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USAID KENYA DAIRY SECTOR COMPETITIVENESS PROGRAM

QUARTERLY PROGRESS REPORT

JANUARY 2010 - MARCH 2010

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List of Acronyms

BDS	Business Development Services
CAIS	Center for Artificial Insemination Services
DTF	Dairy Task Force
DVO	District Veterinary Officer
ESADA	Eastern and Southern Africa Dairy Association
GMP	Good Management Practices
HACCP	Hazard Analysis and Critical Control Points
HPI	Heifer Project International
ICT	Information Communication and Technology
IPM	Integrated Pest Management
KCC	Kenya Cooperative Creameries
KDB	Kenya Dairy Board
KDSC	Kenya Dairy Sector Competitiveness Program
KENDAPO	Kenya National Dairy Producers Organization
KLBO	Kenya Livestock Breeders Organization
LOL	Land O'Lakes, Inc.
MBC	Milk Bulking Center
MOLFD	Ministry of Livestock Development
MOLD (DVS)	Ministry of Livestock, Department of Veterinary Services
NEMA	National Environment Management Authority
NGO	Non Governmental Organization
PCPB	Pesticide Control Products Board
PERSUAP	Pesticide Evaluation Report Safer Use Action Plan
PEV	Post Election Violence
PIS	Performance Improvement Services
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
USAID	United States Agency for International Development
WRUA	Water Resource Users Association
WWS	World Wide Sires Consortium

Executive Summary

The report summarizes the key activities implemented and the associated accomplishments for the USAID Kenya Dairy Sector Competitiveness (KDSC) program in the second quarter of the 2009/10 Fiscal Year. The KDSC activities contribute to the achievement of intermediate results under USAID/Kenya Mission's SO7 on "Increasing Rural Households Income."

Key Highlights

The key highlights for the reporting period include:

- **Facilitated capacity building of over 3,000 dairy farmers in the quarter.** 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 the 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. **The cumulative number of farmers trained in the two years of implementation is now 39,736.**
- Current estimates indicate that farmer incomes from the sale of milk have increased to **Kshs. 4849.90** on average in the quarter. The **program cumulative average realized so far is 82.8%, surpassing the program target of 25% by end of Year Two.**
- More than **37 new permanent jobs were created** in SBOs and service provider firms working with the program in the quarter.
- Farmers working with the KDSC program have recorded impressive yield figures as observed in the latest farm level survey. The program cumulative average now stands at 7.1 liters / cow / day - a **9.2% increase compared to the baseline value of 6.5 liters.** Some milksheds, such as **Kabete, Nyeri, Lessos and Kinangop** where farmers have aggressively taken up KDSC's feeding and husbandry practices, have all achieved yields above the sample average.
- The onset of rains has greatly helped reduce cost of production due to abundant forage. **Average production cost has reduced cumulatively to Kshs. 13 which represents an 8.5% reduction compared to the baseline production cost. We have surpassed the program target of 7% reduction in cost by end of Year Two.** The onset of rains and adoption of program promoted cost-cutting measures has greatly helped reduce cost of production due to abundant forage. 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.
- The program has so far realized impressive progress in gross margin levels over the two years. In the wet season (farm level survey conducted in March 2010), increased yields and low production cost due to the onset of rains and thus availability of forage were observed and were the main drivers of increase in gross margin levels. **Cumulatively, average gross margin has increased by 22.4% over the two years of program operation, surpassing the program target of 16%.**

- Increased use of productivity-enhancing technologies, especially Artificial Insemination (AI), has been observed among farmers working with the program. Farm level survey shows a marked **increase in the proportion of farmers using AI (65.2%) compared to the baseline proportion (39.9%).**
- Recruited and trained **338** new business service providers in the quarter. **This now takes the total number of service providers working with the program to 627.** These experts work with and deliver productivity-enhancing technologies to specific farmer groups. **194 service providers – especially AI providers – now supply additional services** (farmer training on feeds and feeding, among others) to their clientele after attending program-facilitated capacity building workshops and seminars. **The program has now surpassed the target of 150 service providers providing new services by end of year two of program implementation. All 119,217 farmers – active members of farmer groups working with program - have access to business development services (BDS), technologies, inputs and management practices against a target of 80,000 by end of year two of program implementation.**
- The KDSC program continued implementing action plans developed by stakeholders to build capacity of the Smallholder Business Organizations (SBO) and to increase farm level productivity. Cumulatively, **91 farmer organizations have had their capacities built compared to the target of 50 groups by end of Year Two of program operations.** These include 78 smallholder business organizations (SBOs)/cooperatives/bulking centers, nine milk/dairy marketing federations, and three sector-wide farmer organizations. An additional **22,758 rural households benefited from the program** in the quarter. This now takes the **total number of rural households benefiting to 149,217, surpassing the program target of 110,000 households by end of Year Two.**
- Implemented capacity building activities (management committee training, service providers training and linkages, among others) to eight additional farmer groups in the reporting period. **This now takes the total number of SBOs who have benefited from the KDSC capacity building activities to 78, and the total number of farmer groups benefitting to 81. All 78 SBOs now report operating profitably (above the breakeven point) against a target of 25 by end of Year Two of program operation.**
- The KDSC program encouraged program beneficiaries to work towards sustainable management practices that reduce soil erosion, soil and water pollution, and emissions among others to safeguard the sector's future contribution to national economic growth. **Over 700 farmers were reached with environmental conservation messages in the quarter.** Topics covered included pesticide storage and use, integrated pest management, fodder establishment, feed conservation, among others.
- Facilitated quality analysis of animal feeds currently in the market in Kabete Milkshed to identify good quality feeds in the quarter. This is expected to go a long way in improving animal nutrition and therefore farm level productivity in the milkshed.
- **Exposed eight progressive farmer groups to Information Communication and Technology (ICT) in the quarter.** The eight groups were trained on the Cop works computer software designed to ease record keeping in cooperatives. The groups selected already have computers and are expected to start using the software within the year.

- **Facilitated business planning for 11 SBOs in the quarter.** This is designed to create a business orientation to operations within farmer groups. The plans are expected to help develop business-oriented smallholder dairy cooperatives. This process is ongoing for all the remaining SBOs.
- Program investment in the Kenya Livestock Breeders Organization (KLBO) and its services has started bearing fruit. The organization reported registering over **12,000 head of dairy animals** since the program facilitated breed inspectors training in the last quarter. This was reported as the highest number of animals ever registered in a quarter by the KLBO. The KLBO has been registering about 5,000 animals a year since its inception. The program is definitely on course towards enhancing industry competitiveness and increasing smallholders' income and wealth.
- **Facilitated the review of two dairy standards** in the quarter. This now takes the total number of industry standards/regulations reviewed/improved to 22.¹ The standards are now in public review and will shortly become official Kenya Standards. KDSC has since surpassed the targeted maximum of three industry policies/acts improved and enacted through its lifespan.
- **Finalized the development of a “user friendly” version of the Dairy Code of Hygiene.** This exercise has been hailed by stakeholders as a major value addition to the program's interventions on the industry standards and other legislative documents. Two thousand (2,000) copies of the documents were produced. This presents a key milestone on the program's quality interventions and is expected to improve the quality of milk reaching consumers, while lowering the volumes of milk rejected due to noncompliance with set quality standards at the farm gate, thus increasing farm incomes.
- **Successfully advocated for the creation of a dairy development levy** to fund a milk and milk products strategic reserve, among other industry development activities in the quarter.
- Leveraged an estimated **\$20.27 million** in non-program resources in the reporting period. This was achieved through stakeholder investment and contribution to sector initiatives – both in-kind and monetary. A significant proportion was realized from farmers' participation in program-organized events. Total non-program resources leveraged now stands **at \$24.97 million. We have surpassed the program target of \$10 million by Year Two.**
- The program entered the **final stages of finalizing the development of an industry-wide web-based application** that will serve as a complete dairy and livestock management information system for the livestock sector in the quarter. The application will provide an easy interface for initial and subsequent data collection and analysis. This will enable sharing information among stakeholders in the sector once finalized.

¹ These include 20 standards, dairy regulations, and the dairy code of hygiene. The program has also finalized one certification framework – the Good Manufacturing Practices manual.

