USAID KENYA DAIRY SECTOR COMPETITIVENESS PROGRAM

ANNUAL PROGRESS REPORT

OCTOBER 2009 – SEPTEMBER 2010

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Contractor Information:
Mulinge Mukumbu/Daniel Diang'a
Land O'Lakes, Inc.
P.O. Box 45006, 00100,
Nairobi, Kenya
Phone: 254-20-3748526 or 3748685
Fax: 254-20-3745056

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List of Acronyms

APDT	Annual Performance Data Table
ABSTCM Ltd	African Breeders Services Total Cattle Management Limited
BDS	Business Development Services
CAIS	Center for Artificial Insemination Services
DTF	Dairy Task Force
ESADA	Eastern and Southern Africa Dairy Association
GMP	Good Management Practices
HACCP	Hazard Critical Control Point
HPI	Heifer Project International
KCC	Kenya Cooperative Creameries
KDB	Kenya Dairy Board
KDSC	Kenya Dairy Sector Competitiveness Program
KENDAPO	Kenya National Milk Producers Organization
KLBO	Kenya Livestock Breeders Organization
KDPA	Kenya Dairy Processors Association
LOL	Land O'Lakes, Inc.
MOLFD	Ministry of Livestock and Fisheries Development
MOLD (DVS)	Ministry of Livestock Development, Department of Veterinary Services
NGO	Non Governmental Organization
PERSUAP	Pesticide Evaluation Report Safer Use Action Plan
PEV	Post Election Violence
PMO	Pasteurized Milk Ordinance
PMP	Performance Management Plan
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

1.0 Executive Summary and Program Highlights

The Kenya Dairy Sector Competitiveness (KDSC) Program is a five-year effort that aims to improve Kenya's dairy industry competitiveness. The program, implemented with the financial and technical support of the United States Agency for International Development (USAID), aims to 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 industry stakeholders are leading it.

The KDSC Program contributes to the USAID Strategic Objective 7.0 on "Increased Rural Household Incomes." The program is also aligned to Kenya's development agenda, and its goal and objectives reflect national and regional priorities, according to industry stakeholders. Under this program, Land O'Lakes, Inc. employs a market-driven value chain approach, utilizing a Business Development Services (BDS) methodology. This report describes the operations and progress in the third year[1] (October, 2009 – September, 2010) of implementation.

During Year three, the KDSC team worked in three general directions as spelt out in the program components: to improve the business operating environment - in particular, building capacity of institutions serving the dairy industry and facilitating policy/regulations/acts/standards review to ensure consumer safety and market expansion, especially the export market; to increase operational efficiency of small business organizations in the industry, especially those serving farmers working directly with the program; and to support increased access to business development services by dairy enterprises, including at the farm level. Stakeholder recommendations, as identified by program-commissioned industry studies, continued to guide the project strategy in the year.

Interventions to mitigate poor management practices—farm, service providers and at the bulking center level—that may result in environmental degradation were also emphasized in the year. 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. The KDSC program also addressed gender and youth issues in the reporting period. At the farm level, productivity enhancing technologies and management practices that also reduce time spent in the enterprise and workload were promoted.[2] At the SBO level, the program advocated for the reservation of at least 30% of the management seats for women and youth with considerable success. The program also entered into collaborative engagements with other development agencies that provide funds and leveraged considerable funds for the youth to invest in dairy animals.[3]

Outcomes of program interventions were immensely felt in this period, with the country recording the highest milk output in its history[4] in the year (as from January, 2010). While this is very positive, it presented significant challenges, especially in milk marketing, which hampered our

[1] The program has actually been implemented for 29 months and not for the full three years (36 months). The contract was signed in May, 2008. We have only covered five months of the third year.
[2] 60 per cent of dairy enterprises in the KDSC milk sheds are managed by women.
[3] The International Labor Organization (ILO) donated US$ 200,000 to the youth to buy dairy animals in Kinangop Milk shed.
[4] The Kenya Dairy Board, 2010

ability to meet some program targets. The KDSC reaction to this challenge, especially interventions to expand the processed milk market, is discussed in details in the next sections of the report.

Key program highlights by program component include:

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

Under component one, the program team worked with both public and private sector stakeholders - under the Dairy Task Force set up in the first year of program implementation - to help them identify their constraints through targeted assessments and in implementing action plans arising from the results and recommendations of the studies, to help build their capacity and enhance service delivery in the industry. The KDSC also continued facilitating industry policy/regulations/standards review, activities which culminated in the rolling out of a quality improvement program and the establishment of a milk and milk products strategic reserve in collaboration with the Kenya Dairy Board in the year. The program also took the first step towards availing sector (read livestock) information by facilitating the development of the Livestock Sector E-Portal. Lack of adequate sector information was underscored in the Dairy Sector Competitiveness Study to be a major constraint to decision making, especially to investors and for evidence based policy making. In implementing these activities, the KDSC has leveraged significant non US Government resources in form of stakeholders' (both public and private) contribution to the program-facilitated initiatives.

The key accomplishments realized in the year include:

- In collaboration with key industry stakeholders, a Milk Quality Improvement Program aimed at ensuring consumer safety and expanding the export market was launched in the reporting period. The program is led by the KDB and is mainly driven by the outcomes of KDSC's quality interventions -review of policies/acts/standards, especially the reviewed Good Manufacturing Practices (GMP) and the revised version of the Hygienic Code of Practice standards whose review have been facilitated by KDSC
- Facilitated the review of the national strategic food reserve policy. The policy has been revised to include milk and milk products, and is operationalized via the KDB to mop up excess milk and stabilize milk prices especially in periods of glut. The KDB has been purchasing excess processed milk in the reporting period and distributing to schools—both long-life and powder—in a move expected to capitalize formal processors and ease congestion in their stores and ultimately increase volumes and farm gate prices of raw milk that they buy and process from farmers. This is an outcome of the DTF-negotiated and KDSC-facilitated 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.
- Facilitated the revision of the Dairy Master Plan in the year. The program contracted a consultant – Vedaman Consultants – to work with the technical working group appointed by the Permanent Secretary, Ministry of Livestock Development (MoLD), to revise the Dairy Master Plan in the year. The exercise is now in its final stages. The consultant held a very successful dissemination workshop for all industry stakeholders in August, 2010 where stakeholders gave their views on the draft document. The views have been incorporated in the final draft which has been submitted to the MoLD for action (See Annex 6 for the forward to the document as written by the Permanent Secretary, MoLD).

The revised master Plan aligns the industry objectives to the country's Vision 2030 and provides the roadmap that will make the industry competitive.

- Finalized 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. Close to 6000 sector players have registered in the portal.
- Program facilitation of stakeholders' collaborative forums – DTF, RWGs and MWGs-enabled leveraging of an estimated **$21,756,844** in non project resources in the reporting period. This was achieved through stakeholder contributions to sector initiatives – both in-kind and monetary. A significant proportion was also realized from farmers' participation in program organized events. This now takes the total non program resources leveraged to US$ 25.26M, which surpasses the program overall target of US$ 25M in program life.
- Facilitated the successful revival of the Kenya Dairy Processors Association in the reporting period. This is a major step forward and will ensure that processors speak with one voice on policy and regulatory issues going forward. The association collapsed some time back mainly due to a lack of direction and wrangles among the processors in the country.
- Facilitated training of **47** breed inspectors to meet the demand for dairy animal registration. Before this, the breed societies did not have enough breed inspectors to handle the nationwide interest in animal registration. KDSC support has enabled the KLBO increase number of cows registered by a whopping 134% - from an average 0f 6409 cows (2007&2008 average) to 15,000 cows by end of 2010. For participating farmers, this initiative is expected to realize immediate and considerable gains in terms of incremental wealth from higher value of registered animals. Since registered animals are expected to use Artificial Insemination when breeding, it is anticipated that the superior and higher-producing progenies/off springs will help the program realize its target of increasing yield per cow per day to 15 liters.

Component 2: Develop Dairy Smallholder Business Organizations (SBOs)

Program initiatives targeting developing farmer groups varied by SBO, depending upon the needs of individual SBOs and/or in response to special factors affecting the industry. For instance, the program continued facilitating business planning for all groups working with the KDSC, an activity which is expected to continue in the remainder of Year 3 and onwards, and is aimed at identifying the key investment areas by group to increase their operational efficiency and profitability. In selected SBOs however, the KDSC offered technical assistance, to help increase productivity. These SBOs were encouraged, through program facilitated investment plans, to invest own funds or linked to financial service providers to enable them computerize their operations, introduce embedded service provision, invest in milk collection trucks and in chilling tanks, among others. This is expected to make the SBOs more attractive to clients and investors, and to enable them to use their current employees more efficiently.

Our interventions in this component were, however, affected by serious challenges, especially the volatility experienced in the milk market. While none of the groups reported losses – since a cooperative by nature is not a profit making entity, the reduction in the price they pay per liter and/or the non collection of bulked mik made the groups lose clients (active members in SBOs working with KDSC dropped by 20% on average compared to last year). This considerably eroded the progress that we realized in the previous years.

Key results realized include:

- Program interventions in this component have cumulatively benefitted 114 SBOs (with over 680 employees), 14 milk marketing federations and three (3) sector wide farmer organizations, with over 103,612 new households benefitting from program activities in the year. The total cumulative number of households benefitting from KDSC now stands at 205, 298[5], surpassing the Year 3 target of 180,000. The program has also surpassed the target of 75 producer organizations strengthened by Year three, having cumulatively worked with 114 SBOs in the three years of implementation.
- Program activities also focused on linking SBOs to input suppliers and facilitating the provision of embedded services other than milk bulking and cooling by the SBOs working with the program. Where possible, the KDSC has advocated for the linkage between private service providers and the SBOs to avoid extra operational costs that accompany these investments. 36 SBOs benefitted from these linkages in the year.
- Facilitated business planning for 62 SBOs in the Year. 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, with a clear understanding of what commercial services the SBOs will provide. This effort has enabled 14 farmer groups with 9627 active members to access credit in the reporting period for investment in various equipments – milk transport vehicles, coolers, construction, among other things. To make the plans more attractive to prospective investors, including formal and non formal financial institutions, we have hired Kenya Industrial Estates (KIE) to review them with a view to the KIE investing in at least ten of the SBOs
- Facilitated training of over 18, 702 farmers in the year. This now brings the total number of farmers trained by end of Year Three of program operation to 51, 202 against a target of 90,000 farmers. 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 Development (MoLD) extension personnel, and the KDB covered diverse topics such as feed/fodder production, appropriate feeding regimes, feed conservation and formulation, modern breeding techniques and milk handling hygiene.

Component 3: Increase the availability of Dairy Business Development Services (BDS)

KDSC activities in this component specifically targeted enhancing capacity for supply of business development services. The program sponsored BDS diagnostic study identified lack of technical skills and credit as the two main constraints that affect supply. The program therefore supported initiatives aimed at increasing the availability of credit and funding for medium- and long-term durable assets. To address the first, KDSC facilitated a match making roundtable between nontraditional investors and enterprises, especially large scale SBOs working with the program in the year. Individual BDS providers and smaller SBOs were facilitated, through business planning and introductions to banks among other financial service providers, to acquire loans from formal financial institutions in the country. The KDSC program in addition organized several refresher training events and training sessions on business skills, new business opportunities, among others. Key results realized in the reporting period include the following:

[5] This includes 201,400 farmers and 619 service providers.

- Recruited and built capacity of 330 new business service providers in the year. This now takes the total number of service providers working with the program to 619. These experts work with and deliver productivity enhancing technologies to specific farmer groups. All service providers now supply additional services (feeds and feeding, extension, cow registration, feed conservation especially silage making, among others) to their clientele after attending program facilitated capacity building workshops and seminars. The program has surpassed the target of 250 service providers providing additional services to farmers by end of Year Three of program implementation.
- Over 8470 farmers acquired loans due to linkages with financial service providers that were facilitated by the program in the year. Ten (10) BDS providers who needed to expand their businesses/increase efficiency in service provision also acquired loans in the reporting period.
- Provided technical assistance to Lari Alliance, a milk processing company in Kinangop Milk Shed, towards preparation of a business plan which was subsequently submitted to BID Network Foundation. The organization seeks to promote entrepreneurship in growing economies including Africa, Asia and Latin America and facilitate platforms/interactions between micro and small enterprises and nontraditional financial service providers such as fund managers, investments banks and other development programmes. The business plan was reviewed and found to present great potential. The company representatives were then invited to a match making conference to meet potential investors in the Netherlands between the 28th of May and 5th of June 2010.

These activities have realized some changes/improvements at household and sector levels to date, in terms of number of households benefitting from US government resources, and the resulting changes in the sector. The challenge in marketing has however seriously affected KDSC ability to meet some key targets, especially on productivity, cost of production and gross margins.

Progress realized includes:

- Farmers working with the program reported **increased yields of 8.0 liters / cow / day on average in the year (average of wet and dry seasons)**. **A significant proportion (37.3%) of farmers working with the program registered gains in yields above the sample average**, with ***14.9% reporting yields above the Year 3 target of 13 liters/cow/day***. Some milk sheds such as **Kabete and Lessos,** where farmers have aggressively taken up KDSC's feeding and husbandry practices achieved yields above the sample average. Cumulatively, cow productivity has now increased from 6.5 liters / cow / day observed at baseline to **7.5 liters per cow/ day— a 15% increase**. Analysis by sex and age of household head reveal that the youth have been the biggest gainers, realizing a 45% increase in productivity, followed by male headed households at 26%. Women headed households have also recorded considerable gains in productivity, moving from 6.36 to 7.6 liters/cow/day, a 19% increase.

  The sample average however falls way below the Year 3 target of 13 litres per day. The majority of farmers did not attend program organized/facilitated training events in the year, nor do they apply some program promoted productivity enhancing technologies and management practices, especially feed supplementation due to the lower profit margins. **Proportion of farmers using feed supplements has declined from 60.6% in 2009 to 53% in 2010 for concentrates (dairy meal). Even those using feed supplements recorded feeding the animals lower than recommended**

quantities because of the cost. Farmers report being unable to market the excess milk or that if they do, they will not get a good price for it and run into losses. The program has adopted the cumulative moving average approach to control for seasonality and therefore variation in yield levels by either wet or dry seasons and/or years.

- Reduced cost of producing a litre of milk by 26% on farms delivering milk to producer owned milk cooling businesses receiving assistance from KDSCP. This however is mainly a result of cost cutting by farmers due to the low milk price in the year.
- Increased number of farmers using improved technology to 110,100. The program is using number of farmers using artificial insemination (AI), establishing fodder, conserving feeds and those using food grade milk handling containers in assessing progress in the indicator. Considerable progress has been realized.
- Volume and value of exports however reduced to 8703.2 MT and US$ 8.14M in the reporting period, from the value of US 14.38 M realized in Year 2.

We were also privileged to be visited by senior United States Government officials in the year. (See Annex 2). Other activities included the publication of seven success stories, some of which are highlighted in this report.

The key challenge encountered in the reporting period was in milk marketing. The industry witnessed excess supply in almost half the Fiscal Year which resulted in farmers lacking markets in which to sell their milk. This resulted in very low prices, in some cases as low as Kshs. 14 per liter of milk compared to a current high of Kshs. 34, coupled with delayed payments. This resulted in farmers resorting back to poor husbandry practices and selling to the informal markets. The program has been working to roll out a generic milk consumption campaign and in expanding the export market to counter this and to ensure consumer safety. These efforts will continue in the remainder of the program period.

2.0 Overview of the Program, including description of project strategy and problem analysis on which the strategy is based

Land O' Lakes Inc. is pleased to submit to the United States Agency for International Development (Kenya) the Year three Annual Report of the Kenya Dairy Sector Competitiveness (KDSC) Project. This annual report provides the status of the KDSC Program, the challenges and lessons learned from October 2009 through to September 2010.

2.1 Program Background and Rationale

Although Kenya is the second-largest dairy-producing/consuming country in sub-Saharan Africa, and has long had great potential for becoming a regional leader in value-added dairy products, it faces several key challenges to maintaining and expanding market leadership. Foremost among these is the need to fend off competition from international firms in the domestic market, to markedly improve product quality, and to transform the informal sector to ensure consumer safety. This requires upgrading the dairy value chain to eliminate inefficiencies that would lower production and processing costs, while simultaneously increasing milk quality – from farm to consumer – in order to meet acceptable domestic and international standards.

Utilizing a market-driven value chain approach and Business Development Services (BDS) methodology, Land O'Lakes International Development's Kenya Dairy Sector Competiveness Program (KDSCP) is working to transform the Kenya's dairy industry into a globally competitive, regional market leader. The program's overall goal is to increase smallholder household income from the sale of quality milk, by meeting three objectives:

- **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.

2.1 Towards Strategic Objectives

The KDSC Program 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

The program utilizes networks within the Kenya dairy industry to engage industry stakeholders to prioritize policy and market-based solutions that address industry-level constraints to competitiveness, especially those related to improving quality and expanding markets for Kenyan dairy products. Specific activities and the deliverables in this component include:

- Facilitating development of an enabling policy and regulatory framework: Industry policies and acts, improved and enacted as a result of program intervention
- Facilitating development of quality certification frameworks: Quality certification frameworks (Milk product, Animal feeds, others) developed, implemented/enforced as a result of program intervention
- Facilitating development of dairy enterprises in achieving national/international certifications: Dairy enterprises achieve national/international certifications and enforcing quality regulations on suppliers as a result of program intervention
- Organizing dairy stakeholders to define their roles, identify competitiveness issues, and implement actions plans to enhance competitiveness of Kenyan dairy products : Investment by public, private and non-governmental organizations and stakeholders in the dairy sector as a result of the program
- Assist the Government of Kenya (GOK) to acquire and support capacity to certify product quality: Increase revenue collected by KDB and KEBS to carry out mandated regulatory roles
- Assist value chain stakeholders to collaboratively define sector research needs and advocate for greater support to research organizations: Productivity-enhancing farm and/or management technologies under research as a result of program

Component 2: Develop dairy Smallholder Business

The KDSC program strengthens smallholder business organizations that manage and invest in milk collection centers. The program enables these organizations to supply milk that meets regional or international quality standards, while also serving as 'business hubs' for the provision of productivity-enhancing, quality-enhancing, and environmentally-sustainable information, inputs, technologies, and services. Specific activities and deliverables include:

- Facilitating successful transition of producer organizations into sustainable businesses with expanded and diversified services: SBOs/MBCs improvement in at least one of their organizational or operational capacities
- Assisting milk bulking/cooling businesses and processors to achieve international quality certification: SBOs/MBCs with HACCP and/or national certification as a result of the program
- Facilitate market linkages and assist smallholders to negotiate long-term supply contracts with processors: Raw milk, defined as unprocessed fresh milk (bulked/cooled) that is collected by processors from SBOs/MBCs increased
- Facilitate successful transition of producer organizations into sustainable businesses with expanded and diversified services: Increase in gross revenues from the sale of other diversified inputs and services defined as the increase in the sales other than from milk cooling by MBCs/SBOs
- Facilitate successful transition of producer organizations into sustainable businesses with expanded and diversified services: SBOs/MBCs operating above the breakeven point (defined as those whose Net Profits are greater than zero during the period of analysis).
- Supporting milk bulking and cooling centers implementing quality control frameworks, such as HACCP, and/or acquiring ISO or equivalent quality certification: Cooling units installed/rehabilitated in SBOs/MBCs as a result of program intervention.

Component 3: Increase the availability of Dairy Business Development Services (BDS)

KDSC identifies key constraints and opportunities to competitiveness at points in the value chain, then identifies market-based solutions to competitiveness constraints, assess and prioritize the

most viable and critical solutions, and implement solutions through the facilitation of commercial business development services. Key activities implemented in this component and the deliverables are:

- Assisting BDS providers to identify and understand new market opportunities, and facilitating the development of BDS markets through training, demonstrations, and strategic use of sub-contracts, grants and/or vouchers: Firms receive technical assistance by KDSC that 1) did not provide business services before; and 2) if did provide business services before and then provides additional NEW services as a result of program intervention
- Links producers with business service providers through bulking/cooling centers or directly with buyers and/or stand-alone service providers: Increase in value of services or inputs provided (sold on fee or embedded basis) by participating business service providers.
- Creates awareness among smallholder farmers about the existence and value of business development services: Smallholders who are program beneficiaries purchasing from program or non-program inputs/BDS providers; and are non-program beneficiaries purchasing from program inputs/BDS providers
- Links BDS providers to Kenyan and international research organizations to facilitate rapid transfer of new, appropriate technology to smallholder producers, milk bulking/cooling businesses and processors: Productivity-enhancing farm and/or management technologies made available for transfer as a result of program activities
- Developing innovative financing mechanisms: Smallholders who 1) are program beneficiaries receiving loans from program or non-program providers; or 2) are non-program beneficiaries receiving loans from program providers
- Facilitates transfer of improved technologies and management practices: Smallholders engaged in new, diversified dairy-related enterprises as a result of program-supported interventions.
- Facilitates dairy farmers short-term trainings: Dairy farmers including those preparing to be dairy farmers receiving short-term training in line with facilitating HACCP/ISO certification of processors

2.2 Key results / outputs expected

The KDSC program goal is to increase the benefitting households' income by 80% by the end of the five years through the sale of quality milk. Other key results, as detailed in the contract include:

- Increase cow productivity to 15 litres/day on farms delivering milk to producer owned milk cooling businesses receiving assistance from KDSCP
- Reduce cost of producing a litre of milk by 25 per cent on farms delivering milk to producer owned milk cooling businesses receiving assistance from KDSCP
- Increase number of farmers using improved technology by 150,000 (45% female)
- Volume and value of milk traded increased by 42,000 MT and $9.6M
- Increase volume and value of exports by 6,000 MT and US$ 3M

For the detailed program logic, please refer to the program's Causal Model (Annex 1).

