 50 new BSPs will continue to be supported	KDSCP Facilitators
Activity 2.3.2: Promote Accreditation of and standards for Dairy Service Providers	x	x	x	x	x	x	x	x	x	x	x		50 Dairy SPs accredited	KDSCP/ Consultants
Activity 2.3.3: Directory of Business Service Providers for dairy Industry								x	x	x	x	x	Functional and sustainable e-portal	KDSCP/ Consultants

[3] Quarter periods corresponds to CLIN period, that is quarter one period starts in May 2012

Activity 2.3.4: Forge Business to Business Linkages	x	x	x			x	x	x			x	x	Launch/ re-launch and promote the newly established MBC to increase membership. Develop a sow and award	KDSCP/Partners
Activity 2.3.5: Stimulate Value Chain Financing			x	x	x	x	x	x	x	x	x	x	12,000 additional farmers receiving loans from Financial service providers	KDSCP Facilitators
Activity 2.3.6: Build Capacity of New and Existing Business Service Providers		x								x			50 additional BDSP supported and Linked to Beneficiaries	KDSCP Facilitators

3.0 Performance Data Table

Impacts					
Performance Indicator	**Baseline Value**	**CLIN Year 4**		**Cumulative Actual**	**Comments**
		Cumulative Project Target	**Actual – Q4 (FY 2012)**		
Household level impacts					
Increase in smallholder household income (%)	2043	80%	400%	208%	Current estimates indicate that farmer incomes from the sale of milk increased to US$ 127.74 (Kshs. 10,219.06) per month. The cumulative average income since the beginning of the project by the end of the quarter was US$78.74 (KShs 6,299) showing an increase of 208% compared to baseline value
Number of rural households benefiting	0	300,000	21,690	283,821	The program recruited more members especially in Kericho and Kikuyu milksheds due it its focus in reaching out to more members. The membership has reached 94.6% of the program target. Women members formed 45.7% of all members.
Sub-Sector Level Impacts					
Total volume of milk purchased from smallholder dairy farmers (MT)	209,460	263,460	257,993	257,993	There was an increase in volumes sold by farmers in the quarter due to improved productivity in the program area as compared to similar seasons in the past. This stability can be attributed to farmers adopting program-promoted productivity enhancing technologies with the onset of rains. The quarter saw serious price reduction resulting in low value received at the farmer level.
Total value of milk purchased from smallholder dairy farmers (US Dollar)	68.8M	86.6M	84.8M	84.8M	

Impacts					
Performance Indicator	**Baseline Value**	**CLIN Year 4**		**Cumulative Actual**	**Comments**
		Cumulative Project Target	**Actual – Q4 (FY 2012)**		
Number of jobs created in the value chain	0	36,000	10,622	25,324	Jobs created along the dairy value chain which included those created by SPs, agrovets, processors, transporters, dairy equipment. Resulted into 70.3% achievement as per the target. With measures in place for tracking, the program will achieve the target by the end of the program. A total of 398 jobs created at the SBO level, 6032 created at the farm level from farm level survey, 4192 jobs in agrovets, machinery out lets, AKEFEMA sales persons and transporters
Number of producers accessing/ receiving/ utilizing BDS services, inputs, technologies, and management practices	0	220,000	14,215	224,308	The program has continued to link service providers with dairy farmers in all milksheds. The target has been achieved by over 100%
Farmers using improved technology increased (Number)	0[4]	180,000	36,338	177,760	Program data shows a marked increase in the proportion of farmers using AI (80.8%) compared to the baseline proportion (39.9%). The adoption of technology was low in the female headed households (68.2%) as compared to male headed households (82.2%). TransNzoia milkshed registered the lowest use of AI services by farmers (48.8%)
Increase in productivity of milk per cow/day (Lt)	6.4[5]	15	10.1		The program has been able to achieve 67.3% of the target of 15litres/cow/day. During the month of February 2012, Kabete milkshed recorded

[4] The increase in year one was 0. However, at baseline was an estimated 39.9% of farmers were using new technology.

[5] This is baseline value got from the program survey. This differs with the value used in the PMP that was 10.3 litres/cow/day. The program therefore should base its interventions on the baseline value of 6.4 litres/cow/day

Impacts					
Performance Indicator	**Baseline Value**	**CLIN Year 4**		**Cumulative Actual**	**Comments**
		Cumulative Project Target	**Actual – Q4 (FY 2012)**		
					higher yields of 16.5 litres/cow/day followed by Kericho with 12.6litres/cow/day and Kinangop with 11.9litres/cow/day.
Increase in gross margin per Lt of milk (Percent)	Kshs. 5.8	40%	171.7%	88.6%	The average gross margin since the intervention of the program was KShs 10.56 (US$ 0.132). This shows an increase of 88.6% compared to baseline value.
Reduction in cost of production - farm gate (%)	Kshs. 14.2	25%	29.2%	29.2%	The cost of production reduced cumulatively by 29.2% against the project target of 25%. The cost of milk production reduced to Kshs. 10.08(US$ 0.126).
Component 1 - Enhance Capacity for Milk and Production Input Quality Certification and Market Promotion					
Number of industry policies improved/enacted	0	3	21	21	Program has been recognized by the MOLD in its facilitation that led to the development of the Dairy Master Plan. Dairy draft regulations developed by the project is undergoing review by legal professional so as to make it acceptable by the government. Kenya livestock policy has been published for consideration by the government
Number of Quality certification frameworks (Milk product, Animal feeds) developed, implemented/enforced	0	2	1	1	
Dairy enterprises achieving national/international certifications and enforcing quality regulations on suppliers (Number)	0	55	69	69	These include SBOs with bulking centres and whose management committee members were trained on certification by DTI. Also included in this category are bulking/processing centres owned by milk processing companies but serve the dairy farmers working with the program.