I.0 Introduction

Land O'Lakes is implementing the USAID Kenya Dairy Sector Competitiveness (KDSC) program with the financial and technical 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, Inc. 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 market-linked business development services and technologies by male and female dairy farmers and processors producing dairy-related inputs.

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 I: 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 centers (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 this methodology, Land O'Lakes, Inc., the implementing agency, using local service providers and facilitators, 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 identify competitiveness constraints, and propose solutions to these constraints.

2.0 Program Implementation

In the last quarter, the program continued addressing sector challenges, constraints and stakeholder concerns and realized significant achievements. Program activities focused on building strong institutional arrangements to enhance the efficiency in the value chain for wealth creation. Outcomes of program activities were immensely felt in this period, with the country recording the highest milk output in its history² in the quarter. Through the Dairy Task Force (DTF), the program pushed through a provision to create a national strategic reserve for milk and milk products (like in the grain industry), and thus have an institution acting as a buyer of last resort to stabilize prices and to mop up excess milk, especially in periods of glut.

The KDSC program also continued to improve industry standards in the quarter as the first step towards achieving competitiveness, market expansion and ensuring consumer safety. The KDSC program has so far invested considerable resources in this core area and has surpassed its target. We, however, believe that program investments—in review of policy and standards to enhance milk and milk product quality—will continue to realize immense returns for the industry long after the program ends.

Activities to mitigate poor management practices—farm, service providers and at bulking center level—that may result in environmental degradation were also emphasized in the quarter. The KDSC program encouraged program beneficiaries to work towards sustainable management practices that reduce soil erosion, 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.

Detailed activities and achievements in the reporting period are summarized below and are organized by program component. As previously mentioned, the interventions under KDSC are grouped into three broad areas/components, namely Activities for enhancing quality of inputs and products, including policy and standards review and advocacy activities; Dairy smallholder business organization development and farm-level productivity activities; and Activities that aim to increase dairy business development services.

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

Program interventions in this component continued to focus on reviewing local milk and milk products standards to align them to regional and international standards. A key driver of competitiveness for the local dairy industry as revealed by the KDSC program commissioned Dairy Sector Competitiveness Study is product quality. Not only is this important for consumer safety and domestic market expansion, but it is also major for locally processed products to access regional and international markets. The program, in collaboration with KDB, Kenya Bureau of Standards (KEBS) and the DTF facilitated the review of two dairy standards in the reporting period. To ensure market stability and guaranteed farmer incomes, KDSC, through the DTF, pushed through a provision to create a dairy development Levy to be funded by processors. Money generated will fund milk and milk products strategic reserve—an institution to act as a buyer of last resort to mop up excess milk and stabilize prices, especially in periods of glut.

In addition, during the reporting period, the program entered the final stages of finalizing the development of an industry-wide Web-based application that will serve as a complete dairy and livestock management information system for the livestock industry. The application will provide an easy interface

² The Kenya Dairy Board, 2010

for initial and subsequent data collection and analysis. Once finalized, this will enable sharing information among stakeholders in the sector. Details of a sample of Component One activities and outputs realized in the reporting period include:

2.1.1 Reviewed/updated Two Dairy Standards

The program facilitated the review of two dairy standards in the reporting period. This now takes the **total number of industry standards/regulations reviewed/improved to 22.**³ These are now in public review and will shortly become official Kenya standards (Appendices 2 and 3). **KDSC has now surpassed the targeted maximum of three industry policies/acts improved and enacted in its lifespan.**

The reviewed standards and the anticipated benefits are:

Mozzarella Standard

Mozzarella is a popular cheese manufactured by numerous small-scale processors. It is generally a manual process involving working the cheese by hand and therefore is subject to contamination when proper sanitation and hygiene precautions are not observed. This reviewed standard provides the reference quality standards and will enable the industry regulators to monitor the chemical and microbiological quality of the cheese.

Pasteurized Goat Milk

Goat milk is generally processed in unsupervised locations by small-scale micro-processors and therefore is potentially a food safety hazard. This reviewed standard will enable the regulatory authority to test and control the quality of goat milk when sold on the open market.

Considerable progress has also been realized for dairy regulations. The regulations were reviewed and approved by the public technical committee, then submitted to the KDB for review and internal discussion in the second year of the program. This legislation was approved by the National Food Safety Coordination Unit and by a broad stakeholders' forum (both the concept and content) in the reporting period. The stakeholders' approval enables KDB to pass the dairy regulations on to the attorney general. The document will now be forwarded to the Attorney General's office to be put in a legal format before the Minister for Livestock Development (MoLD) formally receives it for possible adoption.

Reader Friendly Version of the Dairy Code of Hygiene Manual

The program successfully facilitated the review of a dairy code of hygiene for the entire dairy value chain in the second year. Though in themselves they are competent documents, the documents are very technical and not reader friendly, especially to the target audience—people working in the processing plants and the milk collection/bulking centers.

The program then hired a contractor to develop a “user friendly” version of the formal documents. This exercise was finalized in the quarter and has been hailed by stakeholders as a major value addition to the process. Two thousand (2000) copies of the document were produced. The code has four modules: milk production (targeting farmers); milk bulking and cooling (for cooperatives); milk processing and

³ These include 20 standards, dairy regulations, and the dairy code of hygiene. The program has also finalized one certification framework – the Good Manufacturing Practices manual.

packaging (processors); and milk distribution and retailing. **This presents a key milestone on the program's quality interventions and is expected to improve the quality of milk reaching consumers, while lowering the volumes of milk rejected due to noncompliance with set quality standards at the farm gate, thus increasing farm incomes.**

The program is now finalizing a Memorandum of Understanding with the KDB on the distribution of the manuals. We plan to have the KDB sell to interested parties and use the money realized, together with advertising money, to reproduce copies to ensure sustainability.

2.1.2 Facilitated the DTF to successfully advocate for the creation of a dairy development levy to fund a milk and milk products strategic reserve among other industry development activities

As previously mentioned, it was reported that January recorded the highest volume of milk ever produced in Kenya. This can be attributed in part to the efforts of a number of players—including KDSC. It, however, posed a serious challenge—marketing of both raw and processed milk. Some of the hardest hit by this phenomenon were program beneficiaries whose milk was not collected, even after signing agreements with processors.

To address this problem, the program engaged the DTF to find a lasting solution, and a number of strategies proposed. The sustainable strategy proposed was the creation of a Dairy Development Levy (DDV) to fund three major activities: milk and milk products strategic reserve, a dairy development fund, and a tax component to aid delivery of services by the MoLD. **This was a result of a cabinet memorandum prepared by the policy subcommittee of the DTF with input from other sector stakeholders, including producer organizations. The government, in addition, allocated \$4 million to help revive the powder plant of the new Kenya Cooperative Creameries (KCC) located in Eldoret.** The two main processors—KCC and Brookside Dairy, who are members of the DTF—were also advised to expand their processing capacities to absorb the excess milk.

Following this arrangement, Brookside Dairy has announced a **\$16M** investment in a milk powder plant. Construction is set to commence soon. The company has, in addition, commissioned a **\$266,667** expansion of one its plants in Nairobi to absorb part of the excess milk (*Daily Nation*, 8/04/10). This now takes the total non-program resources leveraged by KDSC to **\$24.97 million. We have surpassed the program target of \$10 million by Year Two.**

2.1.3 Development of an industry-wide Web-based application that will serve as a complete dairy and livestock management information system for the livestock industry

The program entered the final stages of finalizing the development of an industry-wide Web-based application that will serve as a complete dairy and livestock management information system for the livestock industry in the quarter. The application will provide an easy interface for initial and subsequent data collection and analysis. This will enable sharing information among stakeholders in the sector once finalized.

The program-commissioned competitiveness study identified lack of accurate data as a major constraint in the industry. To enhance accuracy and timeliness of industry data, and thus aid investment decision making and evidence based policy formulation, the program has been a developing dairy and livestock management information system. The system, proposed to be managed by the KDB, will have modules for all the actors in the value chain—farmers, farmer groups, processors, insurance and financial

institutions, semen distributors, animal health providers, among others. A Web prototype has been developed.