2.3 Implementation Approach

The KDSC Program 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 been engaged to identify competitiveness constraints, and propose solutions to these constraints.

2.4 Geographic focus and target group

The KDSC program is being implemented in milk sheds in Central and Rift Valley Provinces that can competitively deliver 50, 0000 – 100,000 liters of milk per day of quality milk to processors. These two provinces account for an estimated 80 percent of all processed milk in Kenya.

3.0 Performance Management: Achievements towards targets

Over the last year, the Kenya Dairy Sector Competitiveness (KDSC) Program has been addressing sector challenges, constraints and stakeholder concerns and realized significant achievements, both in progress towards set program targets and also in addressing what key industry stakeholders consider important in making the sector more competitive. The program team continued building on the key results realized in the first and second years of program implementation, especially the establishment of the industry competitiveness task force – the Dairy Task Force (DTF), and the comprehensive sector assessment studies.

In implementing these activities, we have cultivated a strong working relationship with sector stakeholders. The participatory nature of implementation, where sector stakeholders via the program facilitated Dairy Task Force (DTF), Regional Working Groups (RWGs), and the Milk shed Working Groups (MWGs) identify sector challenges and opportunities, has enabled the program to design appropriate solutions to the sector challenges and take advantage of the existing opportunities. Industry stakeholders have in addition noted that the goal, purpose, strategies and outputs of the program reflect national and regional priorities, and are relevant. The Business Development Services (BDS) approach to implementation has in addition helped the program reach a relatively high number of beneficiaries via partners/facilitators and service providers since start of implementation.

Overall, the program has realized good progress, however, challenges still persist. A detailed outlay of program activities, accomplishments and challenges are expounded in the next chapters, and are arranged by the program components.

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

In the reporting period, program interventions targeting enhancing capacity for milk and production input quality certification and market promotion focused on four key areas in line with the Year Three work plan: Facilitating dairy products market promotion/expansion (both domestic and export); facilitating review of sector policies/industry regulations and standards; enhancing access to sector information by facilitating the development of a sector wide E – portal; and strengthening dairy sector institutions and associations to equip them with the necessary skills and technical capacity to enhance industry competitiveness. Given the significance of expansion of both domestic and export market for processed milk product, especially to the success of the KDSC program, the program team invested significant resources in this initiative in the year.

Significant efforts also went in to organizing and facilitating stakeholder meetings to galvanize collective stance and action on issues affecting the industry. We facilitated monthly DTF meetings, while Regional Working Groups and Milk shed Working Group meetings were held each quarter.

Progress in some activities has however been slower than desired and expected, especially program initiatives that target market expansion, policy/regulations/standards review, and facilitating the development of the sector wide E-portal. This has largely been due to the consultative nature of these activities and the long process it takes for policies/regulations/standards to be passed in to law, and to some extent is attributable to the difficulties/contracted process of rallying all stakeholders to act collectively in the interest of the sector. We aim to overcome these difficulties and realize program targets as spelt out in the current work plan.

A sample of activities implemented and the results realized in the reporting period include:

3.1.1 Facilitated dairy products market promotion/expansion

As previously mentioned, the country has been experiencing excess supply of milk over and above the retailing capacity of the formal sector from January 2010. This can be attributed in part to the efforts of a number of players—including KDSC according to sector stakeholders. This has led to the stockpiling of processed milk products, especially of long-life milk and powder milk. Formal milk traders have responded by reducing farm gate prices—in some cases by up to 47% compared to farm gate price last year, which has led to a number of farmers who were previously selling to the formal milk market through SBOs working with the program opting to sell to informal milk traders. This has implications especially on sustaining the realized farm-level productivity gains and household incomes—given the fluctuating/volatile manner of prices offered and reduced farmer bargaining power and on consumer safety due to the unhygienic manner in which some informal sector traders handle this milk.

> "What we have seen in this country as a result of your contribution is very interesting. Last year was a disaster because of the drought and people feared the industry would collapse. Your work has turned this around. A lot of work has been done at farm level and the milk glut/excess milk supply was a result of increased farm level production and not imports as people are saying."
>
> Machira Gichohi, MD, KDB.

To address this problem, the program engaged the DTF to find a lasting solution, with a number of strategies proposed. Out of those proposed, four strategies were deemed sustainable. The program has been facilitating action and guiding the laying of groundwork on some of the strategies in the reporting period and realized varied achievements as elucidated below (Additional information is also available in the KDB website http://kdb.co.ke/index.php?option=com_content&view=article&id=79&limitstart=2-).

Creation and operationalization of a national strategic reserve for milk and milk products (like in the grain industry) to mop up excess milk and stabilize milk prices especially in periods of glut

The KDSC, through the DTF successfully lobbied for the creation of a Dairy Development Fund (DDF) 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 KDB has been purchasing the excess processed milk and distributing to schools in the reporting period—both long-life and powder—in a move expected to capitalize formal processors and ease congestion in their stores and ultimately increase volumes and farm gate prices of raw milk that they buy and process from farmers. Processors have also been encouraged to expand their operating capacity and to install new processing lines for new milk products, especially milk powder.

This is an outcome of the DTF-negotiated and KDSC-facilitated 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. If sustainably established, the school milk program will be a major outlet of processed milk products

in the country and will help solve the retailing/formal market capacity problem, stabilize farm gate prices for raw milk, increase raw milk sold through formal markets and ensure consumer safety. The total cost of the exercise is KES 300 Million (US$ 4M). Private processors are in addition investing own resources in expanding their operational capacities and in diversifying their product lines.

The revival of the school milk program

Stakeholders agree that revival of the school milk program is the best option to expanding the processed milk product. They agree it will lead to the creation of lifelong dairy consumers as well as improving child nutrition. The main industry players however have not agreed on the best way of rolling it out. The KDSC program has therefore been leading discussions to arrive at a sustainable approach to rolling this program in the country.

In line with the KDSC design and implementation, we have requested for proposals (**RFA 43 - Expansion and Revitalization of a Sustainable School Milk Program**) to help stakeholders design a sustainable approach. The task will include among others:

- Review of the current school milk program and outline the strengths and weakness of the program.
- An update of schools running the program and the amount of milk consumed.
- Lessons learnt for the expansion of the program and for helping create a milk drinking culture.
- Design of an expanded phase of the school milk program which aims to Increase the number of participating schools and Increase the number of processors participating in the program
- Identification of areas where other players can participate e.g. LATF, CDF, private sector etc
- Developing a sustainable models for implementing the school milk program in Kenya

Design of a dairy products consumer education

The domestic market size for processed milk and milk products in Kenya is currently small. It is further dominated by primary products, especially pasteurized milk, with value added products constituting a very small proportion. The KDSC program sees this as an opportunity that needs to be exploited for the industry to move forward, especially due to the fact that any increments in productivity realized through other interventions are eroded by excess supply /milk glut and therefore non collection of farmers' milk coupled with very low prices and delayed payments. This has a bearing on KDSCP success.

The program is currently in the process of designing a long term intervention to create awareness of different dairy products beyond just liquid milk and milk in tea, in addition to promoting the idea of milk consumption throughout the day and not just in the morning. In the year, we have laid the foundation for this activity by carrying out two industry wide studies. These include:

- Study of Consumer Milk Quality Perception/Preferences and an Assessment of Willingness to Pay for Quality, and
- Market structure, conduct and performance survey

We are now developing the strategy and soliciting stakeholder buy in via discussions through the DTF. This activity will be rolled out in the reminder of the third year as per the work plan.

Launch of a milk quality improvement program to target the export markets, especially the regional market (East African Community and the Common Market for East and Southern Africa (COMESA)

The KDSC program in collaboration with industry stakeholders, led by the KDB launched a Milk Quality Improvement Program aimed at ensuring consumer safety and expanding the export market in the reporting period. The quality improvement program is led by the KDB and driven by the KDSC program's quality interventions, especially the Good Manufacturing Practice (GMP), and the revised version of the Hygienic Code of Practice standards, whose review have been facilitated by the KDSC program. This presents a key milestone for the local industry and will realize immense returns for the industry long after the program ends. At farm level, the quality interventions will improve milk handling hygiene and 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. At the processing level, the program is expected to increase the dairy products volume and value marketed in the region and internationally.

The launch has been lauded as a high point in the industry's quest to be competitive, with the Managing Director of the KDB, Mr. Machira Gichohi, saying it will "make the local industry a giant in Africa and beyond." According to Mr. Gichohi, "The KDSC contribution in the sector, especially on milk quality improvement and at farm level has helped turn the industry around." KDSC interventions targeting milk quality improvement have included provision of technical assistance in the review of dairy standards and facilitating training of KDB regulatory inspectors on Pasteurized Milk Ordinance and Regulatory Inspection. The program has also helped expose the inspectors to the United Sates of America's regulatory inspection systems, practices and techniques—especially the U.S. Pasteurized Milk Ordinance, which is critical in ensuring milk quality through the value chain. Program efforts have also targeted the development and enhancing access to reader friendly industry standards/manuals in collaboration with the KDB and other stakeholders.

The gains realized to date, in association with the DTF, especially the KDB and Kenya Bureau of Standards (KEBS), comprise review of 21 industry standards, including Good Manufacturing Practices. KDSC has also facilitated the development of a user friendly Code of Hygienic Practice, and the draft Dairy Regulations. These efforts are geared towards harmonizing local industry standards to the regional (EAC and COMESA) and international standards to ensure consumer safety and also to enable local processors to expand their market base by accessing external markets.

KDSC program is in addition supporting initiatives aimed at fostering an enabling environment for the dairy industry in the country. The program is currently facilitating the review of the Dairy Master Plan, now in draft form, in collaboration with the DTF. The revised master plan will give the strategic direction for the industry and put in place measures and incentives to make the dairy industry competitive in the region and internationally. Additional information on the launch is provided in Annex 3.

Key highlights of the quality improvement program components:

Good Manufacturing Practice

Fundamental to the success of public health interventions and the strengthening of consumer confidence in our products is a requirement that all dairy operations are conducted in a safe, sanitary and hygienic way, in premises and buildings that meet public health safety requirements.

In 2009, the Kenya Bureau of Standards National Dairy Technical Committee produced a new Standard entitled "Good Manufacturing Practice Guideline for the Dairy Industry in Kenya." This was considered necessary to provide the backbone for a nationwide GMP training effort. Three dairy business categories have been targeted for training on Good Manufacturing Practice. These are Milk Bulking Centers, Milk Bars and Shops, and Dairy Processing Plants. Naivasha Dairy Training Institute has been contracted to provide the training throughout the country. Approximately 1800 persons will be trained.

User Friendly Code of Hygienic Practice

The Kenya Bureau of Standards, in collaboration with the Dairy Industry Technical Committee, developed a Kenya Standard Code of hygienic practice for production, handling and distribution of milk and milk products in 2004. Compliance with the Code of Hygiene Standard is fundamental to ensuring the safety of our dairy products. The stakeholders recognized that being a technical document, the content of this Standard may be difficult to digest for the average reader. To make the requirements of this important Standard more understandable and accessible to all our stakeholders, Kenya Dairy Board, supported by KDSC program commissioned the illustrated and simplified version, which was also being launched at the function.

Draft Kenya Dairy Regulations

The Kenya Dairy Regulations lay the foundation for all the other components in our quality program. The regulations describe the requirements for production, storage, transportation and processing of milk and milk products along the chain. The regulations also give technical specifications for processing equipment and quality surveillance. Individual sections of the regulations deal with each link as the milk progresses from the cow to the consumer. The new Dairy Regulations have been reviewed and approved by stakeholders. Adoption of these detailed technical requirements represents a leap in technology and competence for the industry. The Dairy Regulations will be legislated under the existing Kenya Dairy Act later this year.

Harmonization of East African Community (EAC) Dairy Standards

Kenya's Dairy Products are expected to comply with the newly harmonized EAC Dairy Standards if they are to access the regional market. These standards, which comprise product specifications and analytical laboratory methods, were developed by the EAC Dairy Technical committees and guided by the bureaus of standards in the partner states. The EAC Standards have since been adopted as draft standards at the Common Market for East and Southern Africa (COMESA) region. Kenya Dairy Board and other industry stakeholders participated in the regional standards harmonization processes committing the industry to high-quality standards and requirements. The total quality effort is aimed at bringing Kenya's dairy industry to the quality levels required by the standards and the international community.

Differential Payments for Raw Milk Quality

In order to produce high-quality milk meeting the EAC Dairy standards and other technical requirements as stipulated in the proposed dairy regulations particularly at the farm level, farmers will incur additional costs in acquiring the appropriate milk handling containers, enhancing hygiene

and organizing for quick milk delivery to the milk collection centers. However, the benefits of improved milk quality are substantial and cannot be over-emphasized. The KDSC, in collaboration with the Kenya Dairy Board and other stakeholders, is developing a framework plan of differential payments for quality, to enable a pilot trial to be run out in the next year. The program is now discussing with the KDB on the modalities of identifying a processor with whom to pilot this system. The details will be publicized to our stakeholders as the design of the trial progresses.

Training Program for Industry Stakeholders

KDSC realizes that quality is key for the Kenyan dairy industry to be competitive internationally, especially now that milk supply is outstripping demand in the domestic market as witnessed in the recent past. The local industry therefore has to target the export market if these gains at farm level are to be adequately rewarded and sustained. This can only be realized if measures to ensure milk is of good quality are observed from farm to shelf. The milk quality program also includes a training program to build the capacity and skill and knowledge of milk handlers on the new dairy standards and technical requirements. The training will cover dairy inspectors, processors, small-scale milk traders, milk collection centers and farmers. This training is currently underway (Program of training attached in Annex 4).

"The KDSC program's contribution in the subsector, especially on milk quality improvement and at farm level has helped turn the industry around."

-- Mr. Gichohi, KDB

"This is a key milestone which will make the industry a giant in Africa and beyond."

-- Mr. Gichohi, MD, KDB, at the launch of the milk quality improvement program in Nairobi.

Chair of Board of Directors Ms. Martha Mulwa launches the two standards at KARI Headquarters in Nairobi. "We are positioning ourselves with today's launch to be the milk and milk products market leader in the region. We are now in sync with CODEC, WHO and other international organizations quality requirements."

Looking on are Mr. Gichohi of KDB and Mr. John Abbongs – Director, Quality Assurance, Kenya Bureau of Standards.

The launch of the milk quality improvement program presents a foundation for milk quality improvement in Kenya. It will go a long way in aiding sector players to implement the basic requirements necessary for hygiene to ensure consumer safety and boost regional and international trade, especially now that the EAC has adopted a free trade area. This is expected to contribute to Kenya's vision for 2030 of halving poverty and/or improving income to the middle income level. Impacts of this important achievement will be reported in future reports.

Other opportunities that were explored include:

Lobbied for the expansion of the country's processing capacity, especially for other milk products

The two main processors—New Kenya Cooperative Creameries and Brookside Dairy, who are members of the DTF—were advised to expand their processing capacities to absorb the excess milk. Following this arrangement, Brookside Dairy announced a $16M investment in a milk powder plant which they said will be implemented in the near future. The company 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). New KCC is set to refurbish and commission a long life milk (UHT) plant in Eldoret, a condensed milk plant in Naivasha as well as procure, install and commission an additional milk drier (http://kdb.co.ke/index.php?option=com_content&view=article&id=79&limitstart=2-). The firm has already engaged a consulting firm to carry out a feasibility study. This was as a result of the DTF activities.

Alternative domestic milk markets - especially institutional (schools, hospitals, among others)

The KDSC program is as well looking into alternative domestic markets—both institutional and informal—for the SBOs working with the program in a bid to stabilize milk price across seasons. The program has held formal discussions with the Dairy Traders Association (DTA) in some milk sheds towards this end, especially in milk sheds close to non milk-producing areas and towns (Kabete and Trans Nzoia) where the DTA account for a significant proportion of milk traded. To safeguard consumer safety, the program is looking into ways of working with the DTA to capacity build members on milk handling and hygiene. Program staffs are currently reviewing a proposal from the DTA. If finalized, these SBOs will be able to diversify their markets and realize their members stable returns across seasons. This will enable these SBOs to not only retain but grow their membership and increase their operational efficiency and bargaining power through increased traded volumes.

3.1.2 Facilitated review of sector policies/regulations/standards

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 improved product quality. Not only is this important for consumer safety and domestic market expansion, but it is also major for locally processed dairy 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 a number of sector policies/regulations/standards. These include:

- Facilitated the review of two dairy standards;
- Review of two policies: 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; Revision of Dairy Master Plan which has been forwarded to the Ministry of Livestock Development (MoLD);
- Review of the Dairy Regulations (formerly known as the dairy ordinance) is ongoing and is almost complete
- Facilitated the development of a reader friendly Version of the Dairy Code of Hygiene Manual

<u>Facilitated the review of two dairy standards</u>

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.**[6] These are now in public review and will shortly become official Kenya standards (Annex 5a and 5b). **KDSC has now surpassed the targeted maximum of three industry policies/acts/standards improved and enacted in its lifespan**.

The reviewed standards and the anticipated benefits are:

<u>Mozzarella Standard</u>

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.

<u>Pasteurized Goat Milk</u>

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

[6] These include 20 standards, Dairy Regulation, and the Dairy Code of Hygiene. The program has also finalized one certification framework – the Good Manufacturing Practices manual.

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.

Facilitated the review of two policies

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. To help address this challenge, the KDSC, through the DTF successfully lobbied for the incorporation of milk powder into the National Food Strategic Reserve. This will go a long way in the uptake of excess produce which can then be offloaded into the market during times of scarcity (http://kdb.co.ke/index.php?option=com_content&view=article&id=79&limitstart=2-).

Revision of Dairy Master Plan

Revision of Dairy Master Plan is almost complete. The program contracted a consultant – Vedaman Consultants – to work with the technical working group appointed by the Permanent Secretary, Ministry of Livestock Development (MoLD), to revise the Dairy Master Plan in the year. The exercise is now in its final stages. The consultant held a very successful dissemination workshop for all industry stakeholders in August, 2010 where stakeholders gave their views on the draft document. The views have been incorporated in the final draft which has been submitted to the MoLD for action (See Annex 6 for the forward to the document as written by the Permanent Secretary, MoLD). The revised master Plan aligns the industry objectives to the country's Vision 2030 and provides the roadmap that will make the industry competitive.

Review of Dairy Regulations (formerly known as the dairy ordinance) is ongoing and is almost complete

The text of the proposed Dairy Regulations was finalized, having been approved by a public committee representing the concerned government ministries and associated dairy industry organisations. The Dairy Regulation has been submitted by Kenya Dairy Board for legislation as a sub-regulation under the Kenya Dairy Act, to the Ministry of Livestock Development (MoLD). The Attorney General's office is now reviewing it as the final stage before legislation. When legislated, the dairy regulation will form the basis for quality assurance throughout the dairy industry.

This now takes the total number of quality certification frameworks developed by the program to two (GMP Code and Dairy Regulations). The program has met the program target of two quality certification frameworks developed. Focus now shifts to advocating for implementation/enforcement through the relevant industry bodies, mainly the KDB.

Facilitated the development of a 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 year 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 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 has signed 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 and make amendments as necessary to ensure sustainability.

3.1.3 Facilitated the development of a sector-wide web-based application that will serve as a complete dairy and livestock management information system for the livestock industry

The KDSC program finalized first stage towards the development of a sector-wide web-based application that will serve as a complete dairy and livestock management information system for the country (http://www.kdscpmis.com/login.php). The application provides an easy interface for initial and subsequent data collection and analysis. This will enable sharing information among stakeholders in the sector once finalized. The system, proposed to be managed by the KDB, has modules for all the actors in the value chain—farmers, farmer groups, processors, insurance and financial institutions, semen distributors, breeders, and animal health providers, among others.

All industry stakeholders have been sensitized on its benefits, resulting in more players requesting modules. The Dairy Traders Association (DTA) has been the latest category of industry players to request for their own module. This will especially help link farmers to service providers in the country. Program staff is currently working with farmers working with the program to register their details in the portal in readiness for the next phase of the project. As detailed in the previous reports, 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' registration services, insurance, among other herd worth/value increasing services and management practices.
- 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.

Close to 6000 sector players – including farmers and service providers have registered in the portal to date. Progress realized will be reported in future reports.

3.1.4 Continued facilitating capacity building of dairy associations

Previous KDSC progress reports have highlighted capacity building activities for a number of industry associations. These efforts have started bearing fruit, with some of these organizations – notably the Kenya Dairy Processors Association (KDPA) – which were hitherto non operational re launching. This is expected to give the industry a much-needed boost especially in marketing and dairy products quality issues. The program in addition worked with the Kenya Livestock Breeders Organization (KLBO) in implementing interventions that have immensely enhanced its capacity in discharging its mandate. We facilitated training of 47 breed inspectors in the reporting period, a move that has considerably increased the number of animals registered in the Kenya Stud Book in the country, and subsequently increased the value of animals and total wealth of participating farmers. Other program activities in the year targeted AKFEMA and building capacity of all private semen distributors in the country, among others. Specific activities and achievements in the reporting period are expounded below.

<u>Successfully facilitated the revival of the Kenya Dairy Processors Association (KDPA)</u>

We are pleased to report the successful revival of the Kenya Dairy Processors Association in the reporting period. This is a major step forward and will ensure that processors speak with one voice especially on policy issues going forward. The association collapsed a while back mainly due to a lack of direction and wrangles between the processors in the country.

The Kenya dairy industry is the second-most-developed in Africa; however, it is highly unstructured and is characterized with a lot of inefficiencies along the value chain. Trade of dairy products in the region and beyond is significantly compromised by the fact that local products are uncompetitive besides other challenges. A processors association is very critical in among other things growing the market for the dairy industry locally, regionally and internationally and lobbying for improved environment that foster development in the sector.