Impacts					
Performance Indicator	**Baseline Value**	**CLIN Year 4**		**Cumulative Actual**	**Comments**
		Cumulative Project Target	**Actual – Q4 (FY 2012)**		
Increased feed marketed under new quality standards	0	60%	67%	67%	AKEFEMA together with KDSCP have put measures in place to provide high quality data on the high quality feed marketed to project direct beneficiaries
Total Value of non-project resources leveraged (US $)	$0m	$25M	$0.11M	$25.63M	A total of KShs 8,085,000 (US$ 101,062.5) was invested into the dairy sector in the program areas by dairy farmers, NKCC and other stakeholders
Component 2 - Dairy Smallholder Business Organization (SBO) Development					
Number of producer organizations strengthened	0	120	0	124	The program is currently working with 124 SBOs in the eight milk sheds and three sector wide organizations and 10 milk marketing federations. All the SBOs were capacity built in the reporting period. We have therefore surpassed the program year five targets.
Number of SBOs/MBCs with HACCP and/or national certification	0	45	0	69	These include SBOs trained by DTI, and bulking centers installed by Brookside, NKCC and the private partners
Number of SBO/MBCs transformed into sustainable business entities	0	60	0	124	SBOs that have business plans implemented together with those whose management attended training on quality issues have acquired national certification. Processors have also achieved this certification in their milk chilling plants.

Impacts					
Performance Indicator	**Baseline Value**	**CLIN Year 4**		**Cumulative Actual**	**Comments**
		Cumulative Project Target	**Actual – Q4 (FY 2012)**		
Number of cooling units installed/rehabilitated in SBO/MBCs (Number)	0	35	36	78	The program has been able to track all the MBCs that are being utilized by project beneficiaries especially those that have been set-up or installed for the benefit of those producing milk.
Component 3 - Availability of Dairy Business Development Services					
Number of firms providing new business services to producers (Number)	0	500	66	971	Program activities have focused on embedded service provision to increase the sales volume and revenues for the providers. AI providers are trained on feeds & feeding and feed conservation.
Dairy farmers receiving loans from financial service providers	0	45,000	7,509	50,323	Private AI service providers and SBOs working with the program have benefitted from program linkages with financial service providers.
Number of producers receiving short-term training	0	153,000	15,371	113,226	The program has achieved 74% of the target. SPs are being capacity built on the benefit of carrying out trainings on their own to generate demand for their services.

4.0 Appendix 1: Financial Report

Kenya Dairy Sector Competitiveness Program				
Contract No. 623-C-00-08-00020-00				
Quarterly Financial Report April 2012				
		Budget	**Actual Expenditures thru March 2012**	**Remaining Funds as of April 2012**
	CLIN One (Year 1)			
	Total Estimated Costs	$ 1,902,995	$ 1,902,995	
	Fixed Fee	$ 20,324	$ 20,324	
	Total Estimate Cost Plus Fixed fee	***$ 1,923,319***	***$ 1,923,319***	
	CLIN Two (Year 2)			
	Total Estimated Costs	$ 2,183,292	$ 2,183,292	$ -
	Fixed Fee	$ 20,607	$ 20,607	$ -
	Total Estimate Cost Plus Fixed fee	***$ 2,203,899***	***$ 2,203,899***	***$ -***
	CLIN Three (Year 3)*			
	Total Estimated Costs	$ 2,229,663	$ 2,229,251	$ 412
	Fixed Fee	$ 24,372	$ 24,368	$ 4
	Total Estimate Cost Plus Fixed fee	***$ 2,254,035***	***$ 2,253,619***	***$ 416***
	CLIN Four (Year 4)**			
	Total Estimated Costs	$ 1,555,543	$ 1,066,604	$ 488,939
	Fixed Fee	$ 16,261	$ 10,666	$ 5,595
	Total Estimate Cost Plus Fixed fee	***$ 1,571,804***	***$ 1,077,270***	***$ 494,534***
	CLIN Five (Year 5)			
	Total Estimated Costs	$ 1,032,815	$ -	$ 1,032,815
	Fixed Fee	$ 14,128	$ -	$ 14,128
	Total Estimate Cost Plus Fixed fee	***$ 1,046,943***	***$ -***	***$ 1,046,943***
	Total Reimbursable Costs	$ 8,904,308	$ 7,382,142	$ 1,522,166
	Total Reimbursable Fixed Fee	$ 95,692	$ 75,965	$ 19,727
	Total Reimbursable Estimated Cost Plus Fixed Fee	**$ 9,000,000**	**$ 7,458,107**	**$ 1,541,893**
	* MOD # 8 Transferred $ 64,865.11 from CLIN 1 to CLIN 3			
	** CLIN 4 Expenditures began May 1, 2011 through April 2012			

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