The consultant spent the better part of the quarter sensitizing stakeholders on its benefits and the need for populating the portal and keying in data in the portal. Some of the anticipated benefits of this system will include:

- Link farmers with various service providers and thus enhance their access to productivity enhancing services and inputs—including credit, animal health providers, and breeders, among others. This will increase the number of farmers using these services.
- Increase number of farmers accessing dairy animals insurance.
- Increase number of dairy animals registered by the KLBO.
- Ease the certification process for the various value chain actors—milk bar operators, processors, bulking groups. Certificates will be issued online by the regulator.
- E-Learning: more farmers and other value chain actors will access training materials online.
- At the industry level, the system will enable all players and researchers to access information faster and reliably.

Progress realized will be reported in future reports.

2.1.4 Facilitated capacity building interventions for the Kenya Livestock Breeders Organization (KLBO)

As previously reported, farmer knowledge and use of KLBO services is still very low, with a program survey showing that majority of dairy farmers (over 50%) do not know what KLBO does. This has been blamed on lack of farmer awareness and resources within KLBO—mainly personnel and mobility, and lack of marketing of the organization and its services.

The KLBO was an elite breeders' organization at its formative stages, with membership mainly drawing from the large-scale farms. "Smallholder farmers have not appreciated the benefits of being members of the KLBO," says Mr. Chichir, the current chairman. Farmers are, however, losing immense amounts of money when they sell their dairy animals because the animals are not registered. "We have very good genetics, but because of lack of paper (animal registration certificate), they realize very low prices when they sell. They miss the benefits associated with registration." Lack of registration also denies the industry regulator and the government the data needed for planning—for semen distribution, animal health products, among others. "We need to reach the smallholder farmers with our services and that is why we are so grateful for the support of the KDSC program," he says.

The KDSC program has been marketing the organization in all eight milksheds to help popularize the KLBO and sensitize farmers on the benefits that accrue from animal registration. The program also **helped train 40 additional breed inspectors** from all the operational milksheds to take this service closer to the people. In the reporting period, the program donated a vehicle to the organization. This is expected to enhance KLBO officers' mobility, increase farmer access to its services and ultimately increase the number of animals registered.

Box 1: Facilitating institutional and association capacity building for increased sector competitiveness and smallholder farmers' wealth

We are happy to report that program investment in the Kenya Livestock Breeders Organization (KLBO) and its services has started bearing fruit. The KLBO has reported registering over **12,000** head of dairy animals since the training. This is an immense growth in the number of dairy animals registered and was reported as the highest number of animals ever registered in a quarter by the KLBO. The KLBO has been registering about 5,000 animals a year since it was registered. The program is definitely on course towards enhancing industry competitiveness and increasing smallholders' income and wealth (net worth).



Dr. Joe Carvalho, Land O'Lakes Africa Regional Director, handing over the car to Mr. Chirchir, the current Chair of the KLBO at the Land O'Lakes Offices in Nairobi. The vehicle will be used to further activities that contribute to the objectives of the KDSC program.

Looking on are Mr. Mulinge Mukumbu (KDSC Team leader) and Mr. Albert Budi, (Chief Executive Officer, KLBO).

2.2 Component 2: Develop Dairy Smallholder Business Organizations

The KDSC program continued implementing action plans developed by stakeholders to build capacity of SBOs and to increase farm level productivity. Cumulatively, **91 farmer organizations have had their capacities built compared to the target of 50 groups by end of Year Two of program operations.** These include 78 SBOs/cooperatives/bulking centers, nine milk/dairy marketing federations, and three sector-wide farmer organizations. An additional **22,758 rural households** benefited from program activities in the quarter. **This now takes the total number of rural households benefiting to 149,217, surpassing the program target of 110,000 households by end of Year Two.**

Some of the activities implemented and accomplishments in the quarter include:

2.2.1 Facilitated capacity building of SBOs working with the KDSC program

- Implemented capacity building activities (management committee training, service providers training and linkages with BDS providers, among others) to eight additional farmer groups in the reporting period. **This now takes the total number of SBOs who have benefited from the KDSC capacity building activities to 78, and the total number of farmer groups benefitting to 81. All 81 farmer groups now report operating profitably (above the breakeven point)⁴ against a target of 25 by end of Year Two of program operation.**
- **Facilitated a quality analysis of animal feeds** currently in the market in Kabete Milkshed to identify good quality feeds in the quarter. This is expected to go a long way in improving animal nutrition and therefore farm level productivity in the milkshed.
- **Exposed eight progressive farmer groups to ICT in the quarter.** The eight groups were trained on the Cop works computer software designed to ease record keeping in cooperatives. The groups selected already have computers and are expected to start using the software within the year.
- **Facilitated business planning for 11 SBOs in the quarter.** This is designed to create a business orientation in operations within farmer groups. The plans are expected to help develop business-oriented smallholder dairy cooperatives. This process is ongoing for all the remaining 67 SBOs.

A number of groups also benefitted from specific capacity building interventions in the quarter. A sample is specified below.

Milk quality best practice

- Established milk rejection recording system to capture weak spots and design interventions.
- In Ngorika SBO, four alcohol guns were purchased to enable better milk quality control. Each gun costs 25,000/=.

⁴ For instance Kabianga DFCS ran at a loss of **Ksh175,000** in the year 2008 and after intervention of the program has now recorded a profit/surplus of **Ksh11,500 as stated in the 2009 audit report.**

- In Suka SBO, an agreement to avail metallic milk equipment was reached so as to improve the quality of milk.

Feed quality improvement

- Lens Agri Agencies, a manufacturer of concentrate feeds consistently used accredited feed analysis laboratories and made feeds according to recommended feed ingredients. A linkage with Suka SBO was made and they will supply feeds to Suka feed store for onward transmission to farmers, who will pay on check-off.
- Farmers were linked to and bought fodder shrub seeds to improve on feeding systems to increase milk production.
- With assistance from the Ministry of Agriculture, farmers of New Kimamoi FCS were linked to grass seed suppliers. Ten pilot farmers will benefit through free seed and land preparation for hay production (Action Mrs Biwot 0714366682).

Breeding best practice

- Kiplombe SBO farmers instructed the management of their cooperative to deduct money (Ksh 100 each) for the purchase of AI equipment. They have asked for quotations from equipment suppliers.
- Suka SBO farmers group has entered into an agreement for AI services from a service provider (Cecilia Wangui 0726343419).
- In Ngorika, an AI service provider has embedded extension and advisory services to his mainstream AI service provision (DAMUKI)

Fodder production

- Livestock improvement center (LIC) in Mogotio is establishing 200 acres of grass for hay production for their use for training farmers and for sale.

Water harvesting

- The Tulwapkogos women's group received 10 tanks from Kentainers for water harvesting.
- New Kimamoi FCS was linked with a local Water Resource Users Association (WRUA) to engage in runoff and rain harvesting water.

Our activities at the group level are geared towards ensuring that SBO adopt a business approach in operations, a shift from the social approach that is currently prevalent, and to make them operate like business entities that are profitable⁵ so that they attract more membership to enable them achieve economies of scale.

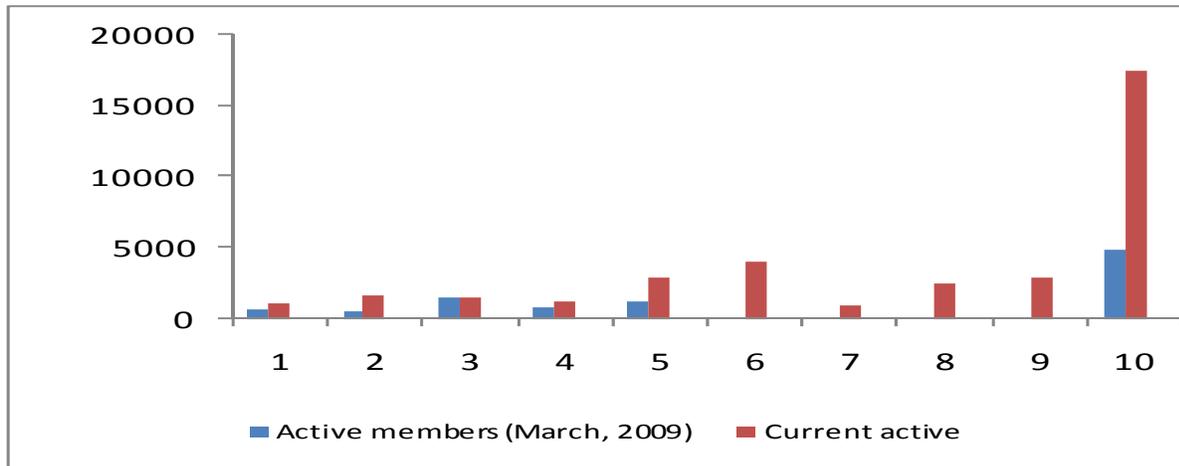
To achieve this, KDSC activities have focused on redesigning business operations for the SBOs working with the program to eliminate wastages—transport (for milk collection) routing to optimize resources, an analysis of efficiency in provision of embedded services (e.g., feed store, AI) to ensure all group ventures post positive returns, technical assistance in group formation and registration, capacity building of management committees and staff, linkages with business development service providers, facilitating business and strategic planning, and facilitating contract negotiations for better prices with processors

⁵ The KDSC measures of profitability are: fair prices paid to farmers; and the range of services offered by these groups, among others.

among others. These activities have resulted in considerable incremental incomes to farmers, with some farmers (e.g., Abaraders Farmers Cooperative in Gatanga Milkshed) reporting up to 80% increase in price paid per liter, and a rise in active members within the farmer groups.