To revive the Kenya Dairy Processors Association consultative meetings were held to collect views from stakeholders - mainly the processors - on the process of reviving the association (KDPA). The meetings were structured taking in to account varied engagements in the industry that various processors and stakeholders have. In that regard three meetings were held as follows.

- Large processors consultative meeting
- Medium, small and cottage/mini processors consultative meeting
- A joint processors and stakeholders consultative meeting

The consultative meetings were designed to gauge the processors' keenness and willingness to revive and sustain an association and establish the overall agenda for the KDPA. Additionally, the meetings were meant to review the legal instruments and strategic plan and eventually establish a governing body and agree on an operations framework.

The three consultative meetings were held and a review of the memorandum and articles undertaken by a legal consultant hired by the KDSC. A caretaker committee was then formed to spearhead the association's revival process. The caretaker committee proceeded to develop a 5-year strategic plan which was reviewed and adopted by the committee. A launch of the association took place on October 15, 2009, at Sarova Hotel in Nairobi, and a new caretaker committee was

established to prevail over the existing board to readmit members before a formal election was undertaken. The East and Southern Africa Dairy Association (ESADA) was mandated to coordinate the activities of the association in the interim before a fully operational KDPA secretariat is set up. ESADA will among other tasks keep a register of members and call for application for membership from stakeholders.

A section of participants at the KDPA launch in Nairobi

The association will help the program to realize a number of key targets, especially on dairy products market promotion. Already, the program is working closely with the KDPA in the assessment of consumer preference, planning dairy consumption campaigns and in the development and adoption of quality payment systems. This partnership is expected to go a long way in enhancing industry competitiveness in the immediate and long term. **Negotiations are now underway with member processors towards establishing a partnership to fund the KDSC program led sustained consumer education campaigns in the country for dairy products, with one member already pledging Kshs. 1 million (about 13,300 USD) towards the campaign.**

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

As previously reported, farmer knowledge and use of KLBO services has been very low, with a program commissioned survey showing that majority of dairy farmers 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.

Three major activities were successfully carried out in the reporting period:

1. Facilitated the training of **47** breed inspectors to meet the demand for dairy animal registration. Before this, the breed societies did not have enough breed inspectors to handle the nationwide interest in animal registration,
2. Supported the development of a marketing plan for the organization. The plan aims at creating awareness about the organization and encouraging farmers to register their animals with the Kenya Stud Book (KSB), and
3. 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.

Dairy breed inspectors training : Following a very successful session on the benefits of registering animals for farmers at the Livestock Breeders Show and Sale in June 10th–12th, 2009, there was renewed demand for animal registration and performance recording. One of the main bottlenecks to registration and recording has been that there is a scarcity of competent persons to inspect the dairy animals for admission to the stud book register at the Kenya Livestock Breeders Organization (KLBO). The KLBO then requested the KDSC program to facilitate a breed inspectors training to aid the exercise.

The aim of this initiative was to create a pool of inspectors accredited to KLBO who are available to inspect dairy cattle upon request. Kenya has an estimated 3.3 million dairy cattle. 60% are Holstein-Friesians and their crosses, 30% are Ayrshires and their crosses while 10% comprise of Jerseys and Guernseys together with their crosses. Of the 3.3 million dairy cattle, only about **2%** are registered, whereas less than 0.5% of milk produced is recorded. The five-day training was carried out from November 30, 2009 to December 4, 2009 at Chester Hotel in Nakuru. The training entailed both theory and practical. In compliance with the program implementation methodology, an advertisement was placed in the local dailies announcing the training and inviting interested parties to apply. Applications were received and a short list prepared. Letters were sent out inviting successful applicant to the training. The trainees were requested to pay a registration fee of KES 5000. In total, 47 participants drawn from all the dairy producing area in Kenya were selected. These included a number of KLBO staff some of whom were newly recruited.

This initiative is expected to realize participating farmers' immediate considerable gains in terms of increased wealth from increased value of registered animals. Industry experts estimate value of registered animals to more than double in the short term, because all registered animals are awarded registration certificates.

In the long run, the following benefits are expected to accrue to the farmers:

- Increased production for progenies: Registered animals are expected to use Artificial Insemination when breeding. This will result in superior and higher producing offspring.
- Registered animal scan also participate in agricultural and breeders shows. The shows expose farmers to markets – for dairy animals and even milk markets. Such farmers also act as service providers, and earn extra income as model farmers.
- The country currently supplies the region with dairy animals. Such buyers of dairy animals only buy registered animals, whose lineage is well-documented. Farmers registering animals will therefore be able to tap into such markets in the near future.
- At the national level, the industry will be able to know the number of dairy animals we have in the country and thus be able to plan – e.g. , be able to plan for semen importation, and

- It is expected to result in a higher number of cattle being registered and recorded. This in turn translates to better selection of bull dams, hence better bulls used for semen production, giving rise to improvement of the dairy industry in the long run.

Progress and benefits from this initiative will be reported in future reports.

Participants in a theory session

A facilitator takes participants through a cattle judging/practical session

Other achievements in the year included:

- Facilitated capacity building interventions for Kenya Livestock Producers Association (KLPA)
- The program contracted a consulting firm – Rhoteach Limited – to assess the issues affecting dairy genetics supply in the country. The firm has been tasked with uniting the various dairy genetic suppliers and to assist them to identify their core activities, areas they can collaborate and create synergy or even merge for maximum impact. They will also identify and prioritize initiatives that the KDSC program can support to strengthen their long-term sustainability such as a centralized database for control and management of players and capacity building of chain players in distribution and marketing of genetics. (See http://www.kdairyscp.co.ke/documents/RFA%2039%20-%20Capacity%20building%20of%20Genetic%20suppliers.pdf for the detailed Terms of Reference).
- Hired a consulting firm to help build capacity of the Association of Kenya Feed Manufacturers (AKFEMA). AKFEMA has been identified as a major institution that has a role to play in the dairy sector and which is underperforming according to a study done by Agricultural sector Coordination Unit (ASCU). In the reporting period, the program recruited Ahead Consultants to among other things, Develop an accreditation procedure for all AKFEMA members; Develop the code of practice for the AKEFEMA members; Develop a databank of nutritional specifications of local raw materials; Build capacity of AKFEMA members on Quality control and assurance, Hazard analysis and critical control points (HACCP) as well as good management practices (GMPs) then accredit those that meet the set out criteria; and to facilitate effective linkages with selected farmer

Groups/stockists and feed providers of quality feeds in eight milk sheds. These activities are expected to assist the feed industry build codes of conduct to guide ethical practices in the feed milling industry as a step towards attainment of self regulation in the feed milling industry and to remove loopholes for malpractices such as feed adulterations in the industry by a few individuals who often escape without notice either because of weak laws or by the lack of it, in line with the draft feed policy under preparation (See http://www.kdairyscp.co.ke/documents/RFA_45_Institutional_capacity_building_AKFEMA.pdf for the detailed terms of Reference).

3.1.5 Continued facilitating meetings of the National Dairy Task Force, the Regional Working Groups and then Milk shed Working Groups

The KDSC program supported the DTF's national Dairy Stakeholders Forum in the reporting period. The National Dairy Stakeholders' Forum's aim was to enhance competitiveness in the dairy industry through stakeholder interaction, networking and development of sustainable alliances across the value chain. The theme of the forum was "creating synergies for dairy development". The key note address was given by the Minister for Livestock Development Hon. Mohamed Kuti.

Hon. Kuti officially opened the forum in Nakuru

A section of participants at the stakeholders' forum held in Nakuru

In his speech, the minister recognized the role of the National Dairy Task Force in bringing together stakeholders to chart ways of enhancing synergy in developing the industry. The Minister noted that the impressive performance in the dairy industry could not have been possible without linkages between the various players in the industry which has led to the improved efficiency in the production, supply and marketing chain. He also noted the potential the industry has in extending beyond traditional dairy producing areas, noting that the North Eastern region is able to transport over 300,000 liters of milk per day to Nairobi even without the requisite infrastructure to support this production. He therefore noted that the creation of synergy by the coming together the various stakeholders has the potential of building on these new areas of industry expansion.

Presentations during the forum focused on the role of the various stakeholders in enhancing the competitiveness of the dairy industry. These included government institutions, development partners, and the private sector. Participants were also taken through the new developments in

the industry and briefed on progress on the action plans developed at the KDSCP preparation phase and approved by stakeholders in October, 2008 when the program was officially launched.

Participants gave their feedback by identifying issues that were of most interest to them, what they would like to see in future meetings and key issues that need immediate action. Participants' views varied widely but the issues most commonly quoted as being of interest to the participants were;

- Opportunity to get an overview of the industry and the opportunity to network with other stakeholders.
- The demonstration of an integrated dairy management information system.
- Presentation of successful models of development in the industry such as the dairy business hubs approach for enhancing milk marketing and service delivery by EADDP and the milk-shed approach by KDSCP.

The issues that participants felt need immediate implementation, which the KDSC program is already pursuing, were identified to include;

- Expansion and support for AI services across the country and focus on breeding as a whole
- Implementation of the integrated management information system.
- Implementation of disease-free zones

During the discussion sessions, most participants indicated strong support for the stakeholders' forum and demanded for an annual or biannual frequency of meetings with a more action oriented focus. This fits in well with the National dairy task force system of sub-committees that can now feed into the issues identified and report progress in the next forum.

Participants included representatives/officials from all the key sector institutions, including the Ministry of Livestock (all departments), the Kenya Dairy Board; processors in the country (the Dairy Processors Association interim committee was represented); the Ministry of Cooperatives; development partners, including Mespt, TechnoServe, Heifer Project International, SITE, SNV, EADDP, KDSCP, AKFEMA; semen distributors including Coopers, ABS TCM, CAIS, SEMEX; Research institutions- KARI, University of Nairobi; service providers including financial institutions, input suppliers, equipment suppliers, machinery suppliers; farmer representatives from all the milk sheds; federation leaders; and milk shed /regional working group leaders, among others.

Other related activities supported by the program in the year

Facilitating meetings of Regional Working Groups (quarterly), milk shed working groups (quarterly) and Dairy Task Force meetings (monthly). These meetings address key industry issues and are used by the program to rally stakeholders to support and invest in initiatives that spur industry growth. These meetings have realized considerable non USA investments in the industry in form of non program resources leveraged.

Program facilitation of these meetings enabled leveraging of an estimated **$21,756,844** in non project resources through collaborations with other sector players in the reporting period. This was achieved through stakeholder contributions to sector initiatives – both in-kind and monetary. A significant proportion was also realized from farmers' participation in program organized events. A sample of the key institutions investing includes the Government of Kenya (GoK) Ministries and departments, including the CDF, private sector players including processors and input suppliers,

among others. Resources leveraged and other results realized in the reporting period through these meetings include:

- The government spent US $4 million purchasing surplus milk in the period to cushion farmers from low milk prices and non collection of milk at farm level occasioned by the excess milk supply/the milk glut (See (http://kdb.co.ke/index.php?option=com_content&view=article&id=79&limitstart=2-)
- Brookside Dairy announced a US **$16M** investment in a milk powder plant. Construction is set to commence soon. The company in addition commissioned a **$266,667** expansion of one its plants in Nairobi to absorb part of the excess milk (*Daily Nation*, 8/04/10)
- Brookside Dairy has also pledged Kshs. 1 million (US$ 13,333) towards the program led dairy consumers education campaign that is set to begin in the next quarter
- Rehabilitation of 14 cattle dips[7] serving over 3,374 farmers in 7 farmer cooperatives
- Rehabilitation of three feeder roads to enhance access to milk markets in Kinangop Milk shed at a cost of Kshs 5 million (US$ 66,700) by the CDF
- CDF supported the purchase of an Artificial Insemination kit and a Motorcycle at a cost of Kshs. 150, 000 (US$ 2000) in West Marakwek, Trans Nzoia Milk shed
- CDF funded construction of two farmer cooperative offices at a cost of Kshs 7.3million (US$ 97,300) in Gatanga and trans Nzoia milk sheds
- CDF also donated 2 vehicles to a co operative in Gatanga Milk shed valued at Kshs. 5 million(US$66700)
- An agreement to conduct joint Dairy consumer education campaigns with significant contribution from DTF members, especially from the Kenya Dairy Processors Association (KDPA) and the Kenya Dairy Board (KDB)
- The international Labor Organization donated US$ 40,000 to Kitiri nd Muki Cooperative in Kinangop Milk shed towards the purchase of dairy cows for the youth
- The Ministry of Agriculture's Njaaa Marufuku program donated Kshs 500,000 (US$ 6,666) towards purchase of a cooler to a cooperative in Gatanga Milk shed; Ministry of water and Irrigation dug a borehole for Tongaren SBO at Kshs. 3million (US$ 40,000); and the Ministry of Special Programs donated a 5000 liters cooler worth 3.5 Million (US$46,667
- Processors investment in milk cooling tanks: NKCC - 5000 liter cooler at a cost of 4.15 million (US$ 55,333) and at Olalagwai – 3000 litre tank valued at Kshs 3 million(US$ 40,000); Brookside have installed two 5000 litres coolers at about Kshs. 7 million (US$ 93,333)
- Farmers' investment in milk cooling tanks, vehicles and other equipments: Umoja sotik (10,000 litre cooler plus installation costs at Kshs. 12Million – US$ 160,000); Cheborgei (AI tank worth Kshs. 40,000 – US$ 533); Cherangany SBO (10,000 litre cooler plus installation costs at Kshs12 million (US$ 160,000): Tarakwa (Installation cost for the 5000 liter cooler provided by NKCC at Kshs. Ksh. 240,000 (US$ 3200), and a lorry at 350,000 (US$ 4,667); Gatundu SBO (Kshs 3 million (US$ 40,000) to buy lorry); Kikuyu (Kshs. 2.9 million (US$ 38,667) to buy a lorry); Three ton have so invested Kshs. 14 Million (US$ 186, 676) towards the purchase of a 5000 liter cooler and for construction of offices; Karati SBO (Kshs. 1.7 Million (US$ 22,667)); Ngorika have invested Kshs. 3 Million (US$ 40,000) in a cooler; Gitunduti investing in a 5000 litre cooler at Kshs 3.5 million –US$ 4667) and New Tetu investing in a 5000 litre cooler at Kshs 3.5 million –US$ 4667).

[7] The Cherangany CDF contributed up to Kshs. 450,000 towards the rehabilitation. Other DTF members – private input suppliers including Norbrook and Twiga– have supported these ventures with drugs of Kshs. 30,000 (USD 400) per dip revived.

Farmers have in addition spent over US$ 200,000 in own funds as transport attending program organized and facilitated events.

- Flame tree consultants, an ICT provider working with the program won a US$ 53,000 grant in the ILO coop challenge to promote efficiency in Dairy and Coffee coops by use of ICT
- US$ 13,000 was leveraged through the stakeholders forum held in the year via a co sponsorship arrangement
- 5 policies/regulations/standards reviewed, including lobbying for the inclusion of milk powder and other dairy products in the national food strategic reserve
- Establishment of structures that enable farmer groups (SBOs) to federate in the various KDSC milk sheds to enhance farmers' bargaining power. 13[8] dairy marketing federations have since been established in the KDSCP Milk sheds. The federations have been instrumental in raising farm gate prices of milk in the country, with the two major milk processors in the country structuring milk price by volume delivered. NKCC now pays up to Kshs. 34 per liter while Brookside pays up to Kshs. 30 per liter of milk - from a low of Kshs. 14 per liter (See Annex 7).
- A resolution to push for the introduction of alternative acaricides to control tick borne diseases to guard against development of resistance to acaricides currently in the market
- Resolution to rehabilitate dams with the support of the Constituency Development Funds (CDF) in Kinangop and Lessos milk sheds. This is yet to be effected however.

This now takes the total non program resources leveraged to US$ 25.26M, which surpasses the program overall target of US$ 25M in program life.

Left: Area Member of Parliament and the CDF chairman (Marakwet) presenting the CDF funded motorcycle and the AI kit to farmers in Trans Nzoia Milk shed.

Right: Farmers donate demonstration materials for training purposes

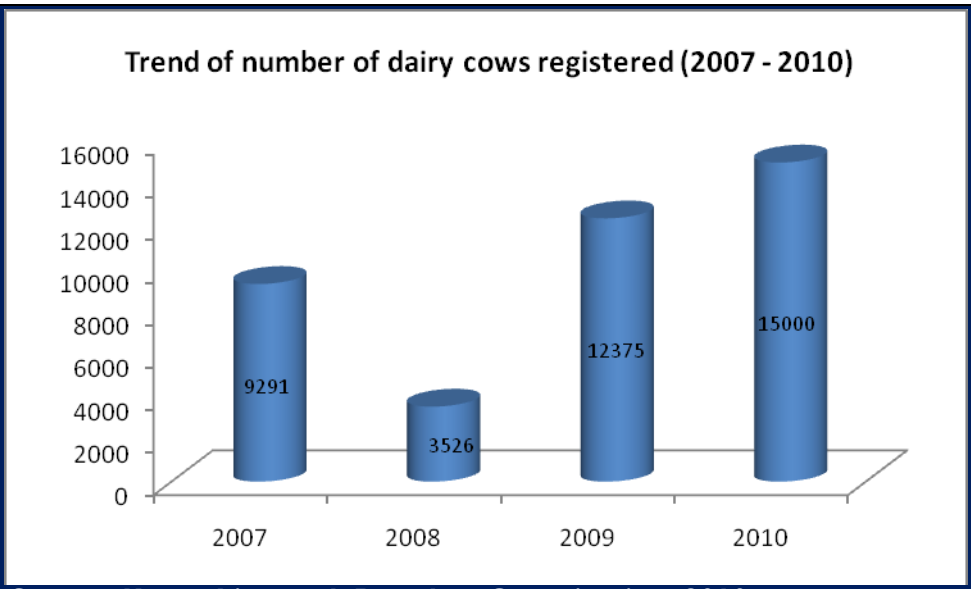
[8] Distribution of dairy marketing federations by milk shed – Trans Nzoia -5; Gatanga -4; Nyeri -2; Kabete -1; and Kinangop -1.

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

The Kenya Livestock Breeders Organization (KLBO) was an elite breeders' organization at its formative stages, with membership mainly drawing from the large-scale farms. "This has resulted in smallholder farmers not appreciating the benefits of being members of the organization," says Mr. Chichir, the current KLBO 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 in the country, but because of lack of paper that shows the animals' lineage (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. "The KLBO has been registering only about 5,000 animals a year since it was registered. We urgently need to reach the smallholder farmers with this service, 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 milk sheds to help popularize the KLBO and sensitize farmers on the benefits that accrue from animal registration. In addition to having the animal inspectors attend program-facilitated farmer training events, the program, in collaboration with other stakeholders in the industry has organized regional Breeders Shows – events similar to the international breeders show held biannually- to sensitize farmers on the value and benefits of breeding and having dairy animals lineage properly documented. The program also **facilitated the training of 47 new breed inspectors** from all over the country to take this service closer to the people. To enhance KLBO officers' mobility, we donated a vehicle to the organization in the year. This is expected to enhance KLBO officers' mobility, increase farmer access to its services and ultimately increase the number of animals registered.

We are happy to report that program investment in the Kenya Livestock Breeders Organization (KLBO) and its services has started bearing fruit. Since the training from all over the countr, the KLBO has reported registering an increase in demands for their services. "We have observed an immense growth in the number of dairy animals registered since the training," says the Chairman. In the program milk sheds alone, 4514 cows have been registered in the last nine months alone. The figure below shows the growth in number of animals registered over a four-year period. KDSC support has enabled the KLBO increase in number of cows registered by a whopping 134% - from an average 0f 6409 cows (1007 and 2008) to 15,000 cows by end of 2010. Notice the exponential increase in the number of animals registered from 2009 when the KDSC facilitated the breed inspectors training. The 2010 figures are provisional.



Source: Kenya Livestock Breeders Organization, 2010

The Chief Executive Officer of the KLBO, Mr. Musyoka also agrees with this assessment, and highlights additional outcomes of this collaboration, in the form of increased membership to KLBO and involvement of KLBO staff in farmer and service providers' training in the various milk sheds. "Through various recruitment drives in the Land O'Lakes Milk Sheds, farmers have had a chance to have their animals inspected while others have resolved to reorganize their members to be revisited for cattle inspection and registration. KLBO has also been involved in farmers and service providers training in four Milk Sheds (Trans Nzoia, Lessos, Kinangop and Kericho Milk Sheds). There are plans to reach all the eight (8) milk sheds. The trainings are mainly geared to proper records keeping and farmers' recruitment to record their Livestock", says Mr. Musyoka.

The program is definitely on course towards enhancing industry competitiveness and increasing smallholders' income and wealth.

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.

3.2 Component Two: Dairy Smallholder Business Organization Development.

KDSC activities targeting developing SBOs focused on redesigning business operations for all the farmer groups working with the program to ensure they adopt a business approach in operations – a shift from the social, approach that is currently prevalent in most farmer cooperatives in the country, to enable them grow their businesses. We refocused how they conduct business to make them profitable so that they attract membership to enable them achieve scale while at the same time making them more appealing to prospective investors, including formal financial institutions, other development agencies, and from government agencies and initiatives such as the Ministries, Constituency Development Fund (CDF), Local Authority Transfer Fund (LATF), among others.

Program activities focused on eliminating wastages to optimize resource use in all SBOs working with the program. KDSC focused of five broad areas: Mobilizing farmers to form economically viable business organizations/federations; providing information on good quality and affordable input supply sources and linking the SBOs with the suppliers; linking the SBOs to financial service providers and helping the SBOs meet conditions to access credit; Enhancing market access and providing market information; and provision of technical assistance to the SBOs.