This has, however, been observed to vary with milksheds. In Gatanga Milkshed, active members have increased by more than 260% since the program commenced, as depicted in Figure 1 below.

Figure 1: Active members of farmer groups in Gatanga Milkshed before and after the program commenced operations



1=Gaturi Kamacharia; 2=Thakumi, 3=Boyo; 4=New Nginda; 5=Kirere; 6=K kama; 7=Mega dairies; 8=Abardare breeders forum; 9=Pamside farmers and suppliers; 10=Total

NB: Farmer groups with no charts are newly formed groups.

This indicates that KDSC is making progress at farmer group level.

2.2.2 Continued mobilizing smallholder dairy farmers into economically viable business organizations

The Kenya dairy industry is dominated by many smallholder farmers, currently estimated at over one million. A small proportion is presently organized into producer/marketing groups while the majority market individually to processors or to informal milk traders. They are therefore in most cases at the mercy of the market—mainly price, among other factors. Existing farmer groups, on the other hand, are in most cases too small, with some groups having a total active membership of between 10 and 15 farmers bulking an average of 186 liters of milk per day leading to diseconomies of scale, and hence low returns. Without chilling facilities and adequate milk quantities, these groups are not able to benefit from quantity bonuses or premiums for chilled milk currently offered by milk processors, especially in the dry period when milk is scarce. In addition, the industry does not have a strong organized farmers' organization to articulate their issues and therefore do not contribute to the policy making process, among other key industry processes. The KDSC program has identified mobilizing and organizing farmers into strong and sustainable business groupings to be essential for growth and development of the industry.

Key features of intervention and strategy

One key objective of the program is to promote collective milk marketing. The KDSC program staff and local facilitators, who understand the local language and problems/politics, work with the management of the various small farmer groups/cooperatives groups and organize and facilitate a series of exploratory meetings to assess the viability of a marketing federation with individual groups joining as corporate but retaining their autonomy. The team then help the group leaders develop a plan of action, set a vision, goals, create bylaws, elect an interim advisory /steering committee and register as legal entities. In most cases, officials of existing marketing federations and processors are invited to make presentations to these groups on the benefits of federating. Overall, the programs assist these organizations to get on their feet, develop goals and become self-sustaining.

Results achieved and known impacts

This intervention has so far resulted in 9 marketing federations in five milksheds to date. The main outcomes include:

Farmer level benefits

1. Better farm level prices: Farm gate price has risen from a low of 15 shillings to 27.50 shillings per liter of milk (in Gatanga Milkshed). From mid-January, this has, however, reduced due to a glut in the formal market.
2. Due to the large volume of milk bulked, processors meet transport costs and do not charge farmers for this.
3. Increased membership in farmer groups: Farmers sell to informal traders because of the lower prices paid by groups, even though this market is not reliable. The fairer prices paid to farmers whose cooperatives are a member of a federation have attracted more farmers⁶ to join the groups. These groups are now able to operate more efficiently, incur relatively lower transaction costs and pass on greater benefits to farmers due to economies of scale. (It is also good to note that some federations prescribe the price that farmers should be paid and so limits cases of farmer group officials retaining more money than necessary to pay for the cooperative overheads.)
4. Leveraging resources, especially milk chilling tanks, is made easy: Since the marketing federations market to a particular processor on contract, the processor normally provides a chilling tank to preserve the quality of milk. Other development partners⁷ have also “donated” chilling tanks to these federations to improve incomes.
5. Farmers benefit from reduced input prices⁸ as these federations buy in bulk directly from input suppliers.

⁶ Abardares farmer group in Gatanga Milkshed has seen its membership grow from 30 to over 500 in five months.

⁷ The International Organization for Migration (IOM) donated a 10,000-liter cooler to one federation in Trans Nzoia Milkshed.

⁸ Kikima Federation in Nyeri Milkshed currently purchases inputs in bulk and supplies member cooperatives on credit.

Industry-level outcomes

1. Increased volumes of milk marketed through the cold chain as more farmers join groups, which impacts the quality of milk reaching consumers.
2. Creating a farmers' voice: As stated, the industry does not at the moment have a functional farmers' organization that articulates farmers' issues or represents farmers in the industry policy making process. The KDSC program has engaged a consultant to organize federations into one body that will achieve this going forward. We hope that this body will adequately represent farmers, and especially small-scale farmers, at the national level. This has been realized to some extent. At the height of the milk glut when processors were not collecting milk from some of these groups, the federations put up an advertisement in the local dailies, which also led the Ministers for Livestock Development and that of Cooperatives to take action (Appendix 3).

2.2.3 Facilitated capacity building of over 3,000 dairy farmers in the quarter

Program interventions focused on training dairy farmers in the operational zones to equip them with 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 the Kenya Dairy Board covered diverse topics such as feed/fodder production, appropriate feeding regimes, feed conservation and formulation, modern breeding techniques and milk handling hygiene. A key emphasis area is on-farm demonstration on feed conservation techniques to enable smallholders conserve feed during the wet season (when feed is abundant) for use in the drier parts of the year. The program facilitated the training of over 3,000 farmers in the quarter. **This now brings the total number of farmers trained by end of Year Two of program operation to 39,736 against a target of 54,000 farmers.** We aim to surpass the target by close of the third quarter of Year Three.

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

- Increased cow productivity: Farmers working with the KDSC program reported **increased yields (at 7.9 liters / cow / day)** in March (wet season). **A significant proportion (36.7%) of farmers working with the program registered gains in yields way above the sample average.** Some milksheds such as **Kabete, Nyeri, Lessos and Kinangop**, where farmers have aggressively taken up KDSC's feeding and husbandry practices achieved yields above the sample average as shown in Table I. Cumulatively,⁹ cow productivity has now increased from 6.5 liters / cow / day observed during baseline to **7.1 liters per cow/ day— a 9.2% increase (Table I).**

⁹ We are using cumulative moving average to compute change in yield, cost of production and gross margin over time to control for seasonality.

Table 1: Yield¹⁰: March, 2010 and cumulative program figures

Respondent Category	Mean Yield (Lts/cow/day)	Farmers realizing yields above 7.9 liters /cow/day (%)	Cumulative moving average
<i>Baseline – August, 2008</i>	<i>6.4</i>	<i>6.4</i>	<i>6.4</i>
Whole sample	7.9	36.7	7.2
Sex			
Male	7.9	37.6	7.1
Female	7.4	34.2	6.9
Age of farmer			
Youth	7.1	33.3	6.2
Above 30 years of age	7.8	37.2	7.1
Milkshed			
Nyeri	8.0	37.5	7.5
Gatanga	7.18	27.5	7.1
Kabete	10.0	57.1	10.3
Lessos	8.3	45.0	7.1
Transnzoia	7.4	33.3	6.7
Kericho	6.8	28.2	6.4
Nakuru	7.0	30.4	6.0
Kinangop	8.1	41.5	6.8

- Reduction in cost of production: Program promoted cost-cutting feeding regimes, including adoption of crop residue preservation, hay, silage, leguminous fodder technologies (Lucerne, desmodium, feed conservation), and own feed formulation (use of molasses and microbes), bore fruit as the cost of milk production reduced to **Kshs. 9.90 in March (Table 2)**. The program has now realized an overall/cumulative **reduction in milk production cost of 8.5% (at Kshs. 13.00) in the first two years of program implementation compared to baseline (Kshs. 14.20 per liter)**. 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.