Our interventions have cumulatively benefitted 114 SBOs (with over 680 employees), 13 milk marketing federations and three (3) sector wide farmer organizations, with over 103,612 new households benefitting from program activities in the year. The total cumulative number of households benefitting from KDSC now stands at 205, 298[9], surpassing the Year 3 target of 180,000. The program has also surpassed the target of 75 producer organizations strengthened by Year three, having cumulatively worked with 114 SBOs in the three years of implementation (See Annex 7 for the breakdown of beneficiaries).

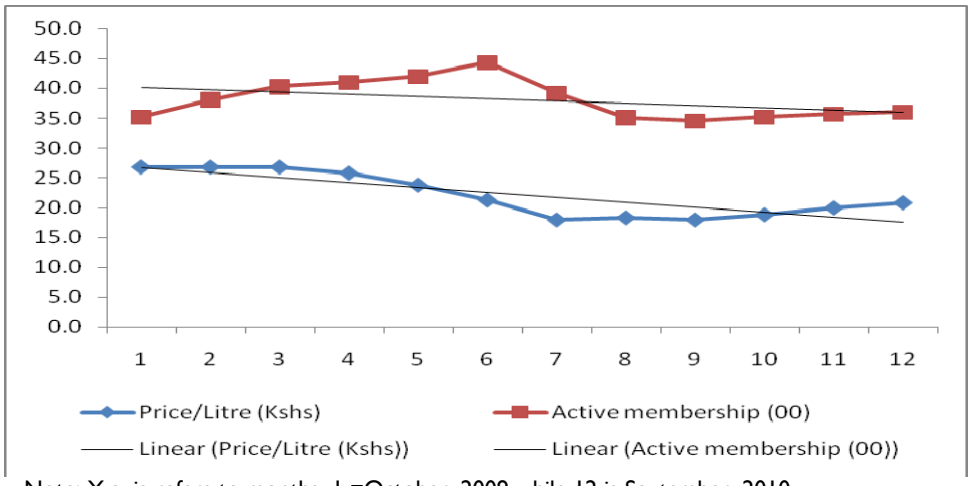
The main challenges we have encountered in implementing Component Two activities have been milk price volatility and delayed payments arising from increased production at farm level. While we have surpassed the targeted number of farmer groups strengthened and that of households benefitting in the current implementation period, the total number of active farmers in the SBOs working with the program declined considerably (by 20% on average) in the year compared to last year, mainly because of the volatile milk market in the country[10].

As previously stated, the low farm gate prices offered and delayed payments have discouraged farmers, with a considerable number resorting to selling through the informal milk marketing channels—up to 42% in Lari Dairy Farmers Cooperative Society in Kinangop milk shed. In Kikama Milk Marketing Federation in Gatanga Milk shed for example, active membership has been fluctuating, declining by up to 22% (from 4430 members in December, 2009 when farm gate price was about Kshs. 27 to 3450 members in June, 2010 when price declined to Kshs. 18 – by about 33% as shown in the Figure 1).

[9] This includes 204,679 farmers and 619 service providers.

[10] Average active membership in SBOs working with the program declined from 1037 in 2009 to 829 in 2010.

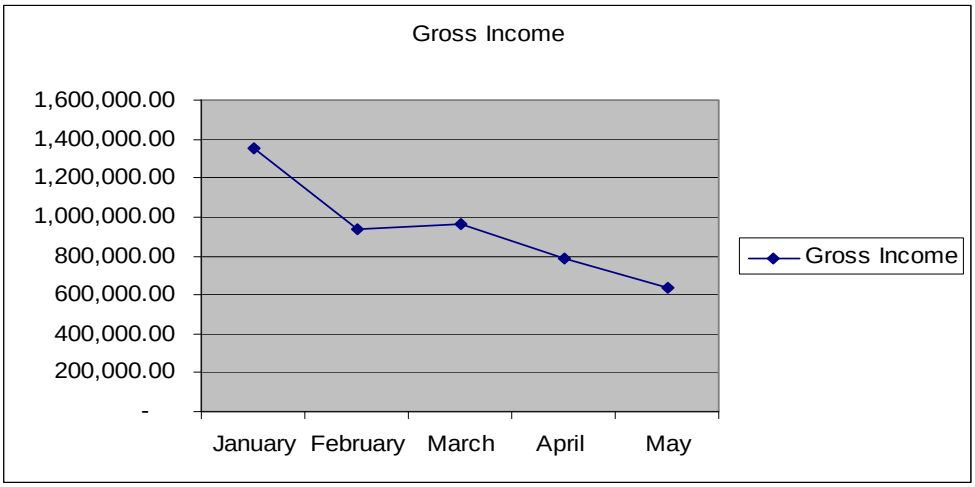
Figure 1: Kikama Milk Marketing Federation active membership versus price paid per liter of milk



Note: X axis refers to months. 1 =October, 2009 while 12 is September, 2010.

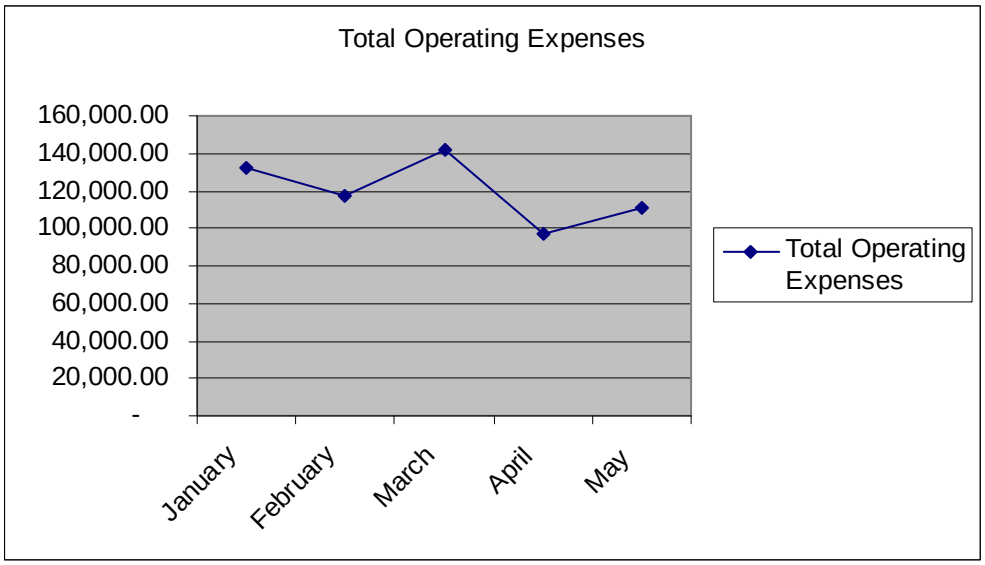
This has seriously impacted income, both at the bulking centre and at farm levels. In Lari DFCS, for example, gross income has been on a declining trend from January when the milk glut/excess milk supply started. Income has reduced by up to 53% - from KES 1,350,345 in January to KES 633,877 in May 2010. The main reason given by management is that active members have resorted to selling milk to other markets (fewer active members - from 185 in January to about 107 in May) as a result of delayed payment by processers, and that informal milk traders/hawkers offer better prices, with some hawkers paying as high as KES 30 per liter, while the cooperative has been offering an average of KES 17 per liter of milk, after deducting operating costs. In some SBOs, milk was not collected for considerable periods, which made farmers loose significant amounts of money.

Figure 2: Gross income trend for Lari Farmers Cooperative Society: January – May, 2010



While gross income has declined by 53%, total operating expense has declined by only about 12% in the same period. This cost is passed on to farmers—the final pay to farmers in the period is Kshs 17 per litre of milk from the gross of Kshs 22 per litre paid by processors.

Figure 3: Trend of total operating cost for Lari Farmers Cooperative Society: January – May, 2010



This has significantly slowed down program activities—especially interventions targeting farmer training and increasing productivity. Majority of farmers did not attend program organized/facilitated training events in the year, nor do they apply some program promoted productivity enhancing technologies and management practices, especially feed supplementation due to the lower profit margins. **Proportion of farmers supplementing has declined from 60.6% in 2009 to 53% in 2010 for concentrates (dairy meal). Even those using feed supplements recorded feeding the animals lower than recommended quantities because of the cost.** They argue that they are not able to market the excess milk or that if they do, they will not get a good price for it and run into losses.

A sample of the activities implemented and accomplishments in the quarter include:

3.2.1 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 volumes, 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' association 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[11]. Land O' lakes

[11] This is a best practice that the KDSC has been adopted from a prior program. Land O' Lakes initiated the concept of farmer groups federating – in the country.

initiated this concept in the country and organized farmer groups in to a marketing federation in 2008. Currently, there are over 20 dairy marketing federations in the country, 13 of them in the 8 program milk sheds. **This concept has revolutionized the milk pricing structure in the country (See Annex 8).**

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 context, 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 helps the group leaders in developing a plan of action, set the 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.

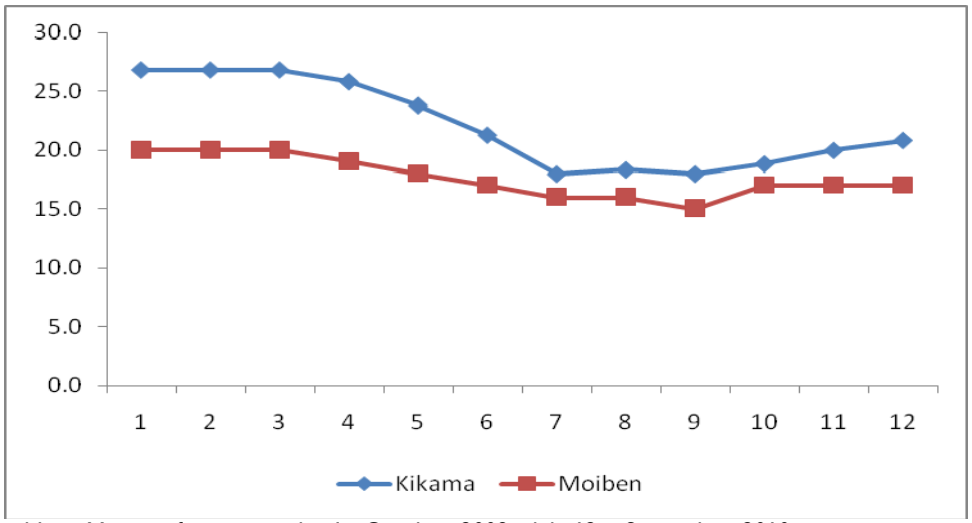
Results achieved and known impacts

This intervention has so far resulted in 13 marketing federations in the KDSC milk sheds 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 – after deductions by the cooperatives. From mid-January, this has, however, reduced due to a glut in the formal market. The decline in farm gate price was however significantly different for federated groups and the groups selling as individuals, with the federated groups getting a significantly higher price than the non federated ones as shown in the Figure 4.

Figure 4: Comparison of farm gate prices: Federated farmer groups (Kikama, Gatanga Milk shed) versus non federated groups (Moiben, Lessos Milk shed)



Note: X axis refers to months. 1 =October, 2009 while 12 is September, 2010.

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 has attracted more farmers[12] 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 partners[13] have also "donated" chilling tanks to these federations to help improve household incomes.

5. Farmers benefit from reduced input prices[14] as these federations buy in bulk directly from input suppliers.

[12] Abardares East farmer group in Gatanga Milkshed has seen its membership grow from 30 to over 520 in five months.
[13] The International Organization for Migration (IOM) donated a 10,000-liter cooler to one federation in Trans Nzoia Milkshed.
[14] 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 impact 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 (Erickson International – yet to be contracted) to empower farmers and come up with an umbrella farmers' organization to 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 (Annex 9).

3.2.2 Facilitated establishment of working linkages between SBOs and BDS suppliers, services and inputs

The program continued providing information on input supply sources, taking into account quality and affordability and linked producers with the suppliers, linked businesses/enterprises to financial service providers and helping the SBOs and service providers meet conditions to access credit, provided market information and market access services to the SBOs. Some of the specific activities and outcomes include:

Input Supply Services

KDSC interventions focused on linking SBOs to input suppliers and facilitating the provision of embedded services other than milk bulking and cooling by the SBOs working with the program. Where possible, the KDSC has advocated for the linkage between private service providers and the SBOs to avoid extra operational costs that accompany these investments. Selected achievements in the reporting period include:

- Facilitated a quality analysis of animal feeds currently in the market in Kabete Milk shed to identify good quality feeds in the year. This is expected to go a long way in improving animal nutrition and therefore farm level productivity in the Milk shed. Suka DFCS finalized an arrangement with Lens feed company to provide feeds to their farmers on a check-off basis in Nakuru Milk Shed.
- Facilitated linkages to enhance milk quality: In Ngorika SBO, four alcohol guns were purchased to enable better milk quality control. Each gun costs 25,000/=; In Suka SBO, an agreement to avail metallic milk equipment was reached so as to improve the quality of milk.
- Facilitated linkages for good breeding practices: 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). KDSC also linked Kiplombe Dairy Farmers Cooperative Society (DFCS) with Menengai Agrovets, who has provided an Artificial Insemination kit to the SBO on credit in Nakuru Milk shed. Six SBOs

also invested in Artificial Insemination kits in the reporting year. The six – Gikara and Wanjohi in Kinangop Milk shed; Koitogos and Marakwet in Trans Nzoia milk shed; and Tenwek in Kericho Milk shed. They are now able to supply over 4161 active member farmers with AI services on credit, among others.

- Facilitated linkages for disease and pest control; Linked members of Tarakwa DFCS to Ultravetis, an animal health products supplier. The company currently deworms all animals (dairy, beef and even vaccinates poultry) of member farmers with the cooperative recovering the money on a check-off basis. Linked Twiga chemicals and Ultraveic companies to groups in Lessos milk shed. The two companies will now provide vaccination services to the groups in the milk shed, as well as replenish drugs in the three dips in the milk shed on a continuous basis.

- Facilitated linkages aimed at sustaining milk quality: Ngorika farmers, Umoja Sotik, Tarakwa, Cherangany, Naitiri, Ngorika, Mathira (MIK), Baitany/Tinderet and Miharati installed cooling plants in the Year. The coolers were acquired through program facilitated linkages with processors (Happy cow, Brookside dairies and NKCC), and from loans acquired from Banks. Farmers have also put in some money to the ventures. This has expanded market access to over 10,385 farmers. **These farmers are now able to sell their evening milk and therefore increase their incomes due to the chilling tanks. This now takes the total number of cooling tanks installed/rehabilitated to 14.**

Box 2: The Program's Journey with Sotik Umoja Dairy: A success story using the BDS approach in a region where other development partners offer direct financial and material assistance to other producer groups

Sotik Umoja is a farmer-owned dairy company situated in Sotik District in Kericho Milk Shed. It has a total registered membership of 1900 farmers with daily milk intake of about 7,000 litres. The organization markets the milk on behalf of its members and constituent farmer groups. Our journey with the SBO started with an understanding of the business operations, taking stock of the resources already mobilized and also getting to know the progress with the implementation of work plans. The first meeting almost turned chaotic, and program staff were forced to adjourn the meeting after several futile attempts to explain the program objectives and operations. Given its unique BDS approach, it was not easy for the SBO members to understand how benefits would accrue from the program.

During the first meeting, we identified one member, Alice Ruto, the SBO coordinator, who was keen and could pick some of the KDCS program benefits from our short interaction. We utilized the welcome gesture and quickly organized another meeting with the SBO, this time with Alice Ruto and Chairman Mr. John Rono. We discussed at length and explained the program activities and its implementation model. This time round, the facilitator was able to get the business information for the SBO. The two officials were later to convene a meeting to brief the other SBO officials of the outcome of the visit. We later received a call informing KDCSP of the acceptance of the SBO members to work with the program and, again, we quickly arranged for action planning with them. The management committee and members' representatives were then engaged on an action planning process facilitated by the Team Leader, the Coordinator and the Production Specialist. From the action plan, development of a business plan emerged as a key priority, among other issues. This action plan would form the basis of a memorandum of

understanding signed between the SBO and program detailing activities to be undertaken and the responsibilities of both parties.

On 3rd May 2010, the milk shed rolled out the business planning process beginning with the business assessment facilitated by the milk shed's Business Advisor. This session was meant to understand the profitability of the current business operations and also undertake a SWOT analysis of the SBO. On 4th of May, 2010, actual business planning was done. During the process, the issue of a milk cooler project was suggested by the SBO officials as their preferred activity to expand their business and harness evening milk. This was followed by a complete business analysis, which revealed the milk cooler project to be a viable project.

After being taken through the business planning process, Alice Ruto had this to say, ***"When we first approached the Cooperative Bank for a loan, our priority was to buy a vehicle. The Bank requested us to prepare a business plan. We had no idea what this meant until we were taken through the business planning process by KDSC. Now we understand the process and why it is necessary and that a vehicle is not our priority, thanks to KDSC program. With this program, our society can go very far."***

On 14th May, 2010, the business plan was ready for presentation to the SBO officials and member representatives for approval and minor adjustments made. On 9th June 2010, the final business plan was handed over to the SBO and an action plan developed for its implementation. On 10th June, 2010, Alice Ruto handed over the plan to the Cooperative Bank for loan advancement to purchase a cooler. The bank accepted their request and has agreed to grant a loan worth KES 10 million towards the project, pending the outcome of the cooler site selection approval by NEMA.

The SBO officials together with the facilitator have since embarked on site selection assessment, NEMA and Public health assessment, land acquisition and finally construction. Currently, the process is at the NEMA and Public health assessment stage, after which land acquisition will start. Already quotations from the different cooler suppliers have been received, facilitated by the milk shed team and are set to be analyzed once through with site and land acquisition issues.

Umoja Sotik officials and milk shed team during the business planning session at the SBO premises.

Market Access Services

The program continued providing market information, facilitating market linkages, and engaged in market research for the producer groups working with program in the reporting period. Key achievements include:

- Market research was carried out in Trans Nzoia Milk Shed to assess the viability of marketing through DTA to counter the impact of low prices offered by processors to bulking groups in periods of excess milk supply, given the group's reliance on single processors when marketing their milk. Discussions are still ongoing with the DTA to establish the necessary structures. We are in the process of drawing a Request for Proposal to capacity build the organization on issues to do with milk handling among others for consumer safety. Progress will be reported in future reports.
- The program also provides market information on a monthly basis to all the SBOs working with the program. This entails collection of prices offered by the different processors in the country in all the program milk sheds. Some results include: Linked Kikama Milk Marketing Federation to East Africa dairy, who buys milk at 21/= per litre compared to New Kenya Cooperative Creameries (NKCC), which buys milk at 18.80/= per liter.

Provided Training and Technical Assistance to SBOs working with the program

Program activities also focused on developing business plans for the SBOs working with the program and training of the management committees. Activities and the accomplishments in the reporting period include:

- Facilitated business planning for 62 SBOs in the Year. 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 effort has enabled 14 farmer groups with 9627 active members to access credit in the reporting period for investment in various equipments – milk transport vehicles, coolers, construction, among other things. To make the plans more attractive to prospective investors, including formal and non formal financial institutions, we have hired Kenya Industrial Estates (KIE) to review them with a view to investing in at least ten of the SBOs (See http://www.kdairyscp.co.ke/documents/RFA_51_Business_Plans_Development.pdf).
- Facilitated strategic planning for seven producer groups to enable them to comply with government regulations in the period.
- The program carried out training for management committees of **all** farmer cooperatives working with the KDSC in the reporting period through business performance review workshops, training in business and financial management, commercial/co-operative law, dairy record systems, milk-cooling operations, artificial insemination project management, and merchandise management. **All famer groups working with the program have now had their committee officials trained. This is expected to improve management at the farmer group level, resulting in greater benefits to member farmers.** The cooperative officials have also been taken through the revised cooperative act and given copies of the act as well as manuals on management.

3.2.3 Facilitated capacity building of over 18,702 dairy farmers in the year

Program interventions focused on training dairy farmers in the milk sheds 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. To stabilize milk yield and farmer incomes, a key emphasis area is on-farm demonstration on feed conservation techniques to enable smallholders to 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 **18, 702** farmers in the year. **This now brings the total number of farmers trained by end of Year Three of program operation to 51, 202 against a target of 90,000 farmers by end of Year Three of program implementation.** We aim to surpass the target by close of Year Three.

Key approaches that have increased number of farmers trained in the reporting period include:

- The establishment of 118 Livestock Farmer Field Schools (LFFS) with a membership ranging from 25 - 40 farmers. Farmers meet once each week;
- The setting up of 85 demonstration farms;
- Farmer exchange visits – the program facilitated 20 exchange visits in the year
- Use of field days
- Use of Agricultural Society of Kenya shows; breeders shows, etc.

Going forward, we aim to set up at least 2 LFFSs in each of the SBOs working with the program. This is because of the observed high likelihood of farmers to adopt technologies and/or management practices that they are exposed to in the LFFS[15]. Data we have collected over the years indicate that all farmers adopt at least one technology/management practice that they are exposed to in the LFFS.

Two key challenges that have contributed to the lag in meeting the targeted number of farmers trained are the program design that requires private service providers to be the ones who train farmers. Majority of service providers still do not see value in training farmers and want to be paid by the program. The service providers who appreciate extension provision have, however, taken this up and are training farmers as part of business promotion.

The second challenge has been the low milk prices that have been prevailing locally since January of this year. Farmers have been complaining of the low prices or even non collection of milk by processors in some instances, and ask why we want them to increase production when their milk will not be collected. Very few farmers attend program-organized training events. This is, however, changing with the slight increase in milk price and the program efforts in identifying alternative markets.

KDSC interventions targeting farmer capacity building have been received very well by beneficiaries as illustrated in Box 3 below.

[15] This was a best practice carried forward from the Kenya Dairy Development Program (KDDP).

Box 3: "The little things promoted by the KDSC program have changed my life forever."

At 30 years of age, 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 says. "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 310 members in September 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**

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 program reported **increased yields of 8.0 liters / cow / day on average in the year (average of wet and dry season)**. **A significant proportion (37.3%) of farmers working with the program registered gains in yields way above the sample average**, while ***14.9% recorded yields above the Year 3 target of 13 liters/cow/day***.

  Some milk sheds such as **Kabete and Lessos,** where farmers have aggressively taken up KDSC's feeding and husbandry practices achieved yields above the sample average as shown in Table 1. Cumulatively,[16] cow productivity has now increased from 6.5 liters / cow / day observed at baseline to **7.5 liters per cow/ day— a 15% increase**. Analysis by sex and age of household head reveal that the youth have been the biggest gainers, realizing a 45% increase in productivity, followed by male headed households at 26%. Women headed households have also recorded considerable gains in productivity, moving from 6.36 to 7.6 liters/cow/day, a 19% increase.

  Milk sheds in the Rift Valley Province have also recorded very impressive gains in productivity compared to those in central Province. The biggest gainer has been Lessos Milk shed, recording a 65% increase in productivity, followed by Nakuru and Trans Nzoia milk sheds, with gains of 52% and 19% respectively. This can be attributed to market linkages accomplished by the KDSC program. As previously discussed, access to markets can greatly improve farm level productivity. One of KDSC's key activities in the Rift Valley Province has been to organize farmers in to groups and integrate them in to the formal marketing chain. This is also aimed at increasing the volume of milk marketed through the cold chain – to improve milk quality and enhance consumer safety. Considerable progress has been realized on this front as evidenced by Annex 9.

[16] 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: Yield[17] - 2010 and cumulative program figures

Respondent Category	Mean Yield (Lts/cow/day), 2010 wet season	Mean Yield (Lts/cow/day), 2010 dry season	Average yield in 2010 (Lts/cow/day)	Proportion of farmers realizing yields above 8.1 liters /cow/day (%)	Farmers realizing yields above Y3 target (≥13 liters /cow/day (%)	Cumulative moving average (liters /cow/day (%)
Baseline – August, 2008	*6.5*	*6.5*	*6.5*	*6.5*	*6.5*	*6.5*
Whole sample	**7.9**	**8.1**	8.0	**37.3**	**13.9**	7.5
Sex						
Male	7.9	8.13	8.0	38.1	**14.2**	7.5
Female	7.4	7.89	7.6	34.3	**12.5**	7.2
Age of farmer						
Youth	7.1	8.22	7.7	35.6	**12.9**	6.9
Above 30 years of age	7.8	8.06	7.9	37.5	**13.8**	7.4
Milkshed						
Nyeri	8.0	7.01	7.5	26.3	**6**	7.3
Gatanga	7.18	8.05	7.6	37.4	**11.4**	7.4
Kabete	10.0	10.6	10.3	61.2	**26.3**	10.4
Lessos	8.3	11.16	9.7	58.9	**36.6**	8.5
Transnzoia	7.4	6.74	7.1	27.1	**6.5**	6.7
Kericho	6.8	5.54	6.2	11.4	**1.7**	6.1
Nakuru	7.0	7.91	7.5	38.5	**13.5**	6.6
Kinangop	8.1	8.08	8.1	42	**11.5**	7.2

- Reduction in cost of production: 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), bore fruit as the cost of milk production reduced to **Kshs. 10.50 in the year (Table 2).** The program has now realized a **26% reduction in cost of milk production in the three 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.

[17] 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 milk sheds. These farmers did not purchase feed supplements – see cost of production figures –and therefore realized only marginal increases in yield compared to last year (August 2009). Farmers in other milk sheds, especially those 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 production[18] - 2010 and cumulative program figures

Respondent Category	Cost of production (Kshs. Liter) – wet season	Cost of production (Kshs. Liter)- dry season	Average cost of production in 2010 (Kshs. Liter)	Farmers operating below Kshs 11.10 /liter (%)	Cumulative moving average
Baseline – August, 2008	***Ksh. 14.20***	*14.20*		*NA*	*14.20*
Whole sample	**9.90**	**11.10**	10.5	**66.6**	12.3
Sex of household head					
Male	9.70	10.80	10.3	67.6	11.9
Female	10.80	12.40	11.6	63	13.6
Age of farmer					
Youth	6.50	8.80	7.7	74.6	9.4
Above 30 years of age	10.02	11.30	10.7	66.2	12.5
Milkshed					
Nyeri	15.80	14.96	15.4	51.4	17.8
Gatanga	12.40	12.00	12.2	58.4	13.4
Kabete	7.70	19.40	13.6	30.2	17.3
Lessos	7.40	7.6	7.5	85.4	9.0
Transnzoia	9.10	10.7	9.9	71.5	11.2
Kericho	11.40	5.50	8.5	88.7	9.0
Nakuru	9.60	9.20	9.4	75	11.9
Kinangop	6.50	10.6	8.6	68.4	10.5

- In addition, we have observed a significant rise in the proportion of farmers who have established fodder crops. The weather in the third year has largely been favorable for fodder establishment and therefore farmers have invested in fodder crops as shown in Table 3. Overall, 98.4% of farmers have established fodder crops in Year 3 compared to 79.5% at baseline.

Table 3: Proportion of farmers establishing fodder crops/trees

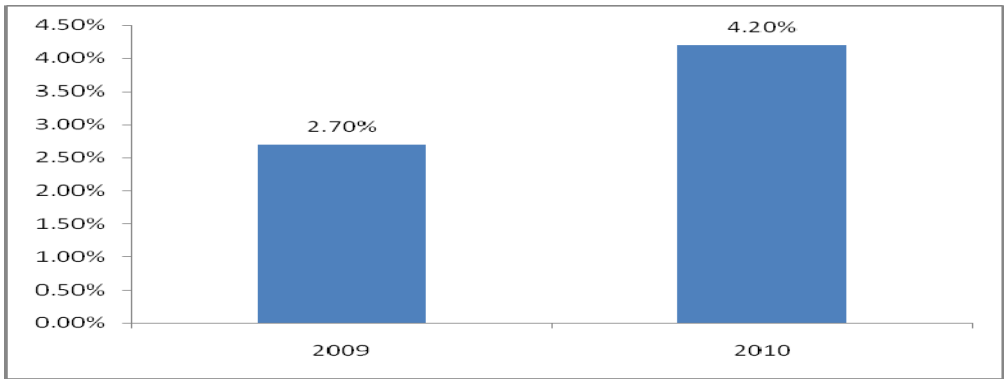
Proportion (%) of farmers planting	Baseline (%)	2009 (%)	2010 (%)	**Cumulative moving average**
Napier	79.5	81.6	82.1	**81.1**
Desmodium	2.1	4.0	0.6	**2.2**
Rhodes grass	7.3	13.9	21.1	**14.1**
Lucerne[19]	3.7	2.1	4.8	**3.5**
Fodder trees	2.1	1.3	1.9	**1.8**
Fodder sorghum	1.0	1.7	3.2	**2.0**
Caliandra 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**

[18] 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 milk shed. 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.

[19] 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. 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 5: Trend of uptake of fodder maize



- All farmers working with the program have reported using some form of program-promoted feed conservation technology (silage, crop residues preservation or 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 has also realized impressive progress in gross margin levels over the three years. **Cumulatively, average gross margin has increased by 41% over the three years of program operation, surpassing the program target of 24% (Table 4). Program milk sheds in the Rift Valley Province again have recorded very impressive growth in gross margins over the program implementation period, with most of them realizing double digit gross margin figures. This is also reflected in incomes, where farmers now realize Kshs. 5094 per month (Table 5), an increase of about 149% compared to baseline – result of the slight increase in productivity, reduction in cost of production and increase in average price compared to baseline.**

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

Respondent Category	Gross Margin (Kshs/Liter) -wet season	Gross Margin (Kshs/Liter)- dray season	Gross Margin (Kshs/Liter)in 2010	Cumulative moving average (Gross margin)
Baseline – August, 2008	***5.80***	*5.80*	*5.80*	*5.80*
Whole sample	**7.50**	**8.8**	8.2	**7.8**
Sex				
Male	7.70	9.1	8	
Female	7.50	7.5	7.5	
Age of farmer				
Youth	9.60	11.16	10.4	
Above 30 years of age	7.40	8.64	8.0	
Milkshed				
Nyeri	4.80	3.04	3.9	
Gatanga	4.50	7.60	6.1	
Kabete	10.60	3.31	7.0	
Lessos	12.20	13.7	13.0	
Transnzoia	9.70	8.3	9.0	
Kericho	4.0	14.3	9.2	
Nakuru	6.20	10.1	8.2	
Kinangop	8.30	9.44	8.9	

Table 5: Household income: 2010 and cumulative program figures

Respondent Category	Household income (Kshs/Month) -wet season	Household income (Kshs/Month)- dray season	Household income (Kshs/Month)in 2010	Cumulative moving average (Kshs/Month)
Baseline – August, 2008	***2043***	*2043*	*2043*	*2043*
Whole sample	**4849.9**	**5338.7**	5094.0	**4269.3**
Sex				
Male	5206.2	**5536.5**	5371.4	
Female	3703.3	4596.8	4147.1	
Age of farmer				
Youth	4535.6	5279.6	4907.6	
Above 30 years of age	4857.6	5342.8	5100.2	
Milkshed				
Nyeri	2369.7	1834.4	2102.1	
Gatanga	1708.7	3430.7	2569.7	
Kabete	8157.9	4231.4	6194.7	
Lessos	9024.7	10660.5	9842.7	
Transnzoia	6772.1	5569.9	6171.0	
Kericho	1426.8	5289.6	3358.2	
Nakuru	5326.9	6560.0	5943.5	
Kinangop	4220	5162.7	4691.5	

- 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 70.1%) compared to the baseline proportion (39.9%)**. Distribution by beneficiary category (gender, age and milk shed) is shown in Table 6.

Table 6: Artificial Insemination technology adoption (2010)

Respondent Category	Technology adoption - AI (%)
Baseline	*39.9*
Whole sample	**70.1**
Sex of farmer	
Male	69.6
Female	72.1
Age of farmer	
Youth	47.1
Above 30 years of age	71.5
Milkshed	
Nyeri	96.4
Gatanga	93.7
Kabete	95.3
Lessos	44.6
Transnzoia	59.9
Kericho	29
Nakuru	46.8
Kinangop	89.2

Box 4: A family finds a stable income stream in dairy farming and uses this to take son through University education

Some of the key benefits that program beneficiaries want from the program as revealed by our qualitative indicator identification exercise are to be able to pay school fees for their children and to have more time to attend to other chores. This is what Mr. and Mrs. Kimno, father and mother of two, currently credit the KDSC program for. The Kimnos own a five-acre piece of land in Kipsombe location and are members of Tarakwa dairy cooperative society. As a small-scale dairy farmer, Mr. Kimno and his wife practice mixed farming—food crops and dairy farming. He has been in the dairy farming business for the last seven years and is one of the breeders in Tarakwa farmers' group. In addition, he is the secretary of Kipsombe dairy group. He says he has achieved so much in the last two years due to his association with the program.

Mr. Kimno's dairy enterprise has undergone extensive improvements since 2009, when he started engaging with the program. Initially he was practicing a free range system of management but has since upgraded to a semi-intensive system of management. He now ensiles maize (started last year), has planted various fodder crops and grasses—including bhoma rhodes, lucerne, desmodium, napier grass, fodder maize, sesbania, and sweet potato vines and no longer discards crop residues from his farm (maize stovers, beans straws, and millet stovers, among others), which he preserves. ***"I do not waste anything from my farm,"*** he says. Mr. Kimno also benefits from the linkage facilitated by the program between Tarakwa DFCS and Ultravetis, an arrangement where the company deworms his dairy animals on a regular basis with the cooperative recovering the money on a check-off basis. ***I currently use imported semen to inseminate my cows***," he proudly says as he points at Mrembo (Beautiful), his favourite dairy cow, who produces 19 litres per day. In his own words, *"Vile mnatufunza ndio tunafanya* ("We implement what we learn from the program)."

Nathan's dairy herd comprises four cows. Two are currently lactating and produce about 29.5 litres per day, one cow is dry and one is a heifer. This earns him about KES 10,000 per month. His devotion to dairy farming has been given impetus by the capacity building efforts facilitated by the program in the following areas: pasture and fodder establishment, breeding management, calf

rearing and group management. In addition, he has also participated in the milk shed working group meetings representing Tarakwa and Kipsombe groups. He was facilitated by KDSC to attend Brooke side breeders' show and a farmers' tour to Kabiyet dairy, which inspired him to ensure Kipsombe dairy federation succeeded in marketing its farmers' milk. Through the KDSC capacity building activities, he has taken up service provision. The program is working closely with him to have his farm upgraded and used as a demonstration farm in the milk shed. After seeing the improvements, the Ministry of Agriculture has also approached him to use his farm as a demonstration farm.

This positive change, both in income and animal husbandry practices means different things to Mr. and Mrs. Kimno. To Mr. Kimno, the benefit is being able to pay his son's college fees***: "I use the dairy income to pay my son's college fees. This is money I never touch. Before, it used to be higher, up to KES 12,000 a month, when we were being paid quantity bonuses by NKCC, but it still enables my son to go to college without being sent home for fees."***

To Mrs. Kimno, who manages the enterprise, including feeding the cows, time saved attending to their cows, including feeding is very important: "***Now I do not have to walk after the cows along the roads. I just put feed in the trough and continue with the other chores! My workload has greatly reduced and I now get time to rest. I used to get so tired when using the free range system. Even the cows never used to get full! It (tending the cows) is more tiring than tending the farm."***

They now plan to build a zero grazing unit.

Mr. Kimno standing next to his crop of fodder maize. Out of the five acres, the dairy enterprise accounts for three acres—fodder maize, caliandra, sweet potato vines, boma rhdes, napier, Lucerne, desmodium are the other fodder crops he has established in the farm.

Mrs. Kimno feeding the dairy animals. She says she now gets time to rest and attend to other chores after moving from free range to a semi-intensive feeding system.

The couple standing on top of underground silage they made last year.

3.3 Component Three: Increase availability of dairy Business Development Services (BDS)

The KDSCP implementation method focuses on building capacity of BDS providers, that is, switching from assisting micro enterprises directly to ensuring sustainable access to services, via 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 one or just a few, and also building capacity of the providers to offer a range of services (with some embedded), rather than just one for increased effectiveness. In the third year, we recruited; capacity built and linked **324 new service providers to the SBOs working with the program. This now takes the total number of BDS experts who provide additional services to 619 against a target of 250 by end of year three of program implementation**.

Linking private service providers to farmer groups and facilitating signing of contracts between the two entities that requires the private BDS experts to provide services and be paid on a check of system has proved to be a very viable system of operating. Program facilitated business analysis of the SBOs often reveal huge operational losses, which in most cases occur as a result of the services and products other than milk bulking and cooling. Linking the groups with service providers who do not require retainer and transport allowances is therefore a cost-cutting approach that a number of the groups working with the program have embraced. Service providers have also benefitted immensely from this arrangement, with some recording considerable growth in business volumes. **Number of farmers accessing BDS services and inputs now stands at 115,007[20] against a target of 130,000 by end of year 3 of program implementation. We aim to surpass the target by end of Year 3.**

Program interventions in the year focused on:

- Training on business and enterprise management; feed 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 new business opportunities in dairy farming.
- Training on presentation and customer care
- Linkage with financial service providers for loans for BDS providers who need to expand their businesses or increase efficiency of service. A number of artificial insemination providers have benefitted from loans from both banks and micro finance agencies and bought motorcycles to expand their areas of coverage and to reduce time lapse between when they are called and when they serve farmers. This has an impact on conception rates.
- Facilitating platforms/interactions between micro and small enterprises and nontraditional financial service providers such as fund managers, investments banks and other development programs to enable them access innovative financial services and products that are tailored to meet the their needs, among others.

[20] This is the number of active farmers in the SBOs working with program (Both year 2&3) and does not include estimates (by SPs) of other farmers reached who are not members of farmer groups working with the program.

Program efforts have ensured that all active members of farmer groups working with the program have access to BDS services, technologies, inputs, and management practices. Selected accomplishments in the reporting period include

- In the year, the program provided technical assistance to Lari Alliance, a milk processing company in Kinangop Milk Shed, towards preparation of a business plan which was subsequently submitted to BID Network Foundation, an organization that seeks to promote entrepreneurship in the growing economies of Africa, Asia and Latin America. The business plan was reviewed and found to present great potential. The company representatives were then invited to a match making conference to meet potential investors in the Netherlands between the 28th of May and 5th June 2010. KDSC is still working with the company to realize funding for the plan. Details are presented in Annex 9.

<u>Linked SBOs and Service Providers to Financial Service Providers</u>

- Tarakwa DFCS, with a total active membership of 702 acquired KES 1.5 million to acquire a lorry that they will use to transport their milk to NKCC through program linkage with the Kenya Commercial Bank (KCB). The lorry was purchased in the quarter. This will save farmers an average of KES. 3 and up to KES 4 in some cases per litre of milk.
- Umoja Sotik Dairy acquired KES. 12 million using the business plan done in collaboration with the program in the reporting period. The SBO has a total membership of 1900.
- Gatundu Dairy Farmers Company in Kabete Milk Shed purchased a lorry in the year, using a KES 1.5 million loan. The company has a total membership of 283 as of end of June 2010.
- Linked Mr. Joshua Jumba Boyi, an Artificial Insemination provider in Trans Nzoia Milk shed with Faulu Kenya. The 41-year-old father of four acquired a loan of KES 80,000, which he has used to buy a motorcycle to start his AI business. Previously, Mr. Boyi was employed by Seum farmers cooperative and was earning a salary of KES 3,500 per month. After attending program training sessions on new business opportunities, and being a trained AI provider (trained in 1991) he resigned and started his AI business in June, 2010. So far, he has managed 220 inseminations, earning a gross income of KES 187,000 (about US$ 2493), minus fuel he charges customers who are far away. ***"My firstborn is in class eight and I had to start thinking of how to educate her, he says. The program has opened my eyes. With the training and the marketing of my services that the program does, I am now sure I will manage."*** Mr. Boyi provides AI service in an entire division (Cherangany Division) and is currently actively engaged in farmer training/extension.

Mr. Boyi displaying his new mobile office. "My firstborn is in class eight, and I had to start thinking of how to educate her, he says. The program has opened my eyes. With the training and the marketing of my services that the program does, I am now sure I will manage."

The total number of farmers receiving loans from financial service providers is now 28,628 against a target of 27,000 by end of Year Three of program implementation. We have instituted adequate sensitization and trainings on dairy farming as a business to help us achieve and surpass the target before the year ends.

Training of Service Providers

All the 619 service providers working with the program attended some program facilitated training in the year. The two critical trainings conducted were – new business opportunities and another on customer care. Other specific trainings carried out in the year include:

- Facilitated training of 26 Livestock Farmer Field school facilitators in the year. These service providers will coordinate activities in 26 LFFS in Kericho Milk Shed and thus ensure that the quality of this extension approach is guaranteed. Our records and experience indicate that all farmers attending LFFS adopt at least one technology that they are exposed to. We aim to train LFFS facilitators in all milk sheds before the year ends.
- Trained 47 service providers in cow inspection. These service providers now offer this service in the entire country, and have contributed to a large extent to the increased cow registration in the country.
- Trained 24 service providers on silage making in Gatanga Milk Shed. This is expected to increase the number of service providers who can ensile to ensure that farmers make quality silage.
- Facilitated training of cattle dip attendants in Kinangop Milk shed
- A considerable increase in business volumes and revenues has been observed for BDS providers working with the program. In Nakuru Milk shed, Molaplus has reported an increase in sales revenues from Kshs 9000 per month to over Kshs 38,000 in Njoro area. He says 'It is this increase in sales after training that makes us zealous to respond to invitation by the program to train farmers. It had been hard for us to penetrate Njoro area in the past'. During the month he was able to sell 350 kg in Njoro and Mutaro area. Each Kilogram is Kshs 120 making total sales of 42,000.

It is this increase in sales after training that makes us zealous to respond to invitation by the program to train farmers. It had been hard for us to penetrate Njoro area in the past.
- Mr. Abwere, Mola Plus Limited

We have surpassed the targeted number of service providers providing new BDS services (619 against a target of 250 by end of Year Three of program implementation).

Box 5: 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 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 year. He has been providing AI services for the last three years, where he was inseminating on average about 26 animals a month. 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 inseminates 75 animals per month on average as opposed to a paltry 26 animals a month 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. "Sukiat AI and Agro (his business name) is a well-known outlet in Kessess 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, Sukiat AI and Agro, in Cheplaskei, Kessess Division, Lessos Milkshed near Eldoret Town. He says he serves farmers in the whole of Kessess Division.

2.4 Environmental Degradation Mitigation Measures

Activities to mitigate management practices—farm, service providers and at bulking centre level—that may result in environmental degradation were also emphasized in the year. The 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:

2.4.1 Training on alternative pest control and on storage, use and disposal of pesticides

Farmers were sensitized on 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 neighbors.
- 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 **2500** farmers were reached with these messages in the year.

<u>At service providers' level, agrovets and other service providers were:</u>

- Sensitized on proper use, storage and disposal of pesticides/acaricides. They were also encouraged to get Pest Control Products Board (PCPB) certification for their 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 in the year included:

- Providing advice 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.
- Training dips attendants on the importance of using the different classes of acaricides to avoid ticks developing resistance.

- Encouraging dips attendants to be in constant consultation with the District Veterinary Officers (DVOs) for advice especially when new pest control products are introduced in to the market.

2.4.2 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.