¹⁰ The milk glut and the resulting marketing problems (non collection of milk and low prices) affected farmers located closer to major markets, especially those in central Province (Kabete, Nyeri, and Gatanga) more than those in other milksheds. These farmers did not purchase feed supplements – see cost of production figures –and therefore realized only marginal increases in yield compared to the dry period (August 2009). Farmers in other milksheds, especially milksheds in Rift Valley (Lessos, Kericho and Trans Nzoia) where majority do not supplement and rely on forage, recorded considerable increases in yields.

Table 2: Cost of production¹¹: March, 2010 and cumulative program figures

Respondent Category	Cost of production (Kshs. Liter)	Farmers operating below Kshs 9.90 /liter (%)	Cumulative moving average
<i>Baseline – August, 2008</i>	<i>Ksh. 14.20</i>	<i>NA</i>	<i>14.20</i>
Whole sample	9.90	55.0	13.0
Sex			
Male	9.70	55.90	12.5
Female	10.80	52.20	14.2
Age of farmer			
Youth	6.50	57.10	9.8
Above 30 years of age	10.02	55.0	13.1
Milkshed			
Nyeri	15.80	35.10	19.3
Gatanga	12.40	40.0	14.1
Kabete	7.70	65.4	16.3
Lessos	7.40	71.8	9.8
Transnzoia	9.10	60.5	11.5
Kericho	11.40	39.5	10.8
Nakuru	9.60	45.0	13.2
Kinangop	6.50	80.5	10.5

- In addition, we have observed a significant rise in the proportion of farmers who have established fodder crops in the quarter, which coincided with the planting season – onset of long rains in the country as shown in Table 3.

Table 3: Proportion of farmers establishing fodder crops/trees

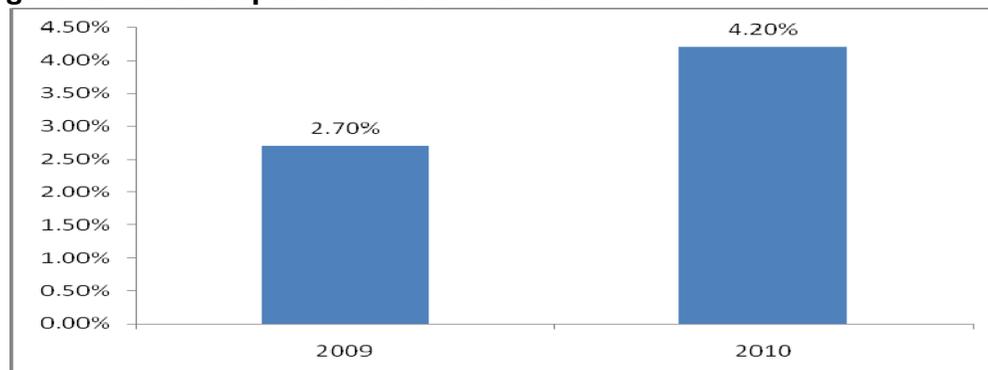
Proportion (%) of farmers planting	Baseline (%)	Year One (%)	Year 2 (%) – half year	Cumulative moving average
Napier	79.5	81.6	82.1	81.1
Desmodium	2.1	4.0	0.6	2.2
Rhodes grass	7.3	13.9	21.1	14.1
Lucerne ¹²	3.7	2.1	4.8	3.5
Fodder trees	2.1	1.3	1.9	1.8
Fodder sorghum	1.0	1.7	3.2	2.0
Caliandra trees	1.7	2.8	2.2	2.2
Oats	14.1	6.4	12.5	11.0
Cow candy	Na	0.1	0	0.1
Fodder maize	Na	2.7	4.2	3.5

¹¹ Farmers in Nyeri Milkshed recorded higher production cost compared to other milksheds in the period due to high animal health costs. The dry season, which ended late last quarter, resulted in the influx of pastoralists in the milkshed. This introduced diseases such as East Coast Fever, Foot and Mouth, Nagana, eye problems, among other diseases. At the end of the dry spell in January, increased incidences of mastitis were reported.

¹² Farmers have reported that some fodder seeds, especially Lucerne, are unavailable. The program is exploring a number of options to ensure they are available.

The program has observed a considerable rise in uptake of maize as a fodder crop (Figure 2). 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.

Figure 2: Trend of uptake of fodder maize



- All farmers working with the program have reported using some form of program-promoted feed conservation technologies (silage, crop residues preservation and hay) **compared to 11% observed** during baseline. Use of crop residues (mixed with molasses and microbes) has especially resulted in a significant drop in cost of production as shown in Table 3. A considerable number of farmers operate below the sample average.
- The program also realized impressive progress in gross margin levels over the two years. In the wet season (farm level survey conducted in March 2010), increased yields and low production cost due to the onset of rains and thus availability of forage were the main drivers of the increase in gross margin levels. **Cumulatively, average gross margin has increased by 22.4% over the two years of program operation, surpassing the program target of 16% (Table 4).**

Table 4: Gross Margins and household income: March 2010 and cumulative program figures

Respondent Category	Gross Margin (Kshs/Liter)	Cumulative moving average (Gross margin)	Household income (Kshs/month)	Cumulative moving average (Income)
<i>Baseline – August, 2008</i>	<i>5.80</i>	<i>5.80</i>	<i>2043</i>	<i>2043</i>
Whole sample	7.50	7.10	4849.90	3735
Sex				
Male	7.70		5206.20	
Female	7.50		3703.30	
Age of farmer				
Youth	9.60		4535.60	
Above 30 years of age	7.40		4857.60	
Milkshed				
Nyeri	4.80		2369.70	
Gatanga	4.50		1708.70	
Kabete	10.60		8157.90	
Lessos	12.20		9024.70	
Transzoia	9.70		6772.10	
Kericho	4.0		1426.80	

Respondent Category	Gross Margin (Kshs/Liter)	Cumulative moving average (Gross margin)	Household income (Kshs/month)	Cumulative moving average (Income)
Nakuru	6.20		5326.90	
Kinangop	8.30		4220.00	

- 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 (at 65.2%) compared to the baseline proportion (39.9%)**. Distribution by beneficiary category (gender, age and milk shed) is shown in Table 5.

Table 5: Artificial Insemination technology adoption (March 2010)

Respondent Category	Technology adoption - AI (%)
<i>Baseline</i>	<i>39.9</i>
Whole sample	65.2
Sex of farmer	
Male	64.6
Female	67.1
Age of farmer	
Youth	50.0
Above 30 years of age	65.5
Milkshed	
Nyeri	92.5
Gatanga	70.0
Kabete	82.1
Lessos	37.5
Transzoia	74.4
Kericho	61.5
Nakuru	41.3
Kinangop	70.7

Box 2: “The little things promoted by the KDSC program have changed my life forever.”

At 30 years of age, Mr. Daniel Serem, a form two dropout, says he may have secured his family’s future by venturing into dairying. The young and energetic man, who is also the treasurer of Lelwak Dairy Cooperative in Lessos Milkshed, is a contented man. “I am now sure I will educate my children and provide for my family through dairying thanks to the KDSC Program” he says.

Mr. Serem was brought up in a society and family that mainly depends on livestock and crop farming. After dropping out of school, he started managing his family’s farm. “This was before my father subdivided his farm and allotted me my portion,” he noted. “I was doing things the old-fashioned way and realizing very low yields. This was made worse by my father not trusting improved dairy management practices like deworming, paddocking as a feeding system, vaccination and the like. **My father used to complain saying ‘Mnapatia ngombe yangu dawa ikufe mapema (You are poisoning my cows).**’ The cows also used to graze in the open without any care. We were getting very low yields (four liters per cow per day). This was before we started working with the KDSCP,” he says.