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

The program continued promoting use of biogas as a source of energy instead of fuel wood. Bio-gas digesters in addition contribute to reduction in women's labor thus enabling them to engage in other activities, including leisure. Given the high cost of this technology, the KDSC program is now actively pursuing a partnership with other development partners to provide affordable digesters in the program milk sheds. Program efforts have realized modest gains, with a slight increase in the proportion of farmers investing in biogas digesters recorded, from 0.3% at baseline to 1.3% currently (2010). Given the cost of a biogas digester, we are working with other development partners, specifically the German Technical Corporation (GTZ) t have more farmers adopt the technology.

Biogas installation at Mrs. Mary Mutai's farm in Tras Nzoia Milkshed (Left) and at Maina Kagwe's farm in Gatanga Milkshed

2.4.4 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 Central Province where farmers generally have small land parcels (sometimes 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 (See Table 3).

2.4.5 Encouraged certification from government agencies

At the bulking/cooling centers, the KDSC program worked with the farmer groups to acquire certification from three key regulatory institutions.

- **NEMA Certification:** Sensitized 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.

Achievements in the reporting period include:

- Program efforts to eradicate open grazing, especially roadside grazing, has seen this practice reduce considerably. Proportion of farmers practicing open grazing has since reduced from 27.7% at baseline to 23.1% currently.
- Helped revive 14 dips in the year
- Ensuring that SBOs working with program who want to install cooling plants or to construct housing structures to pursue National Environmental Management Authority's (NEMA) approval. As previously stated, we assisted Umoja Sotik Dairy, which is planning to set up a cooling plant to acquire NEMA approval before starting construction.
- Proportion of farmers establishing fodder has increased from 79.5% at baseline to 83% currently. 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.

- Encouraging agro-forestry in benefiting farmers' farms: Helped set up tree nurseries in various farmer groups. The tree nurseries will enable member farmers to access affordable fodder trees to plant in their farms.

Tree nursery at Tarakwa DFCS

3.5 Gender

The program makes an effort to include both genders in implementation. All KDSCP facilitators are taking seriously the issue of gender balance at all levels of operation – farm, SBO and at service providers' level. Through sustained advocacy for inclusion of women in management committees of SBOs working with the program, most SBOs currently have women as members of

their management committee. In the year, Ihururu farmers' cooperative in Nyeri Milk shed, which has never had a woman in the management committee since its inception agreed to allocate three slots for women in their upcoming elections. This will mark the first time that women will be members in the cooperative board.

Our efforts to ensure involvement and inclusion of both genders in program activities and sharing of benefits have achieved mixed results as indicated by the 2010 annual survey results (Box 6).

Box 6: Beneficiary views on gender inclusion and sharing of benefits – Kipchamo DFC, Trans Nzoia Milk shed

Women meeting

Farmers are aware of the KDSCP program. They stated that it involves learning about dairy enterprise management. They say that through this project, they had received trainings in many technologies and management practices and how to make income through dairying. Some of the benefits cited by farmers in the discussions were as follows:

- Farmers were feeding their animals well and had increased milk production, which was translated to increased household income.
- Farmers are using AI, which had resulted in most of them having improved calves. They were waiting to experience increased milk production from the cow when the time comes.
- They have been able to reduce the cost of production through formulating their own feeds. Most of the feeds that they are using on their animals are not bought. They now preserve crop residues which, before the project they used to throw away, burn or sell cheaply to middle men.
- They get income from milk in bulk at the end of the month, which enables them to use it for substantial needs, unlike before when they use to get in little bits every day selling to informal milk traders.
- Farmers also access credit and buy inputs, pay school fees, buy dairy animals, etc. They are also able to diversify their businesses with the loans they get.

Men and women have benefited in different ways as follows:

- Women are able to plan their time well and work has been made easier. This is because these days they are knowledgeable and no longer waste their time in gossiping but use it to make money. They also have saved time through adopting zero grazing where they spend less time feeding animals, unlike before when they had to take the animals for grazing the whole day. They can now use the time saved to attend group meetings and do other beneficial activities.
- Women are now engaging in poultry production because they are able to acquire a wire mesh though the loans.
- The dairy business is now able to pay for an employee on the dairy enterprise which frees the farmers' time, especially women for leisure and for doing other productive activities.
- Daughters who have children at home but are not married spend their time on the dairy enterprise, which reduces their time roaming around and the risk HIV.
- Women are now able to make savings of their own, which has empowered them to take care of the household.

Technologies and management practices have changed since they got involved in the KDSC project. Because of zero grazing, now women have more time and are now doing other things apart from dairying. The animals are now given feed in what they call self service, which lessens time spent on feeding them.

In some households, both the spouses control the income from dairy, while in some it is the mother of the house. In the later case, she ensures that the animal receives good veterinary care and the other requirements, but the animal itself belongs to the father of the house.

In Kipchamo, it is the female who mostly makes decisions concerning dairy investments. The mothers of the households have now learned through the project and are now able to plan about their dairy enterprise. Planning of the investment in the dairy enterprise is mostly done by both the spouses.

Service providers in Kipchamo are addressing male and female farmers equally. Before the program, farmers used bulls but now they are using AI and getting more milk. AI is now easily accessible since they now know where the service providers are and realized that the cost is not high compared to the benefits. They are also able to access animal health services easily. When service providers are called by farmers when needed, they come as agreed, unlike before the project when there used to be no competition. The services can now be accessed on credit and payment deducted from the farmer's milk revenues. Before the program, they did not know that the dairy support service existed. Currently, access to these services is equal to both male and female farmers. There is also no difference in preferences in terms of quality of dairy inputs that the male and female farmers purchase.

Access to technical skills for dairy farming as facilitated by the KDSCP project is equal for both male and female farmers. This is because whenever there are farmer trainings organized, they are attended by both male and female farmers. Before this program, only men used to go for the trainings. These days, men have seen the contribution of women in the dairy enterprise such that they no longer view attendance of trainings by women as a waste of time. They therefore allow their women to take time off household chores and go for trainings. Every time the women attend the trainings, there is a positive change in the household. There are many things that they no longer buy but now own in the household, e.g., vegetables, firewood, etc.

Farmers stated that it is now green everywhere unlike before the program. They claimed that they have been taught about preserving their environment. They said that they are now planting trees on their farms. They have tree nurseries on their farm, from which they sell seedlings, plant trees for sale and firewood, etc. There is no longer stealing of firewood from neighbours, and there is peace n the community. Cow dung from the animals is now being used for biogas production, or put in Napier. They have also reduced the number of animals that they keep, hence reduced overgrazing. They have disposed off the low-quality dairy animals and replaced them with few high milk producing animals. They also do not take their animals everywhere for grazing but practise zero grazing, paddocking or tethering. Hence cow dung is not spread everywhere. Farmers also claimed that they no longer spray their animals from anywhere, and they also dispose chemical plastics by burning or burying in pits to avoid environmental pollution.

Decisions made in the cooperative are made from the grassroots. Some of such decisions as cited by farmers were, e.g., interest rates on loans, the bylaws, future investment plans, etc. They for example had agreed to invest in milk cooler.

Men's meeting

Men in Kipchamo stated that they are all aware of the KDSCP project and its functions in their community. They said that the project is involved in the following:

- How to get income from dairying
- How to make dairying a profitable enterprise
- How to plant animal feed
- How to manage dairy animals

Benefits mentioned by men were:

- They used to get little milk; for example, there was one who used to get 6 litres but increased to 18 litres within only 3 months. This is because they started planting Napier and boma Rhodes for their cows. This is also because they have improved in animal management, e.g., animal health, feeding, etc.
- They are now using AI and most of them have improved calves which they are waiting on to experience more increase in milk production.
- They have reduced costs of production through using their own feeds which they used to waste before the project. They have become aware that they have so much feed for their animals within the household e.g. star grass, bean husks, maize stalks, sweet potato vines, maize stovers, and other crop residues. They are also able to formulate their own feeds and store e.g. silage and bail hay.
- There is reduced death of animals because they have improved in management. They no longer talk of their animals being bewitched.
- Bulking milk has also reduced milk marketing costs and increased their revenues from milk.

Men and women have benefited in different ways as follows:

- Men have been relieved in terms of fees payment for their children which now is able to be taken care of by income from the dairy enterprise. They can take credit from the bank and pay from the dues they get from milk. Before the project, money coming from milk was not substantial and the men never used to concern themselves with it. It was not that helpful to the household.
- Women are now being helped by men to work on the dairy enterprise which was not the case before the program. This is because men have now seen the benefits of the dairy enterprise.
- Women in some households have the evening milk left to them to control. With the increased milk production, women are able to take care of many other household needs.

Adoption of animal husbandry practises has been the same for men and women farmers. This is because both sexes attend trainings without discrimination. The practices learned are also affordable by all farmers at all levels of resource endowment. The men farmers were also in agreement that technologies and management practices had changed since involvement in the program. For example use of zero grazing has freed much of their time to be used on other productive activities. This is mostly applicable to the women house hold members who are the ones mostly involved with the feeding of the animals and the hired labour, both male and female alike.

Control of the income from the dairy enterprise from most households has now changed to both spouses being involved. This is because before the project, only women were taking care of the dairy animals and the production was low. It was therefore the women who controlled the

income from the same. But now there is increased income and they are now both involved in the control of the proceeds. Men now spend time on the farm since they can see the income from their time spend on the farm. Men have also realized that before the project, they had to pay for everything for the household but these days the women are helping in many ways e.g. planting firewood, vegetables, etc.

Investment decisions in the dairy enterprise in the households are done by the female if the male counterpart is not present, for example if he works and stays far from the farm. The man can also ring and give directives to the wife to call a vet etc. The use of money from the enterprise is mostly done together.

Service providers in Kipchamo are addressing both male and female farmers' needs equally. They claimed that access to dairy support services had increased compared to before the involvement in the project. Otherwise, before the project, they used to hear of it but never used it. This is for the example the AI services, de-wormers, health services etc. They also stated that the service providers are now many and can come to serve them if called even on a Sunday. Access to these services is the same for both male and female farmers. Preferences in terms of quality of dairy inputs that they purchase are the same for women and youths hence the impact on productivity is the same for all.

Access to technical skills for dairy farming as facilitated by the KDSP is equal both men and women farmers. This is because all the courses offered are attended by both male and females. This was not the case before the project because in those days, trainings in dairy skills were offered during barazas which were attended by men only. These men could then not be able to transfer the knowledge gained to their female counterparts who were taking care of the animals. They claimed that with this current project, training is offered at farm level where even the women are able to attend. The men have also seen the benefits of their wives attending the trainings hence they allow them to spend time away from the household and gain the knowledge.

Men farmers claimed that they had improved in taking care of their environment. That is because these days:

- They dispose chemical cans in pits,
- They have de-stocked and are now keeping few high producing animals hence no more overgrazing.
- They are practising paddocking and the animal is not everywhere
- There is much feed available hence no overgrazing
- They are planting trees
- They boil their milk well before use
- They always boil water before consumption
- They always keep milk handling equipments clean.
- They wash their hands before milking
- They sieve milk before use
- They do not drink raw blood anymore
- They are taking good care in order not to contract brucellor through the nose etc.

Decisions in the cooperative are done by all members from the grass root level. These include reports from other places. Even that days' meeting, was an agreement reached by all members on who was to be chosen to attend. The management committee did not impose on them the list of the attendants of the Focus Group Discussion (FGD).

3.6 Challenges and how addressed

A number of challenges were experienced in the reporting period. A sample includes:

Challenge: Volatile milk market: The main challenge in the year has been the inability of the dairy milk processors to absorb all milk produced by farmers, leading to non collection of milk in some cases, low milk prices and delayed farmer payments in long periods of the year.

Formal milk traders responded to the excess milk supply by reducing prices – in some cases by up to 47% compared to price last year. This has led to a number of farmers who were previously selling through the formal milk market via SBOs working with the program opting to sell to informal milk traders. This has implications, especially on sustaining the realized farm-level productivity gains, household incomes—given the fluctuating/volatile manner of prices offered and reduced farmer bargaining power and on consumer safety due to the unhygienic manner in which some informal sector traders handle this milk. Farmers working with the program resorted to non recommended management practices – e.g. not supplementing animal feeds – thus lowering their yields and income. They in addition failed to turn up for scheduled program raining events, claiming that we did not have a market for the increased production which would result from them adopting program promoted management practices and technologies.

How addressed: The KDSC program initiated a number of strategies aimed at expanding the processed milk market – both domestic and export. We launched the milk quality improvement program and laid the foundation for a sustained consumer education in the year. We have in addition started negotiations with the Dairy Traders Association to help build capacity of informal milk traders.

Additional requirements: The program may require additional resources for a sustained consumer education campaign to help expand the domestic market size for processed milk in the country. From past experience, consumer education/milk consumption campaigns are very expensive activities and running a sustained one may not be feasible under a project like KDSCP with multiple objectives.

Other persistent challenges from previous periods include:

BDS concept: The farmers are used to donors who give money and not information and linkages. While some farmers and enterprises working with the program have come to embrace the concept, there are some who are still resistant.

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 equipments. Some stakeholders still expect payments from the project for attending capacity building sessions, while some service providers demand payment to train farmers, for example.

3.7 Lessons Learned

- Interventions targeting expanding the processed milk market and diversifying raw milk markets are imperative to ensure consumer safety and if the productivity increases that have been realized at farm level are to be adequately rewarded and sustained in the longer term. The current raw milk market is not favorable to small-scale farmers and the famer groups, due to the low prices paid by processors, which is also paid late, with farmers responding by stopping supplementation feeding and selling to hawkers to reduce production costs and increase the gross margins. This negatively impacts household income.
- Cooperative unions/federations that unite small farmer groups/milk bulking centers into bigger groupings greatly improve farmers' terms of trade, bargaining power and eases resource mobilization for investment in embedded service provision. Even with the milk glut/excess milk supply, groups with more members, and therefore bulking higher milk volumes, still get paid a quantity bonus by NKCC. These groups are also able to raise capital much faster, e.g., Umoja Sotik Dairy has acquired a loan of KES 10 million in the reporting period. We are currently investing a lot of resources in member mobilization and also in merging smaller farmer groups into single entities to realize these gains.

4.0 Performance Data Table

Impacts					
Performance Indicator	**Baseline**	**Year 3**		**Cumulative/ progressive Actual**	**Comments**
	Value (2008)	**Cumulative Annual Target**	**Actual (FY 2009/10)**		
Household level impacts					
Increase in smallholder household income (%)	2043	40%	149	109	Current estimates indicate that farmer incomes from the sale of milk increased to Kshs. 5094 per month on average in the year. Program cumulative average realized so far is 109%, surpassing the program target of 40% in Year Three.
Number of rural households benefiting (Number)	0	180,000	103,882	205,298	A considerable number of farmers have resorted to selling to hawkers due to low prices offered by cooperatives and delayed payments. Average active members per SBO working with KDSC dropped from 1037 in 2009 to 829 in 2010. About 44.3% of the active members of SBOs are women.
Sub-Sector Level Impacts					
Total volume of milk purchased from smallholder dairy farmers (MT)	235,008.3	267,008.34	275,190.5	275,190.5	A considerable increase in volumes sold by farmers was observed in the year. This increase can be attributed to increases in yield resulting from farmers adopting program-promoted productivity enhancing technologies with the onset of rains. However, due to the low price paid per liter, we did not meet the targeted value by year three.
Total value of milk purchased from smallholder dairy farmers (US Dollar)	72.4M	79.6M	73.02M	73.02M	
Total volume of exports to regional and international markets (MT)	17,500	21,100	8703.2 MT (527.2 to international markets)	8703.2 MT (527.2 to international markets)	This data is reported one year later. The huge reduction from year 2 is attributed to the severe draught experienced in 2009.
Total value of exports to regional and international markets (US Dollar)	14.32 M	10.55M	8.14M	8.14M	
% change in volume of milk conforming to quality standards increased (%)	96.25%	60%	91%	94.5%	While volume of milk rejected has risen in the current period,

Impacts					
Performance Indicator	**Baseline**	**Year 3**		**Cumulative/ progressive Actual**	**Comments**
	Value (2008)	**Cumulative Annual Target**	**Actual (FY 2009/10)**		
Total value of milk conforming to quality standards increased (US Dollar)	96.25%	60%	91%	94.5%	program facilitated training on milk handling and that of milk collection clerks at SBO level have played a great role towards improving milk quality.
% change in volume of milk and dairy products sold by processors	398,637 MT	10%	27% (499,569 MT)	27%	Volume of milk sold through the value chain has been rising continuously over the three years of program operation.
% change in value of milk/ dairy products sold by processors (Percent)	106.3M US$	10%	25% (US$1.33M)	25%	
Number of jobs created in the value chain (Number)	0	21,000	5,627	11,364	There are jobs resulting from investment in embedded service provision by SBOs & new business development providers (71); and 5556 in Full Time Equivalent of casual labor engaged in the year by farmers working with program.
Firm level impacts					
Number of producers accessing/ receiving/ utilizing BDS services, inputs, technologies, and management practices	0	130,000	75,436	155,266	Program has linked all farmer groups with service providers in the 8 milk sheds; The decline in active membership in the SBOs has however limited our ability to surpass the target even further.
Farmers using improved technology increased (Number)	39.9%	105,000	52,881	99,981	KDSC use farmers using AI to inform this indicator. All farmers however use some form of program promoted technologies – all have reported conserving feeds; 98% have established fodder and 70.1% use AI among other technologies.
Increase in productivity of milk per cow/day (Lt)	Kshs. 6.4	13	8.0	7.5	A significant proportion (37.3%) of farmers working with the program registered gains in yields way above the sample average, while *14.9% recorded yields above the Year 3 target of 13 liters/cow/day*.
Increase in gross margin per Lt of milk (Percent)	Kshs. 5.8	24	41	34	Program milk sheds in the Rift Valley Province again have recorded very impressive growth in gross margins over the program implementation period, with most of them realizing double digit gross margin figures.

Impacts					
Performance Indicator	**Baseline**	**Year 3**		**Cumulative/ progressive Actual**	**Comments**
	Value (2008)	**Cumulative Annual Target**	**Actual (FY 2009/10)**		
Reduction in cost of production - farm gate (%)	Kshs. 14.2)	12	26	13	The onset of rains has greatly helped reduce cost of production due to abundant forage. Average production cost has reduced cumulatively to Kshs. 10.5 per liter.
Component 1 - Enhance Capacity for Milk and Production Input Quality Certification and Market Promotion					
Number of industry policies improved/enacted	0	1	2	21	Good Manufacturing Practice manual and code of hygienic practices officially launched as Kenyan standards in year. The program has also facilitated the development of draft dairy regulations which is now being reviewed by lawyers from the Attorney General's chambers. Once done, it will be forwarded to the MoLD for adoption as an official regulation. Upon completion, the program will surpass the target of 2 certification frameworks completed. The KDSC supported Dairy Master plan is almost being finalized.
Number of quality certification frameworks (milk product, animal feeds) developed, implemented/enforced	0	1	1	1	

Impacts					
Performance Indicator	**Baseline**	**Year 3**		**Cumulative/ progressive Actual**	**Comments**
	Value (2008)	**Cumulative Annual Target**	**Actual (FY 2009/10)**		
Total Value of non-project resources leveraged (US$)	$0	$15M	21.86	25.26	Sources include the Government, private sector, other development partners, and farmers.
Increased revenue collected by KDB (%)	US$ 1.066M	30%	25%	25%	Volume of milk sold through the value chain has been rising continuously over the three years of program operation.
Component 2 - Dairy Smallholder Business Organization (SBO) Development					
Number of producer organizations strengthened	0	75	51	114	The program has cumulatively worked with 114 SBOs in the three years. We have therefore surpassed the program Year Three targets.
Number of SBOs/MBCs with HACCP and/or national certification	0	32	0	0	GMP training is currently ongoing. We target to train over 2000 actors along the value chain. Once this is finalized, the KDB plan to use compliance to license these actors. We therefore will surpass the program target on this indicator. This is scheduled in the next quarter.
Increased gross revenue of SBO/MBCs from sale of inputs and services other than milk cooling	82,500	30%	137%	137%	Value of inseminations in the year was Kshs. 195,750. We track and volume of semen moved in 5 SBOs working with the program. Volume moved in 2010 was 261 doses.
Number of SBO/MBCs transformed into sustainable business entities	0	40	52	114	All SBOs working with the program operate profitably, according to the official audit reports and the profit and loss accounts that are done on a monthly basis.
Number of cooling units installed/rehabilitated in SBO/MBCs (Number)	0	25	9	14	9 coolers were operationalized in the year.

Impacts					
Performance Indicator	**Baseline**	**Year 3**		**Cumulative/ progressive Actual**	**Comments**
	Value (2008)	**Cumulative Annual Target**	**Actual (FY 2009/10)**		
Component 3 - Availability of Dairy Business Development Services					
Number of firms providing new business services to producers (Number)	0	250	369	619	Program activities have focused on embedded service provision to increase the sales volume and revenues for the providers. All SPs working with the program now provide farmer extension services as an embedded service.
Number of smallholders (gender of HH head, age) purchasing private sector services at full commercial rates (number)	0	85,000	53,360	100,634	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 70.1%) compared to the baseline proportion (39.9%).
New technologies/management practices made available for transfer (Number)	0	25	6	24	Include milk quality systems – component analyzer, tit dips, porta check, mastitis kits (3); new breed (distributed by fleckvieh East Africa); ICT – data capture systems; new feeds – silage, hay, fodder-Lucerne, ; Grasses- oats, Rhodes; microbes; biogas; E market place and E learning via the Livestock E portal; Dairy manager as a software for SBOs record keeping; Chuff cutter, digital weighing scales, and digital thermal printers.
Dairy farmers receiving loans from financial service providers	0	27,000	8,470	28,628	Include 2,886 farmers getting loans directly, and 5,584 active members of cooperatives getting loans in the year.
Number of producers receiving short-term training	0	90,000	18702	51202	We still lagging behind on this indicator due on main reason: Lack of market for milk products discourage farmers from attending program training events

The observed variances can be explained by the fact that the program has just begun the third year of implementation (from May 2010). The first year was mainly spent on ground working, (sector assessment studies) and roll out. We aim to achieve and surpass the set targets by end of Year 3 of implementation – end of May 2011.

5.0 Annexes

Annex 1: Causal Model for the Kenya Dairy Sector Competitiveness Program

Project Activities	Outputs	Outcomes	Impacts
1: Enhance Capacity for Milk Production Input Quality Certification and Market Promotion		1. Industry policies and acts improved and enacted 2. Quality certification frameworks implemented/enforced 3. Dairy enterprises achieving national/international certifications and enforcing quality regulations on suppliers 4. Increased feed marketed under the new feed quality standards 5. Value of non-project resources leveraged 6. Increased revenue collected by KDB and KEBS 7. New technologies or management practices under research	***Household level:*** a. Increased smallholder household income b. Rural HH benefiting ***Sub-sector level:*** c. Increased volume and value of milk purchased from smallholder dairy farmers d. Increased volume and value of exports e. Increased percentage, volume and value of milk conforming to quality standards f. Increased volume and value of dairy products sold by processors g. New jobs created ***Firm level:*** h. Increased producers accessing BDS services, inputs, technologies, and management practices (male/female, age) i. Increased farmers using improved technology (male/female, age) j. Increased productivity of milk per cow/day k. Increased gross margin per liter of milk l. Reduced cost of production (farm gate, ex-factory)
1. Establish Task Force 2. Conduct Value Chain Assessment and develop Action Plans 3. Implement Action Plans 4. Develop Standards and Enact Policies 5. Facilitate Market Expansion 6. Facilitate Institutional and Association Capacity Building	▪ # of Competitiveness forums held ▪ # Action Plan initiatives implemented ▪ # of public-private partnerships formed and/or strengthened ▪ # of Task Force training sessions ▪ # of inspectors trained ▪ # of laboratory methods certified ▪ # of institutions and associations receiving training		
2. Develop Dairy Smallholder Business Organizations		8. Producer organizations strengthened 9. Increased MBCs with HACCP and/or national certification 10. Increased raw milk sold by milk bulking/cooling businesses under agreements that pay premiums for quality 11. Increased gross revenue of milk bulking/cooling businesses from sale of inputs and services other than milk cooling 12. Increased SBOs transformed into sustainable business entities 13. Increased cooling units installed/rehabilitated in MBC	
1. Identify milksheds and SBOs 2. Conduct Rapid SBO Needs Analyses 3. Prioritize Solutions, implement SBO Business Plans and Milkshed Action Plans 4. Promote Embedded Services within SBOs 5. Encourage Quality-Based Systems and Contracts 6. SBO Development Initiatives	• # of SBO business plans implemented • # of Milkshed Action plans implemented • MBC Operational Manual and supply contract developed • # of SBO Development working group sessions held		
3. Increase Availability of Dairy Business Development Services		14. Increased firms providing direct and embedded business services to producers 15. Increased value of services/inputs sold by BSPs 16. Increased number of smallholders (male/female, age) who have purchased private sector services at full commercial rates 17. New technologies or management practices made available for transfer 18. Increased loans to dairy farmers (male/female, age) 19. Increased smallholders (male/female, age) engaged in new, diversified dairy-related enterprises 20. Increased dairy farmers receiving short-term training (male/female, age)	
1. BDS Market Diagnostic 2. Needs Analysis for BSPs 3. Promote BSP accreditation and service standards 4. Create Directory of BSPs 5. Forge Business-to-Business Linkages 6. Stimulate Industry Innovation 7. Facilitate BDS Facilitators 8. Facilitate VC Financing 9. Build Capacity of BSPs	• BDS Market Diagnostic and BSP Needs Analysis conducted • Directory of BSPs operational • # of business linkages forged • # of Innovation Grants awarded • # of BDS Facilitators engaged • # of BSPs trained		

Annex 2: Letter of Appreciation from a visiting delegation from the United States

EMBASSY OF THE
UNITED STATES OF AMERICA
P.O. BOX 606 - 00621, VILLAGE MARKET
NAIROBI, KENYA

13 September 2010

Mary M. Munene
Value Chain Coordinator

Land O' Lakes

Dear Ms. Munene,

The Economic Section of the US Embassy Nairobi wishes to extend its gratitude for your participation in the visit of U.S. Senate Appropriations Committee staff member Ms. Janet Stormes and her team to the dairy and dairy farm on 23 August 2010. All found their visit productive, informative, and were gratified to have the opportunity to meet with beneficiaries of the Kenya Dairy Sector Competitiveness Program.

Ms. Stormes particularly appreciated the warm reception from the family she visited. She enjoyed hearing from the family about the growth of their farm, their biogas cook stove, and the various ways that improved dairy farming techniques have enhanced their quality of life.

We are grateful for all of the time and effort that your organization put into making this a success. We look forward to your continued partnership.

Sincerely,

Jessica Davis Ba
Acting Economics Counselor

Annex 3a: Milk quality improvement program launched

KENYA DAIRY BOARD

USAID FROM THE AMERICAN PEOPLE

LAND O'LAKES, INC. INTERNATIONAL DEVELOPMENT Innovative Solutions for Global Prosperity

LAUNCH OF MILK QUALITY IMPROVEMENT PROGRAMME

Hon. Dr. Muhamed Abdi Kuti, MP, EGH

Enterprise with great potential to boost the economy

Message from Hon. Dr. MUHAMED ABDI KUTI, MP, EGH, **the Minister for Livestock Development**

The government's ultimate goal is to have a vibrant and self-sustaining livestock sub-sector that is competitive regionally as well as in the global market. Achieving this objective will not be easy in view of the many challenges facing the sector today.

The dairy industry forms a significant part of the rural economy in the country, accounting for 14% of agricultural GDP and over to 4.0% for the total GDP. It is a profitable enterprise which has the potential to contribute greatly to the national economic growth, there are more than one million smallholder dairy households generating an estimated 500,000 waged jobs throughout the handling chain and over 750,000 in support services.

The livestock industry is faced with numerous challenges that have hampered effective livestock production and marketing of livestock products. These include ensuring quality standards and quality assurance at all levels of production and marketing chain for increased competitiveness of the livestock industry.

To address these challenges, the Ministry of livestock Development is in the process of establishing disease free zones (DFZs) which will enable the country to effectively control animal diseases, have access to external markets for livestock products and improve earnings of livestock producers and other players in the value chain.

The ministry has been working closely with other ministries, government agencies, stakeholders and development partners to develop the necessary infrastructure suitable for the production of quality animal and animal products that meet national and international standards. This will ensure that the livestock sector which includes the dairy sub-sector sector exploits the high potential international market for our livestock and livestock products. The launch of the Good manufacturing (GMP) standard will go along way in enhancing the attainment of the requisite standards for improved quality of Kenyan Dairy Products. Stakeholders are requested to familiarize themselves with the Good Manufacturing Practice (GMP) standard, the Code of Hygienic Practice and any other regulation that will be done by my ministry so as to realize maximum output from their dairy investments.

Stakeholders in the livestock industry can seek information on quality standards and quality assurance from my staff or any other relevant extension agents in my ministry or the Kenya Dairy Board.

I take this opportunity to congratulate Kenya Dairy Board, Kenya Bureau of standards and stakeholders who have made invaluable contributions to the generation of the new standards which will steer the dairy industry to a world-class level.

Quality move wins KDB Permament Secretary's Praise

Message from Mr. KEN LUSAKA, EBS, **the Permanent Secretary in the Ministry of Livestock Development**

Mr. Ken Lusaka, EBS

Kenyan livestock production contributes significantly to food security, employment and income generation.
The livestock sector also provides raw materials for the local dairy, meat, hides and skins, wool and hair processing industries.
Recently, the Ministry of Livestock Development launched its strategic plan to direct its activities up to the year 2012.
Key in the agenda is to develop appropriate policies and legal framework in order to achieve the expectations of vision 2030.
These include increased livestock productivity, enhancing investments in the livestock sector, increasing market access of livestock and livestock products both locally and internationally and enhance the ministry's institutional efficiency and effectiveness.
The ministry will provide the necessary support for the upgrading of veterinary laboratories across the country and support international accreditation of the same to enhance access to quality testing facilities and international recognition of the test results.
Through Kenya Dairy Board, the ministry will enforce laws that govern the handling and the sale of dairy products, and will only license those traders who comply with the set standards and regulations.
To ensure compliance, stakeholders will be educated on Good Manufacturing Practice in a nationwide capacity building exercise targeting various players along the chain including small scale milk traders.
The above programmes will contribute towards the improvement of milk and milk products quality assurance. These efforts have been made possible with support from Land O lakes through the USAID funded programme on Kenya Dairy Sector Competitiveness.
I therefore take this opportunity to thank USAID for their financial assistance. I also congratulate the Kenya Dairy Board and Kenya Bureau of standards for spearheading this programme

New opportunities for the industry

Message from Mrs. MARTHA MULWA, **the Chair, Board of Directors, Kenya Dairy Board**

Mrs. Martha Mulwa

Kenya Dairy Board was established in 1958. The Board is mandated to regulate, develop and promote the dairy industry in Kenya. During its 50 years of existence, its strategies have continued to change in line with changing dairy industry environment, government policies and priorities.

The board has witnessed a rapid growth in the dairy industry in recent years. This favourable situation has been brought about by various policy and regulatory reviews and increased government commitment in supporting the growth of the industry. The number of players, volume of trade and incomes has tremendously increased.

The challenge facing KDB and dairy stakeholders is to improve compliance to dairy standards and increase the amount of milk that is processed and marketed. It is in this context that the board has come up with a comprehensive programme to improve the quality of Kenyan dairy produce.

The on going milk quality improvement programmes have been developed to align the industry with the agenda of Vision 2030 aimed at making Kenya a newly industrialized middle income country providing high quality life for all its citizens. The board aims to achieve this through facilitating access of Kenyan dairy products to both local and international markets particularly EAC and COMESA trading block where the country has preferential market access.

KDB views the increasing regionalization of trade within Africa and the world at large, as opportunities to the Kenyan dairy industry. The board will proactively be engaged in programmes and activities that ensure increased marketing of Kenyan products and participation of Kenyan enterprises in the global arena. With the implementation of the outlined strategies, and commitment from all stakeholders, we see a bright future for a competitive Kenya Dairy industry, come 2030.

Annex 3b: Milk quality improvement program launched

KENYA DAIRY BOARD

USAID FROM THE AMERICAN PEOPLE

LAND O'LAKES, INC. INTERNATIONAL DEVELOPMENT
Innovative Solutions for Global Prosperity

LAUNCH OF MILK QUALITY IMPROVEMENT PROGRAMME

The key to facilitate compliance to world class dairy standards

Message from
Mr. MACHIRA GICHOHI, MBS,
Managing Director and Chairman of DTF

Kenya Dairy Board has been in the forefront of developing comprehensive standards and regulations in order to upgrade the quality of Kenya's dairy produce. This is designed to enable the industry to address the challenges and meet the ever changing demands of the 21st century.

These innovative milk quality improvement initiatives we are celebrating today have been implemented in collaboration with stakeholders, including relevant government ministries, Kenya Bureau of Standards, universities, colleges, farmers groups and processors amongst others, with the technical and financial support from the United States Agency for International Development (USAID)funded Kenya Dairy Sector Competitiveness Program (KDSCP) that is implemented by Land O'Lakes Inc., under the umbrella of the Dairy Task Force (DTF).

This collaboration has resulted in the development of a Good Manufacturing Practice Standard, a user friendly version of Code of Hygienic Practice, Dairy Regulations and a training programme for industry stakeholders and dairy inspectors.

These achievements present a key milestone for the industry and will facilitate compliance to dairy standards and other technical requirements.

The standards and regulations are essential building blocks for revolutionalising the dairy industry and to enhance access to new markets with international recognition of the quality of Kenya's dairy products.

Today's launch of the Good Manufacturing Practice (GMP) and the User friendly version of the Code of Hygienic Practice for the Dairy Industry, initiates the roll out of our comprehensive quality programme.

Mr. Machira Gichohi, MBS

This will be followed by a training programme on the requirements of the GMP standard. I therefore urge all industry players to ensure participation in the up coming training programme.

Highlights of the quality improvement programme components

Good Manufacturing Practice: Fundamental to the success of public health interventions and the strengthening of consumer confidence in our products is a requirement that all dairy operations are conducted in a safe, sanitary and hygienic way, in premises and buildings that meet public health safety requirements.

In 2009, the Kenya Bureau of Standards National Dairy Technical Committee produced a new Standard entitled, Good Manufacturing Practice (GMP) guideline for the Dairy Industry in Kenya. This was considered necessary to provide the backbone for a nationwide GMP training effort. Three dairy business categories have been targeted for training on Good Manufacturing Practice. These are milk bulking centres, milk bars and shops and dairy processing plants.

Naivasha Dairy Training Institute has been contracted to provide the training throughout the country. Approximately 1800 persons will be trained.

User Friendly Code of Hygienic Practice: The Kenya Bureau of Standards in collaboration with the Dairy Industry Technical Committee developed a Kenya Standard Code of hygienic practice for production, handling and distribution of milk and milk products in 2004. Compliance with the Code of Hygiene Standard is fundamental to ensuring the safety of our dairy products. The stakeholders recognized that being a technical document, the content of this Standard may be difficult to digest for the average reader. To make the requirements of this important Standard more understandable and accessible to all our stakeholders, Kenya Dairy Board supported by Land O' Lakes through the USAID funded Kenya Dairy Sector Competitiveness Program (KDSCP) commissioned the illustrated and simplified version which is also being launched today.

Kenya Dairy Regulations

The dairy regulations will lay the foundation for all other components of our quality programme. The regulations describe the requirements for production, storage, transportation and processing of milk and milk products along the chain. The regulations also give technical specifications for processing equipment and quality surveillance. Individual sections of the regulations deal with each link as the milk progresses from the cow to the consumer. The new regulations have been reviewed and approved by stakeholders. Adoption of these detailed technical requirements represents a leap in technology and competence for our industry.

The regulations will be legislated under the existing Kenya Dairy Act later this year.

Harmonization of East African Community (EAC) Dairy Standards

Kenya's dairy products are expected to comply with the newly harmonised EAC Dairy Standards if they are to access the regional market. These standards which comprise product specifications and analytical laboratory methods Standards were developed by the EAC Dairy Technical committees guided by the Bureaus of standards in the partner states. The EAC Standards have since been adopted as draft standards at the Common Market for East and Central Africa (COMESA) region. Kenya Dairy Board and other industry stakeholders participated in the regional standards harmonization processes committing the industry to high quality standards and requirements. Our total quality effort is aimed at bringing Kenya's dairy industry to the quality levels required by the Standards and the International community.

Differential Payments for Raw Milk Quality

In order to produce high quality milk meeting the EAC Dairy standards and other technical requirements as stipulated in the proposed dairy regulations particularly at the farm level, farmers will incur additional costs in acquiring the appropriate milk handling containers, enhancing hygiene and organizing for quick milk delivery to the milk collection centres. However, the benefits of improved milk quality are substantial and cannot be over emphasized.

Kenya Dairy Board in collaboration with stakeholders is therefore developing a framework plan of differential payments for quality, to enable a pilot trial to be run out in the coming months. The details will be publicised to our stakeholders as the design of the trial progresses.

Training Programme for industry stakeholders

The milk quality programme also includes a training programme to build the capacity and skill and knowledge of milk handlers on the new dairy standards and technical requirements. The training will cover dairy inspectors, processors, small scale milk traders, milk collection centres and farmers. I take this opportunity to congratulate and appreciate all those who have contributed to this noble process.

Commitment to quality improvement praised

Message from Mr. JOEL KIOKO, **Ag. Managing Director, Kenya Bureau of Standards (KEBS) on the launch of the GMP Standard for the Dairy Industry**.

I take this opportunity to congratulate the management of Kenya Dairy Board and the entire Dairy industry for the commitment shown in quality improvement as demonstrated in the launch of this GMP Standard. This is a noble achievement for the dairy industry.

The New Good Manufacturing Practice guidelines for the dairy industry (KS 2194:2010) was prepared by the Milk and Milk Products Technical Committee under the guidance of the standards Projects Committee and it is in accordance with the procedures

Mr. Joel Kioko

of the Kenya Standards. The members of the milk and milk products technical committee includes representatives from both the public and the private sector, Consumer Information Network and Kenya Bureau of Standards as the secretariat.

This guideline seeks to provide a simplified methodology to aid managers and operators of milk collection centres, milk bars, milk processing plants, distributors and retailers to implement the basic requirements and quality manual documentation necessary to bring the sanitation and hygienic practice practices followed in their businesses under managerial control and supervision.

Compliance to the GMP guideline lays the necessary foundation required for other internationally recognised quality assurance systems such as HACCP and ISO 22000 for the Kenyan Dairy Industry.

The production and consumption of safe food, including dairy products is central to any society, and has economic, social and environmental implications.

Effective Standardization promotes competitive advantage and profitability. Standardization brings internal control and co-ordination improving efficiency and risk management. It promotes harmonized products and services and streamlining regulatory conformity, providing a competitive edge in an environment of full competition. Involvement in standards development allows a business to lead the way with standards that link products to the requirements of the market, increasing sales and market size.

KEBS will continue to support the industry by providing standards, metrology and calibration, testing and quality assurance services, technical advice and consultancy in Standardization and Conformity assessment.

Annex 4: GMP Training Schedules for different regions

Regions	Categories/ Numbers of Trainings	Team	July	Aug.	Sep.	Oct.	Nov.	Dec	Jan	Feb
1. Nairobi 2.Naivasha	1. Milk Bars- 9	A Dates		5 23-27		4 3-9				
	2. Mini/ cottage industries-1					1 3-9				
	3. Processors-1					1 3-9				
2. North Rift	1. Milk Bars- 9	B Dates		5 8-13	5 19-24					
	2. Mini/ Cooling centers/ Processors-2									
3. Central Rift	1. Milk Bars- 6	C Dates	6 26-31							
	2. Mini/ Cooling centers/ Processors-2									
4. Western	1. Milk Bars- 4	B					2 15-19			
	2. Mini/ Cooling centers/ Processors-3						2 15-19			
5. Coast	1. Milk Bars-2	A Dates	2							
	2. Mini/ Cooling centers/ Processors-2		2 18-23							
6. Mt Kenya	1. Milk Bars -12	C			5 5-10	2 25-28				
	2. Mini/ Cooling centers/ Processors-2					1 25-28				

Annex 5a: Industry Standards Reviewed: Pasteurized Goat's- Specification

Kenya Bureau of Standards

Quality products for quality life

KEBS Head Office
P.O. Box 54974, Nairobi 00200
Tel: +254 (0) 20 609490/696606,
Mobile: 0722 202 13798
0724 600 4711
Fax: +254 (0) 20 609 660
Direct Dial: +254 (0) 20 694 8000
E-mail: info@kebs.org
Web: http://www.kebs.org

KEBS Coast Region
P.O. Box 95176, Mombasa
80102
Tel: +254 (0) 41 229 563, 230
406/40
Fax: +254 (0) 41 229 448
E-mail: kebs-mse@kebs.org

KEBS Lake Region
P.O. Box 2548, Kisumu 40100
Tel: +254 (0) 57 202 6306, 202
3649
Fax: +254 (0) 57 202 7814
E-mail: kebs-kisumu@kebs.org

KEBS Rift Valley Region
P.O. Box 2138, Nakuru 20100
Tel: +254 (0) 51221 05635, 221
1208
Fax: +254 (0) 51221 0076
E-mail: kebs-nakuru@kebs.org

KEBS Mt. Kenya Region
P.O. Box 1790, Nyeri 10100
Tel: +254 (0) 61 203 1410/1
Fax: +254 (0) 61 203 2036
Email: kebs-nyeri@kebs.org

KEBS North Eastern Region
P.O. Box 976, Garissa 70100
Tel: +254 (0) 46 2610
Fax: +254 (0) 46 3465
E-mail: kebs-garissa@kebs.org

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Title:	Mozzarella- Specifciation	
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Dates:	Circulation date	Closing date
	2010-03-01	2010-04-31

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 Organisation for Standardisation (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)

Annex 5b: Industry Standards Reviewed: Pasteurized Goat's- Specification

Kenya Bureau of Standards

Quality products for quality life

KEBS Head Office
P.O. Box 54974, Nairobi 00200
Tel: +254 (0) 20 605490/605591
Mobile: 0722 202 137/8
0734 600 471/1
Fax: +254 (0) 20 609 660
Direct Dial: +254 (0) 20 694 8000
E-mail: info@kebs.org
Web: http://www.kebs.org

KEBS Coast Region
P.O. Box 90376, Mombasa
80100
Tel: +254 (0) 41 229 063, 230
958/60
Fax: +254 (0) 41 225 449
E-mail: kebs-msa@kebs.org

KEBS Lake Region
P.O. Box 2540, Kisumu 40101
Tel: +254 (0) 57 202 8396, 202
9549
Fax: +254 (0) 57 202 7914
E-mail: kebs-kisumu@kebs.org

KEBS Rift Valley Region
P.O. Box 2138, Nakuru 20100
Tel: +254 (0) 51221 85535, 221
1208
Fax: +254 (0) 51221 6075
E-mail: kebs-nakuru@kebs.org

KEBS Mt. Kenya Region
P.O. Box 1750, Nyeri 10100
Tel: +254 (0) 61 203 1410/1
Fax: +254 (0) 61 203 2108
Email: kebs-nyeri@kebs.org

KEBS North Eastern Region
P.O. Box 878, Garissa 70300
Tel: +254 (0) 46 2539
Fax: +254 (0) 46 3465
E-mail: kebs-garissa@kebs.org

Ref.: KS 2191 **Date: 2010-03-01**

Title:	Pasteurized Goat's- Specification	
Document Type:	Public review draft	
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	2010-03-01	2010-04-31

PUBLIC REVIEW DRAFT KS 2191

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.**

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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,

For: DIRECTOR
STANDARDS DEVELOPMENT AND INTERNATIONAL TRADE

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)

Annex 6: Preface to the Dairy Master Plan, by the Permanent Secretary, MoLD

The Ministry of Livestock Development has a strategic plan which has been harmonized with the Medium Term Plans (MTP) for implementation in line with vision 2030. The Strategic Plan envisages collaboration with the various stakeholders in private and public sectors. The plan with clear vision, mission and objectives also identified (external and internal) constraints limiting the implementation and use of the document in seeking funds to carry out activities of the ministry. The Dairy Master Plan was first developed in 1991/1992 though it was never implemented following the changing economic environment particularly the liberalization of milk marketing in May 1992. At that time there was only one main processor, the KCC.