“The program has exposed us to so many good things. At the farm level, we have now been trained on improved dairy management practices. I have even managed to convince my father to embrace deworming and other animal health practices. We have constructed a paddock and our animals only feed within the paddock, minimizing the risk of contracting pests and diseases from outside. We have also been exposed to feed conservation practices, especially silage making and fodder establishment. I have planted two acres of fodder maize, which I plan to ensile when mature. I also have a quarter acre of Napier grass,” he says as he proudly takes us around his farm. **“We have managed to move from four liters per cow per day to seven liters per cow per day on average for our herd.** This has encouraged me so much and now I realize that one can have a future in dairy. I have now bought my own dairy cow, which produces slightly higher than my father’s animals (10 liters per day),” he says as he shows us his records. “These little things may have changed my life forever!”

“The program has also helped us access a better-paying market than before. We used to sell to the New Kenya Cooperative Creameries (KCC) and get 21.50/= per liter. The program, however, helped us negotiate a contract with Brookside and now I get a net of 24/= per liter. **Because of the contract we signed with Brookside, all our milk was being collected when some farmers were pouring their milk,**” he says. “This has greatly increased incomes. The program has also linked us to a service provider, Mr. Samson Sang, who services our animals on credit. The cost is deducted at the end of the month from my milk dues. We have also purchased an electronic weighing scale and get accurate readings for milk deliveries (up to the second decimal), which limits fraud. These have also resulted in a massive increase in membership in our cooperative from 25 members in May 2009 to 120 members in February 2010. We believe we will achieve great things with the assistance of the KDSC program.”

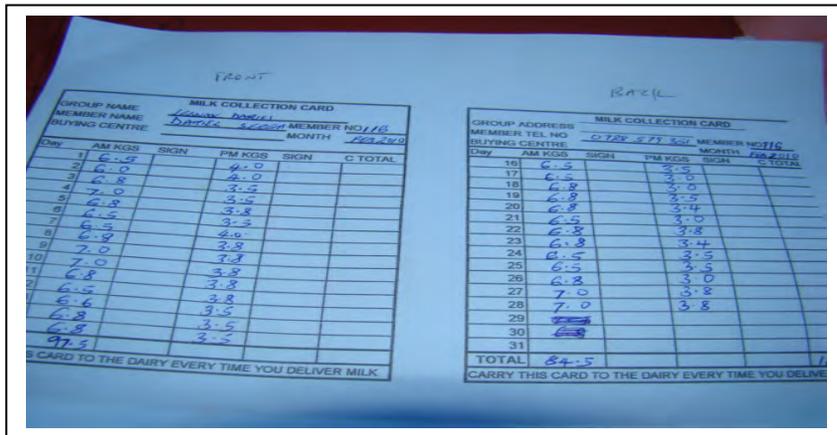
“The future of my family now looks bright! I am now making plans to have my firstborn join a boarding primary school where she will get the best education possible for a better life than mine,” he proudly says.



Left: Mr. Daniel Serem next to his plot of fodder maize



Right: Mr. Serem's first dairy cow



Mr. Serem's milking records

2.3 Component 3: Increase Availability of Dairy Business Development Services

The KDSC implementation method focuses on capacity building of 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.

In the reporting period, the program recruited and trained **338** new business service providers. **This now takes the total number of service providers working with the program to 627.** These experts work with and deliver productivity enhancing technologies to specific farmer groups. **194 service providers—especially AI providers—now supply additional services** (feeds and feeding) to their clientele after attending program facilitated capacity building workshops and seminars. **The program has since surpassed the target of 150 service providers providing additional services to farmers by end of Year Two of program implementation.** The trainings have focused primarily on: business and enterprise management; deed conservation; and refresher courses on areas of expertise, among others. The service providers have also been provided with manuals and training modules, and exposed to additional services.

Program efforts have ensured that all 119,217 active members of farmer groups working with the program (against a target of 80,000) have access to BDS services, technologies, inputs, and management practices in Year Two of program implementation. We have therefore surpassed the target by nearly 50%.

Some specific capacity building sessions and groups that benefited include:

Milk transporters training on milk handling and hygiene

Milk transporters contracted by SBOs to transport milk from the producers to the premises of the cooperatives and/or to the processors were trained on hygienic handling of milk in the quarter. The training was attended by a total of 30 participants; 29 men and one woman from three dairy societies. One of the identified constraints identified in the dairy value chain is poor quality of milk due to poor personal hygiene, inappropriate milk packaging containers and generally unhygienic handling of milk by all

the players in the value chain. As result, the objective of this training was to create awareness on the need to understand and observe hygienic practices of handling milk by the transporters with an ultimate aim of developing simple hygiene instructions that will be implemented by them as part of the overall quality system in order to produce safe milk and lower losses to farmers arising out of milk rejections due to poor quality.

Facilitation of farmers financing

Farmers cite access to credit as one of the major constraints in commercializing dairying and indicated willingness to apply for loans in the SBOs that have been selected. The KDSC program continued seeking interested financial service providers with products that are suitable to smallholder dairy farmers. About five financial service providers – both banks and Savings and Credit Cooperatives (SACCOs) have been identified and introduced to farmers in all the eight milksheds. These include Cooperative Bank, Family Bank; Equity Bank; Faulu Kenya, Unity Finance, Muki SACCO, Abaradare SACCO, K-Rep Bank, and Trans Nzoia Teachers SACCO.

Family Bank in particular has expressed interest to work with farmers and farmer groups in all program milksheds and is piloting their product in Kinangop and Lessos milksheds. Trans Nzoia Teachers SACCO is targeting 1,500 dairy farmers in Trans Nzoia milkshed. This is expected to boost numbers of farmers receiving loans from financial service providers. Once this arrangement is finalized, by Year Three we expect to increase the number of farmers accessing credit by more than **35,158** from the current **20,158, against a target of 27,000.**

Box 3: Changing lives by building business linkages that work

Given the design of the KDSC program, service providers are the critical cog in implementation. The program approach has been to recruit all service providers offering services to farmer groups working with the program, capacity build them, help them develop and operationalize contracts with the groups to serve members on credit and claim money directly from the group, and market their services to farmers. This, as previously reported, has not only resulted in increased access and use of productivity enhancing services, but also increased business volumes and incomes of the service providers. Mr. Ernest Barno is an example of a service provider who has tripled his income since starting to work with the KDSC program.

Mr. Barno is an agrovet and a trained AI service provider. He is also a certified breed inspector, having attended the KDSC facilitated KLBO breed inspectors' training that was completed in the last quarter. He has been providing AI services for the last three years, where he was serving about 26 animals a month on average. Since he started engaging with the program, Mr. Barno has benefited a great deal from program trainings on business. He has also been linked with three farmer groups working with the program. He also trains program farmers on the need to use AI as a breeding method instead of bulls, heat detection, timing of insemination, proper feeding, supplementation and deworming, among others.

In his own words, Mr. Barno has since seen his business grow to “unimaginable proportions.” He now services 75 animals per month as opposed to a paltry 26 animals a month on average before engaging with the KDSC program. He has opened an agrovet shop and employs one clerk, bought a motorcycle to ease his movement in the field, and automated his record keeping among other benefits. “Sukiati AI and Agro (his business name) is a well-known outlet in Kesses Division,” he proudly says.

“I am very grateful to the KDSC program for helping me achieve all this in such a short time” he says. “I am now able to properly take care of my family. I am building a decent house now and my children will go as far as they want to with their education.”



Mr. Barno inside his shop, Sukiati and Agro, in Cheplaskei, Kesses Division, Lessos Milkshed near Eldoret Town. He says he serves farmers in the whole of Kesses Division.

2.4 Environmental Degradation Mitigation Measures

Activities to mitigate management practices—farm, service providers and at bulking center level—that may result in environmental degradation were also emphasized in the quarter. The KDSC program encouraged 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. Activities focused on three key areas that could result in environmental degradation:

Storage, use and disposal of pesticides

Farmers were sensitized on the Integrated Pest Management (IPM) to minimize the use of pesticides on tick control. Farmers were trained on the need:

- To shift from roadside grazing to stall feeding or paddock grazing. This limits physical contacts of different cattle and therefore spread of parasites, leading to reduced frequency of spraying/dipping with acaricides.
- Use of biological/traditional tick control measures including:
 - ✓ Ox peckers -farmers are aware of the usefulness of these birds and are encouraged to educate their children as some of them tend to chase them away.
 - ✓ Hand removal of ticks - encouraged farmers who are used to hand removal of ticks not to shy away and integrate it with other methods.
 - ✓ Use of saline water: Some farmers have effectively used saline water to control ticks. We encouraged them to share their experiences with neighbours.
- These trainings also incorporated sessions for safe storage, use and disposal of chemicals and containers at the farm level.
- Encouraged use of pour-ons as they rarely get onto untargeted places.

Over **700** farmers were reached (in Trans Nzoia milk shed alone) with these messages in the quarter.

At service providers' level, agrovets and other service providers were:

- Sensitized on proper use, storage and disposal of pesticides/acaricides. They were also encouraged to get Pest Control Products Board (PCPB) certification for the drug stores.
- Trained on acaricides use by District Veterinary Officer (DVOs) office, PCPB & National Environment Management Authority (NEMA) officers, and suppliers' extension officers.

Other interventions included:

- Aiding on the construction of cattle crushes and soak pits. Location of crushes and draining of excess acaricides in soak pits requires professional input to avoid contamination of other waters and unintended targets (e.g., bees and fish).
- Improving on the management of dips: Training of dip attendants on mixing ratios and top-ups to avoid under- or over-concentration that may lead to toxicity or acaricide resistance respectively.

- Educating the dip attendants on the importance of using the different classes of acaricides to avoid ticks developing resistance.
- Encouraging the dip attendants to be in constant consultation with the DVOs office for advice especially when they encounter new products.

Disposal of cow dung

The program staff continued sensitizing farmers to use cow dung as manure in the production of fodder crops instead of fertilizers.

Sensitized farmers on the use of biogas as a source of energy

The program continued promoting use of biogas for energy instead of fuel wood. Given the high cost of this technology, the KDSC program is now actively pursuing a partnership with GTZ to provide affordable digesters in the program milksheds. Program efforts have realized modest gains, with a slight increase in the proportion of farmers investing in biogas digesters recorded.

Encouraged fodder establishment and feed conservation to avoid overgrazing

The program continued promoting fodder establishment and feed conservation both as measures to lower cost of production, to stabilize milk output in the dry season and also to limit overgrazing, especially in the central province where farmers generally have very small land parcels (less than one acre) but have about three cows—one more than the recommended number that can be maintained by one acre of land by program estimates. Considerable progress has been realized on this front, with the proportion of farmers establishing fodder increasing from 79.5% at baseline to 82.5% in March 2010. Farmers conserving feeds have also increased, with all reporting some form of feed conservation—especially crop residue preservation (100% of respondents) compared to 11% observed during the baseline survey.

At the bulking/cooling centers, program staff sensitized farmer groups to apply for certification from three key regulatory institutions:

- **NEMA Certification:** Advised all groups, especially those installing cooling units, to pursue NEMA certification. NEMA officers inspect premises before issuing certificates.
- **KDB Certification:** Adequate water supply and storage for keeping the centers clean.
- **Ministry of Health Inspection:** Human health including latrines and disposal pits at the centers and individual homes.

Personnel, especially cleaning personnel and clerks working in the stores within the groups have been encouraged to use protective clothing when handling chemicals.

2.5 Challenges

The main challenge experienced in the quarter was the delayed response from USAID on approval of contracts for contracted assignments. These delays seriously impacted program implementation and work began almost two months after the contracts were sent to USAID. We hope this will be sorted out going forward.

Other challenges observed in the field include:

Market distortion: Some NGOs operating in the program area continue to perpetuate dependency attitudes by paying farmers and funding purchases or giving away commodities. Some stakeholders still expect payments from the project for attending capacity building sessions.

Inability by the dairy milk processors to absorb milk produced by farmers in the quarter: Currently a lot of milk is going to waste since the processors are getting more milk than they can process in a day. This poses a serious threat to the industry as farmers may not be able to recover the investment they have made in dairy if they are not able to sell their milk.

Falling milk prices: This has occurred as a result of the increase in milk production and the unpreparedness of the formal sector. The attractive incentive of farmers pooling together volume bonuses is becoming shaky as the processors offering the incentives are now overwhelmed with the supply of milk. This is discouraging after all the effort the program and the farmers have expended! This notwithstanding, the program and the farmers are still optimistic that the situation will normalize. The program has made it clear to the farmers that once they reduce production, to bring it up again will be a serious uphill task!

BDS concept: The farmers are used to donors who give money and not information. Thus, at the beginning there was resistance but with time they have come to embrace the concept. However, there are some who are still resistant, but the program is adamant to transform their dependence orientation with time.

3.0 Performance Data Table

Impacts					
Performance Indicator	Baseline	Year 2		Cumulative Actual	Comments
	Value	Cumulative Annual Target	Actual - Q2 (FY 2010)		
Household level impacts					
% change in smallholder household income (%)	Kshs. 2,043	25%	137.4%	82.8%	Current estimates indicate that farmer incomes from the sale of milk increased to Kshs. 4849.90 on average in the quarter. Program cumulative average realized so far is 82.8%, surpassing the program target of 25% in Year Two.
Number of rural households benefiting	0	110,000	22,758	149,217	We have surpassed the Year Two program target. We aim to surpass the Year Three target (180,000 households) when we recruit new groups in to the program.
Sub-Sector Level Impacts					
Total volume of milk purchased from smallholder dairy farmers (MT)	93,170.35	115,170	59,497.00	219,283	A considerable increase in volumes bought was observed in the quarter. This increase can be attributed to farmers adopting program-promoted productivity enhancing technologies with the onset of rains.
Total value of milk purchased from smallholder dairy farmers (US Dollar)	16,38M	21.38 M	15M	55.6M	
Number of jobs created in the value chain	0	13,000	37	5774	37 new permanent jobs have been created in the SBOs and service provider firms' working with the program.
Number of producers accessing/ receiving/ utilizing BDS services, inputs, technologies, and management practices	0	80,000	39,387	119,217	Program has linked all farmer groups with service providers in the 8 milksheds, surpassing the target by a significant margin.
Number of farmers using improved technology	0	65,000	30,629	77,729	These are farmers using Artificial Insemination.
Change in annual productivity (Liters)	6.5	12	7.9	7.1	Farmers working with program have recorded impressive yield figures as observed in the latest farm level survey. Program cumulative average now stands at 7.1 liters/cow/day - a 9.2% increase compared to baseline value.
% change in gross margin per liter of milk	Kshs. 5.80	16%	29.3%	22.4%	Program has so far realized impressive progress in gross margin levels over the two years. In the half year, this was mainly driven by increased yields and low production cost due to the onset of rains and thus availability of forage.
% Reduction in cost of production	Kshs.14.20	-7%	-30.3%	-8.5%	The onset of rains has greatly helped reduce cost of production due to abundant forage. Average production

Impacts					
Performance Indicator	Baseline Value	Year 2		Cumulative Actual	Comments
		Cumulative Annual Target	Actual - Q2 (FY 2010)		
					cost has reduced cumulatively to Kshs. 13.
Component 1 - Enhance Capacity for Milk and Production Input Quality Certification and Market Promotion					
Number of industry policies and acts improved and enacted	0	1	2	20	Program focus has now shifted to promoting compliance with the reviewed standards.
Total Value of non-project resources leveraged (US \$)	\$0m	\$15M	US\$20.27M	US\$24.97	The milk glut has resulted in increased investment in the sector with both the government and private sector investing in expansion of milk processing capacity in the country and in market stabilization measures.
Component 2 - Dairy Smallholder Business Organization (SBO) Development					
Number of producer organizations strengthened	0	50	18	91	The program is working with 78 SBOs, nine milk marketing federations in the eight milksheds and three sector-wide organizations. All the organizations were capacity built in the reporting period. We have therefore surpassed the program target in Year Two.
Number of SBOs/MBCs with HACCP and/or national certification	0	32	0	0	GMP training is planned for the next quarter that targets to train 1250 actors along the value chain. Once this is finalized, we will surpass the program target on this indicator. This is scheduled for Quarter Three of the 2010 financial year.
% change in volume of raw milk sold by SBOs under agreements that pay premiums for quality	0	10%	0	0	The program has submitted a discussion paper on differential graded payment for raw quality milk to industry stakeholders for discussion and possible adoption. If this adopted, then all milk passing through the formal chain will be paid for based on quality.
% change in value of raw milk sold by SBOs under agreements that pay premiums for quality	0	10%	0	0	
% change in gross revenue of SBO/MBCs from sale of inputs and services other than milk cooling (US \$)	US\$715,209	22%	30%	30%	These are very conservative estimates. Accurate figures will be provided with the annual report.
Number of SBO/MBCs transformed into sustainable business entities	0	25	12	81	All SBOs working with the program now operate profitably.
Number of cooling units installed/rehabilitated in SBO/MBCs (Number)	0	15	0	7	The milk glut and the resulting non collection of milk from a number of groups – especially those that had contracts with the New KCC – has