Given the dairy sector's contribution to the national economy, the government with the support from the United States Agency for International Development (USAID), has developed the national dairy master plan in line with the current national economic blue print, the vision 2030. Currently, the dairy sub-sector is experiencing one of the highest growth rates, estimated at 3 to 4 % annually and contributing 40% of the agricultural GDP and 4% of the national GDP. The development of the DMP is timely and necessary as it will help in realigning the development of the dairy sub-sector and enhance regional integration while helping in achieving the Millennium Development Goals (MDGs).

The sub sector has massive economic potential to be tapped and targeted to achieve positive attributes but has been faced by technical, social, economic, institutional and unfavorable environmental conditions. These are some of the challenges identified in the DMP and strategies developed to alleviate them. The DMP was developed in a participatory approach with inputs from stakeholders in dairy value chain links and our staff. The document describes the status, constraints, potential opportunities, strategies and action plan to transform and revitalize the dairy sub sector. The Ministry of Livestock Development staffs are in the forefront in the documentation process and implementation framework.

Finally I wish to take this opportunity to thank everyone who was involved in the production of this Dairy Master Plan. In particular the efforts of the Dairy Task Force members is highly recognized and appreciated. Indeed it will have not been possible to produce and launch the DMP without their efforts. The Role played by the USAID team through Land O' Lakes, Inc is really recognized by the Ministry. It is my positive expectation that the DMP will be used as a road map to transform the dairy sub sector. I call upon all our ministry staff and other stakeholders to work together in achieving the set objectives of the dairy sub sector contained in Our Strategic Plan and this DMP.

Kenneth M. Lusaka, EBS
Permanent secretary

Annex 7: KDSC Beneficiaries (Smallholder Business Organizations)

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Kikuyu	Old	1380	382	0	237	40	Kabete
Gikambura	Old	127	153	26			
Sigona	Old	40	43	3			
Muguga	New	N/A	163	163			
Nderi	Old	1022	52	0			
Gatundu	Old	200	120	0			
Thanduka	New	N/A	80	80			
Limuru	Old	6000	5950	0			
Bibilioni	New	N/A	57	57			
Kiambaa	New	N/A	1700	1700			
Kiganjo	Old	3000	N/A	0			
Hexagon Self Help Group	Old	230	N/A	0			
MIK	Old	4000	2,000	0	7859	81	Nyeri

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Othaya Dairy	Old	2000	2000	0			
Ihururu Dairy Farmers	Old	1200	1230	30			
Wakulima	Old	9000	7000	0			
Tetu Dairy	Old	8090	700	0			
Kirichu Coop	New	N/A	350	350			
New Tetu	New	N/A	1,230	1,230			
Ngukurani Farmers	Old	256	700	444			
Gakindu Dairy	Old	500	700	200			
Island	Old	313	N/A	0			
Ainabkoi	Old	616	820	204	9585	56	Lessos
Cheptiret	New	N/A	654	654			
Kipchamoo	Old	800	820	20			
Kipsamoo	Old	2000	2000	0			

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Emgwen	Old	15	N/A	0			
Kamno	Old	143	615	472			
Singalo	New	N/A	460	460			
Lelwak	Old	200	310	110			
Ligwai/Bidii	New	N/A	913	913			
Baitany/Tinderet	New	N/A	3520	3520			
Kaptumo	New	N/A	241	241			
Moiben	New	N/A	822	822			
Progressi	New	N/A	420	420			
Tuiyo	New	N/A	210	210			
Timborua	New	N/A	165	165			
Iten	New	N/A	54	54			
Sugoi	New	N/A	435	435			
Baharini	New	N/A	200	200			
New Nginda	Old	800	1700	900	12100	125	Gatanga
Thakumi	Old	550	1100	550			
Umoja	New	N/A	800	800			

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Boyo	Old	1070	1600	530			
Kahuro	New	N/A	750	750			
Wanjengi	Old	400	850	450			
Ichichi	Old	800	320	0			
Abedare East SHG	New	N/A	520	520			
Kirere	Old	1500	3500	2000			
Sagawa	New	N/A	320	320			
Kikama	New	N/A	1560	1560			
Gika FSCS	Old	1056	N/A	0			
Sakuma DSHG	Old	980	N/A	0			
Mugi Elite Dairy	Old	147	N/A	0			
Kagundu-ini-farmers	Old	18	N/A	0			
Gaturi Kamacharia FCS	Old	600	N/A	0			

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Magomano DFCS	Old	250	N/A	0			
Kitiri	Old	450	1050	600	17730	72	Kinangop
Tulaga	Old	2800	1846	0			
Dairymen	Old	400	270	0			
Mununga Kianda	New	N/A	230	230			
Miharati	Old	1350	410	0			
Wanjohi	Old	470	310	0			
Gikara	New	N/A	200	200			
Karati	New	N/A	200	200			
South Kinangop	New	N/A	120	120			
Lari	Old	250	185	0			
Gatamaiyu	Old	2900	2100	0			
Kamahia	Old	1970	514	0			
Olaragwai	New	N/A	98	98			
Kiriita FCS	Old	3050	N/A	0			

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Nyambini FCS	Old	260	N/A	0			
Njoro	Old	202	222	20	6450	81	Nakuru
Mumberes	New	N/A	674	674			
Kiplombe	Old	978	450	0			
Mogotio	Old	400	765	365			
kiptoim	Old	300	450	150			
Suka	Old	360	500	140			
Sabatia	Old	2400	N/A	0			
Molo	Old	100	60	0			
Ngorika	Old	390	180	0			
Molele	New	N/A	45	45			
Mauche	New	N/A	150	150			
Mutungati FCS	Old	370	N/A	0			
Tulwobmoi	Old	40	N/A	0			
Tongaren	Old	400	307	0	6476	94	Trans Nzoia
Bamwai	New	N/A	114	114			
Wamuini milk bar	Old	55	112	57			

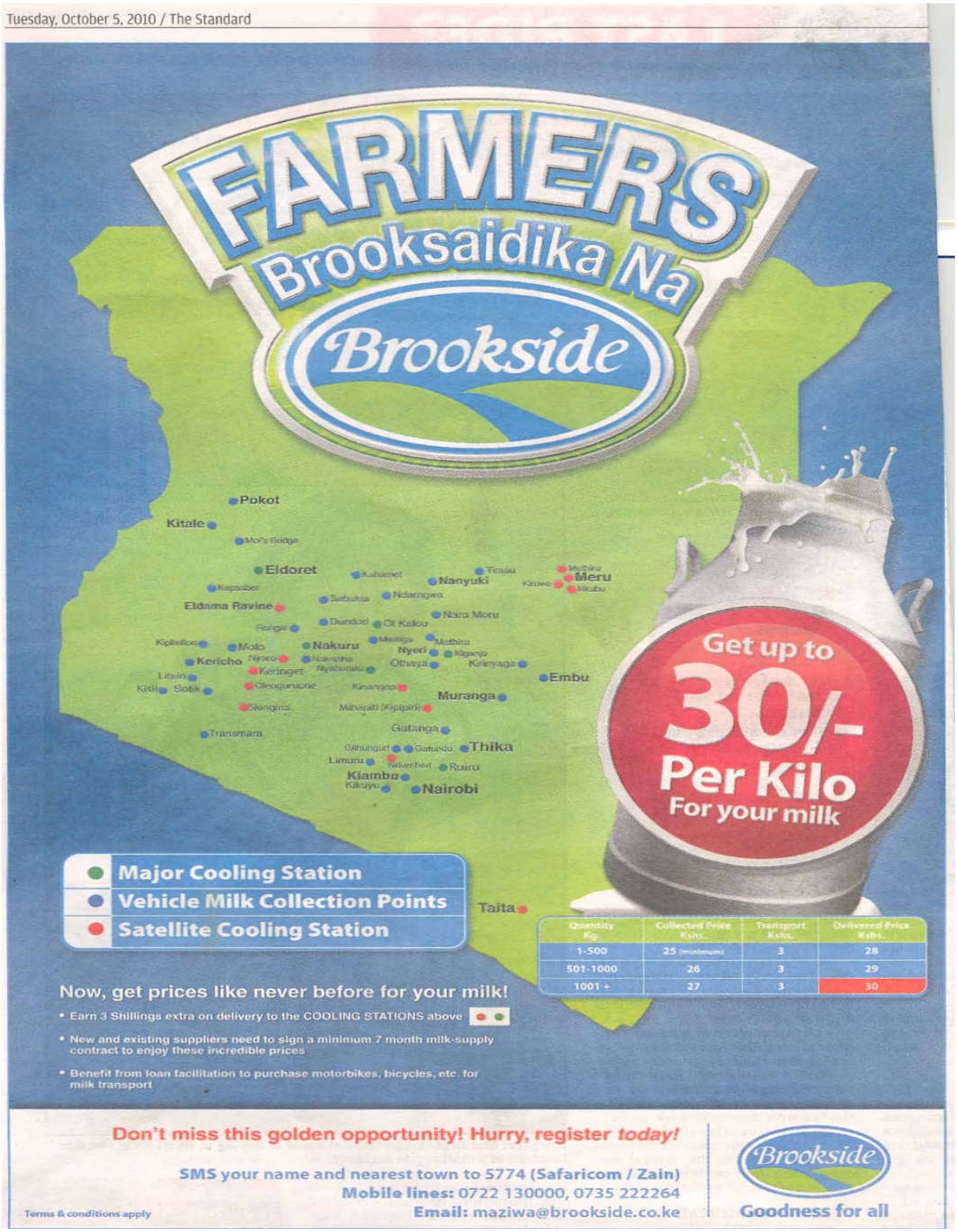
Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Taito	New	N/A	619	619			
Tarakwa	Old	57	330	273			
Meeboot	Old	46	245	199			
Surungai	Old	32	106	74			
Seum	Old	40	95	55			
Naitiri	Old	120	880	760			
Koitogos	New	N/A	89	89			
Kipsombe	New	N/A	296	296			
Cherangany	New	N/A	1,967	1967			
Moi' Bridge	Old	6000	2,300	0			
Marakwet	New	NA	3350	3350			
Teachers	New	N/A	1,500	1500			
Ruskebei	New	N/A	24	24	7998	70	Kericho
Sotik Umoja	New	N/A	1000	1000			
Kabianga	Old	176	307	131			
Sotik Dairy Farmers	Old	162	127	0			

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Tenwek	Old	287	212	0			
Mogogosiek	Old	24	138	114			
Ketengeret FCS	Old	176	N/A	0			
Sosiot FCS	Old	50	N/A	0			
Mutarakwa farmers	Old	20	N/A	0			
Kipangenge FCS	Old	200	N/A	0			
Longisa FCS	Old	53	N/A	0			
Chemosu Dairies	Old	28	N/A	0			
Chesilyot SHG	Old	32	N/A	0			
Gelegele FCS	Old	66	N/A	0			
Mosop FCS	Old	1500	N/A	0			

Active members of SBOs with MoU with KDSC	Status	Active members of SBOs with MoU with KDSC (2009)	Active members of SBOs with MoU with KDSC (2010)	New beneficiaries (20101)	Farmers reached via other milk shed interventions	Services providers working with KDSC	Milk shed
Londiani FCS	Old	63	N/A	0			
Cheborgei FCS	Old	1500	N/A	0			
Average active members per SBO		**1037**	**829**				
Total		**79,830**	**75,436**	**35,177**	**68,435**	**619 (new=330)**	

NB: Total cumulative number of households benefitting distributed as follows: Cumulative active members of SBOs working with program (115,007); cumulative dairy farmers who are not members of SBOs working with program – reached through field days, breeders shows, milk shed working group activities and by service providers working with program (89,672 – 21,237 had benefited by end of Year 2); Service providers (619 – 289 had benefitted by end of Year 2).

Annex 8: Restructuring of milk pricing as a result of the formation of farmer federations facilitated by the KDSC program



Annex 9: 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 as it 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.

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 loses 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 flimsy excuses 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 callous and 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 contracting idle milk processing capacity that exists in the East Africa Community.
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 economy, 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 left wondering, as we struggle and work hard to produce for the economy, who is providing leadership for the long-term strategic vision for this industry?

Signed:

NAME	ORGANIZATION	POSITION	SIGN
[illegible]	[illegible]	SECRETARY	
[illegible]	[illegible]	CHAIRMAN	
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	

Annex 10: Letter of Appreciation from the New Kenya Cooperative Creameries Limited

NEW KENYA CO-OPERATIVE CREAMERIES LIMITED

KITALE

10-12-2009

TO: K.D.S.C.P. ----TRANSNZOIA MILK SHED

RE APPRECIATION

On behalf of New KCC Ltd; I wish to register my sincere appreciation for the tremendous work your group has done in our milk catchement areas of the entire TRANSNZOIA districts and its environs.

In July, 2009 during the milk shed working groups meeting, the milk deliveries to KITALE FACTORY WAS AT 27,000 litres of milk per day.

Due to intensive enlightenment on the importance of working as groups milk deliveries to our factory at the end of November 2009, had risen to an average of 48,000 litres per day.

The effects of the program have yielded positively to our esteemed dairy milk farmers and we thank the project coordinating team in the region.

FACTORY MANAGER
N.K.C.C. LTD. KITALE

Sylvester K. Biwott
For Nkcc ltd

Annex 11: List of Beneficiaries

Kenya Dairy Board (KDB): Is the key public agency that both regulates and promotes the dairy industry. The main functions of KDB are the enforcement of national standards for the dairy industry, training for the industry, facilitation of stakeholders' activities, maintenance of a databank for the industry, and regulation of imports.

The KDB has perhaps been the most active DTF member, and has received a number of sub awards to carry out a number of activities on behalf of the task force. Some of the activities are:

- Organizing out the peace field days on behalf of the DTF. They organized four field days in the reporting period
- The Board is engaged in writing and/or reviewing the industry codes of practice, including the food safety manual, milk ordinance, dairy code of practice, among others
- The Board launched the milk quality improvement program in the year, with facilitation of the KDSC program.

Kenya Bureau of Standards (KEBS): Is a Government of Kenya (GoK) agency that has a major role in the regulation of the dairy industry as the statutory body charged with the enforcement of standards and certification of quality standards of all products and services in the country. The agency is actively engaged in the development of industry standards, specifically the Good Manufacturing Practices (GMP) with other DTF members. The KEBS has been actively engaged in the writing of all the quality standards targeted for review. The organization is also an active player in the milk quality improvement program.

Kenya Dairy Producers Organization (KENDAPO): KENDAPO is a national association of dairy producers who have an interest in the development and promotion of the dairy sector, and was formally registered in 2007.

Kenya Livestock Breeders Organization (KLBO): The KLBO is an Independent organization formed under the auspices of the Agricultural Society of Kenya (ASK). It is responsible for the collection, analysis and maintenance of livestock pedigree and performance data and its subsequent certification. The organization provides two services: Livestock registration with accurate and authentic ancestral and identification information of animals (including date of births and pedigree details); and Dairy recording services, which details dairy milk yields and milk quality analysis. These services are essential if sector competitiveness is to be achieved. The KLBO has benefited from support from a number of development partners, which has led to the development of a strategic plan and modernization of its data systems. However, use of these services is still very low, with a program survey showing that majority of dairy farmers (over 50%) do not know what KLBO does. We are working with the organization to remedy this. Considerable progress has already been achieved.

Kenya Livestock Producers Association (KLPA): The KLPA is an apex organization that provides a voice for small-scale livestock producers at the policy making level. The organization's mission is to ensure improved livelihood of livestock producers through formulation of appropriate policy, stimulating reforms, promotion of good livestock husbandry practices, collecting and disseminating information, and promotion of general interest of its members.

Smallholder Business Organizations (SBOs): The program carried out a capacity assessment and action planning for 77 groups in the 8 milk sheds in the second year. We have since worked cumulatively with 114 and hope to extend coverage to all SBOs in the milk sheds in the next Financial Year. We have also been reaching these other groups through field days. The complete list of SBOs reached in Year 2 and 3, together with membership is attached (Annex 7).

Dairy Task Force: The DTF operates like the program and sector advisory committee, and is composed of all industry stakeholders**.** The DTF was officially appointed by the Minister of Livestock Development (MoLD), and is co chaired by the KDSC and the KDB. The program only addresses issues (review of legislation, etc) that have been prioritized by the Dairy Task Force as meriting review due to their importance to the sector and/or the regional market. The DTF, through the Dairy Technical Committee of the Kenya Bureau of Standards must submit a letter of request for support before the program initiates any such review. See list of composition in Annex 12.

Central Artificial Insemination Station (CAIS): CAIS is a national institution responsible for the following among other duties: Recruitment and rearing of bulls for semen production; Production and distribution of superior quality disease free semen; Availing A.I equipment to customers at cost; Rendering specialized services to customers such as own-farm semen collection and collection of samples for testing of reproductive diseases; Collaboration with other institutions in training and research on semen production and handling; Marketing and distribution of semen, Liquid Nitrogen and equipments to A.I. Service providers. In the Year, we contracted a consultant to look into the issues that affect semen distribution in the country with a view to helping rectify the situation in the remainder of the third year of program implementation.

Dairy processors: Have been actively engaged with national processors in program implementation. The nature of our engagement has been through organizing farmers to help reduce cost of operations – mainly transport costs – for optimal resource - time and money - use. A number of these processors are Dairy task Force members. The program is also negotiating with the processors to invest in milk cooling tanks and locate these in the SBOs working with the program to limit investment and operating costs at the SBO level, and also to improve milk quality.

Service Providers: The program is currently working with a total of 619 private service providers. These are providers who have signed a Memorandum of Understanding (MoU) with us and have linked to the farmer groups/SBOs working with the program.

Annex 12: Members of the Dairy Task force

No	Name	Organization	Telephone	E-mail
1	Machira Gichohi - Chairing	KDB	0722-700717	pgichohi@kdb.co.ke
2	Mulinge Mukumbu	L'O'L	0722-703602	mulinge@landolakes.co.ke
3	J. P. Cheruiyot	MOLD	0733-924492	pmedivision@yahoo.com
4	Valentine Miheso	TechnoServe Inc	0722-527552	vmiheso@tus.org
5	Muhika Mutahi	KENDAPO	0722-901814	dmutahi@yahoo.com
6	Musyoka Duncan	KLBO	0723-379048	musyokambai@yahoo.com
7	Nathaniel Makoni	ABSTCM Ltd	0722-700355	abstcm@iconnect.co.ke, nmakoni@yahoo.com
8	Alex Kirui	HPI Ltd	0721-664611	Alex.kirui@heiferkenya.org
9	John Gethi	Brookside Dairy	0722130000	johng@brookside.co.ke
10	Dr. Murekefu, WK	MOLD(DVS)	0722-895983	wkmurekefu@yahoo.com
11	Simon Kimenju	Tegemeo Ins.	0722-425707	skimenju@tegemeo.org
12	Judy Kithinji	SITE	0720-832437	Judith-kithinji@sitenet.org
13	Dr. Josh Odhiambo	World Wide Sires EA Ltd	0722-452173	josh@wwsiresed.co.ke, owiajoss@yahoo.com
14	Boniface Mburu	Consultant	0733-223558	bonifacemburu@yahoo.com
15	P. K. Cherono	KDB	0725-700962	pcherono@kdb.co.ke
16	Dr. Kipkirui Arap Langat	ESADA	0727-305069	klangat@dairyafrica.com
17	Lawrence Were	New KCC	0727-200278	werelawre@yahoo.com
18	Dr. Wamukuru H. K.	CAIS	0722-370231	cais@africaonline.co.ke
19	S Murimi –Taking minutes	KDB	0722-901345	smurimi@kdb.co.ke
20	General Manager Spinknit Dairy	Spin knit		
21	Plant manger Githunguri Dairy	Githunguri Dairy		
22	Cooper (K) L	Cooper (K) L		

Annex 13: Reports prepared during the year

Two assessments were conducted in the year. These include:

1. Consumer Milk Quality Perception/Preferences and an Assessment of Willingness to Pay for Quality
2. Market Structure, Conduct and Performance of Milk and Milk Related Products

Other assessments carried out by the program in the previous years are:

1. Business Development Services (BDS) Diagnostic surveys 1 and 2
2. Small holder Business Organizations Capacity and Performance Assessments 1 and 2
3. Good Manufacturing Practices Manual
4. Dairy Institutions/Organizations capacity Assessment, among others

Reports of the assessments can be accessed at: http://www.kdairyscp.co.ke/publications.asp?DocumentTypeID=1&formpost=1 .

U.S. Agency for International Development
USAID/Kenya Mission
C/O American Embassy
UN Avenue, Gigiri
Nairobi, Kenya

Tel : +254-20-862 2000
Fax : +254-20-862 2680 / 2681 / 2682
www.usaid.gov/ke