Impacts					
Performance Indicator	Baseline Value	Year 2		Cumulative Actual	Comments
		Cumulative Annual Target	Actual - Q2 (FY 2010)		
					made farmer groups realize the importance of chilling tanks. The groups have started making enquiries on how they can source the tanks.
Component 3 - Availability of Dairy Business Development Services					
Number of firms providing new business services to producers (Number)	0	150	96	295	Program activities have focused on embedded service provision to increase the sales volume and revenues for the providers. All providers are trained on feeds & feeding and feed conservation.
Number of producers receiving short-term training	0	54,000	3000	39,736	Service providers have taken a longer time than expected to embrace farmer training as an embedded service. This will be sorted out in the next quarter.

4.0 Appendices

Appendix 1a: Public Review Draft: Pasteurized Goat's- Specification



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PUBLIC REVIEW DRAFT KS 2193

This Draft Kenya Standard has been prepared by the **milk and milk products** Technical Committee in accordance with the procedures of the Bureau, and is now being circulated for public comments.

The Committee would appreciate any comments on this Draft Standards, which should be submitted before **1st May 2010** using the attached template. It will also be appreciated if those who have no specific comments to make but find the draft standard generally acceptable can notify us accordingly. **Absence of any reply or comments shall be deemed to be an acceptance of the technical contents of the draft Kenya standard and shall constitute an approval vote.**

Suggestions entailing amendments of the text should include wording preferred and the relevant clause number quoted against any comments made.

This draft standard is subject to change and should not be referred to or used as a Kenya Standard.

All correspondence pertaining to this draft standard should be addressed to the Managing Director, Kenya Bureau of Standards for the attention of **Kimeto Paul**

Yours faithfully,

For: DIRECTOR
STANDARDS DEVELOPMENT AND INTERNATIONAL TRADE
<<TC secretary/secretary initials>>

The Kenya Bureau of Standards (KEBS) is a member of the International Organization for Standardization (ISO), Codex Alimentarius Commission (CAC), The African Regional Organization for Standardization (ARSO), Associate Member of the International Electrotechnical Commission (IEC), Associate Member of Bureau International des Poids et Mesures (BIPM) and International Organization of Legal Metrology (OIML).

Appendix 1b: Public Review Draft: Pasteurized Goat's- Specification



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PUBLIC REVIEW DRAFT KS 2191

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The Committee would appreciate any comments on this Draft Standards, which should be submitted before **1st May 2010** using the attached template. It will also be appreciated if those who have no specific comments to make but find the draft standard generally acceptable can notify us accordingly. **Absence of any reply or comments shall be deemed to be an acceptance of the technical contents of the draft Kenya standard and shall constitute an approval vote.**

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All correspondence pertaining to this draft standard should be addressed to the Managing Director, Kenya Bureau of Standards for the attention of **Kimeto Paul**

Yours faithfully,

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Appendix 2: Press release by Dairy Marketing Federations working with KDSC

ADVERTISER'S ANNOUNCEMENT

PRESS RELEASE

POSITION OF THE SMALL SCALE DAIRY FARMERS ON THE CURRENT MILK GLUT

INTRODUCTION
 We as small scale dairy farmers recognize the efforts made by the government to support milk production at the farmer level. Interventions carried out by the government and development partner programs have led to an increase in the milk production per animal from as low as 5 liters per cow per day to an average of 12 liters per cow in some areas. This has transformed incomes for the farmers in the rural areas.

CURRENT SITUATION
 The increased milk production has led to the glut that is currently being experienced. This should be a blessing but it has been turned into a curse for small scale dairy producers due to structural weaknesses within the milk value chain that is currently.

We as small scale dairy farmers carry the weight of the value chain and any disruption within it ends up in financial and morale sapping consequences for the farmers. It is therefore important that the farmers' perspective and their voice be listened to during this crisis.

We as farmers are therefore making the following observations and suggestions on the way forward to ensure the current glut period does not lead to long term disruption of milk industry in Kenya.

<ol style="list-style-type: none"> 1. There is need for the development of a dairy cold chain infrastructure similar to the one that has been developed in the horticultural sub-sector or the Grain infrastructure (Grain Silos) to reduce the massive losses incurred by farmers during the flush period. It is important to note that only 32% of all the milk produced goes through the formal marketing chain to processors yet the current glut has shown that the processors do not have the capacity to handle it. The government is losing in taxation on the 68% of the milk that goes through the informal sector. 2. For the milk that goes through the formal sector to processors, there has been a tendency for the processors, the government and other input providers to make decisions that affect farmers without consulting them. This has resulted in an oppressive price structure that has led to financial losses to the farmer. We as small scale dairy farmers are now organized into larger business federations and are in a position to engage with all stakeholders in decision making regarding the industry. We are the owners of milk and should therefore be directly consulted in decision making and should not be hearing of policy decisions through the media. 3. We are demanding that the Milk delivery rationing that has been instituted by the main processors should stop. Not only have farmers not been consulted when these decisions were made but they have been given timely advice making light of the massive economic losses that this has caused to the farmers. The insensitivity of the processors to the welfare of the farmers is not only a short sighted for the long term welfare of the dairy industry. We demand that our government quickly releases funds from the economic stimulus package to absorb the excess milk even if it means identifying and contacting idle milk processing capacity that exists in the East African Community. <p><i>Sign:</i></p> <p><i>Francis Kiprotich, Chairman, Kenya Dairy Farmers' Federation (KDF)</i></p> <p><i>MURIEL MURUGU, Secretary, Kenya Dairy Farmers' Federation (KDF)</i></p> <p><i>Mr. KENNETH MURUGU, Chairman, Kenya Dairy Farmers' Federation (KDF)</i></p> <p><i>Mr. KENNETH MURUGU, Chairman, Kenya Dairy Farmers' Federation (KDF)</i></p>	<ol style="list-style-type: none"> 4. The government should offload the excess milk that the processors have and put it in national food strategic reserves. This may require a quick amendment of the policy that established the Strategic grain reserves to incorporate milk as a strategic food to go to the national strategic reserves. 5. There is a need to immediately conduct a survey on the current capacity for production of powdered milk and other value added products. The processors should be supported to expand their capacity. In addition, it is already known that Uganda and Tanzania have idle processing capacity and the government/Processors should contract them during glut periods like this season. 6. In order to exploit the opportunity provided by the export market, the government needs to implement standards required on milk handling, input supply policies and disease free zones. The government in collaboration with other stakeholders should improve and intensify marketing strategies in the local and export market. 7. The current glut situation has brought to the fore the paradox of there being too much milk in certain areas while many children in other areas are suffering from malnutrition. In order to balance these inequalities in the country, we as small scale dairy farmers would like to see the government re-introducing the school milk program which would ensure that no drop of milk is poured while our children in some parts of the country go hungry. 8. In conclusion, we would like to take great exception at media reports indicating that government institutions responsible for the development of the dairy industry 'were caught by surprise' by the milk glut. This indicates that there is a lack of long term strategic planning by these organs. The farmer is let down being as a struggle and work hard to produce for the economy, who is providing leadership for the long term strategic vision for this industry? <p><i>Francis Kiprotich, Chairman, Kenya Dairy Farmers' Federation (KDF)</i></p> <p><i>MURIEL MURUGU, Secretary, Kenya Dairy Farmers' Federation (KDF)</i></p> <p><i>Mr. KENNETH MURUGU, Chairman, Kenya Dairy Farmers' Federation (KDF)</i></p> <p><i>Mr. KENNETH MURUGU, Chairman, Kenya Dairy Farmers' Federation (KDF)</i></p>
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