# EAST AFRICA DAIRY DEVELOPMENT NEWS

EADD is a Project of Heifer International in Partnership with ILRI, TechnoServe, ABS TCM and ICRAF

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# **Unlocking the Potential of Small-scale Dairy Farmers.**

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A young farmer delivers milk to Kiboga West chilling plant in Kyankwanzi District, Uganda. Photo/EADD (Inset the new feed mill at BUBUSI)

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#### A New Feed Mill for BUBUSI Co-operative in Uganda Brian Kawuma

Bubusi Dairy Cooperative which is a traditional market hub (TM) and Namayumba Integrated Farmers' Association (NIFA) have formed a joint venture called the Busiro Bulemezi and Singo Farmers' Association (BUSIFA) to set up and operate a new feed enterprise. The venture is jointly facilitated by National Agriculture Advisory Services (NAADS) and EADD.

The feed mill has finally been installed and will be officially commissioned very soon. Already the dairy ration recipes which are based on locally available crop residues have been developed and milling/mixing and sales have already commenced. The products are trading at a competitively priced dairy ration comprising of 17% protein.

The feed mill has a production capacity of ten (10) tonnes per day and in its initial stages will produce dairy meal in varying quantities that will be fairly priced so that all farmers can afford. The feed mill is expected to expand its production in the future to produce feeds for all kinds of livestock and domestic birds.

This new venture brings a lot of hopes and relief to the farmers who in the past have had to travel over 30 kilometers to the urban centers to procure a not-so-cheap ration of dairy meal.

"We are full of joy and optimism for our new feed mill

business, now our farmers can afford alternative and affordable source of feed supplements to their dairy cows. This will really boost our milk business, especially in the dry seasons," says Gideon Tamale, the manager of the new feed mill.

Brian Dugdill, EADD's chief advisor visited the new feed mill and appreciated the work of the EADD team together with its partners in the project and farmers of BUBUSI. "We look forward to fair priced, quality dairy meal produced by the mill, purchased by the first BUBUSI co-operative shareholder, under the check-off credit system and fed to the first dairy cow!" He says.

In its advisory role, EADD helped the co-operative develop a business plan and linked the farmers to a supplier of the equipment which offered the co-operative a flexible payment terms. EADD also guided the co-operative leadership in recruiting qualified staff for the feed mill in addition to training them in business management.

This new business venture will boost milk yields for the farmers as a result of improved nutrition and consequently will impact positively on their milk incomes. The shareholders of the cooperative are also expecting to earn greater dividends from the profits made by this mill.



The new feed mill at BUBUSI: Farmers will largely benefit from varying quantities of dairy meals at affordable prices, especially during the dry season. Photo/Brian Kawuma

#### Kokiche Dairy Cooling Plant: Unlocking the Potential of Small-scale Dairy Farmers Beatrice Ouma



A commercial truck collects milk from Kokiche dairy plant. The plant has brought a lot of economic benefits to the area especially to thousands of smallholder dairy farmers. Photo/ Paul Karaimu, ILRI

Kokiche dairy cooling plant is located in the picturesque hills of Kenya's Rift Valley region, near Sotik town of Buret district. The area has a relatively good climate suitable for both crop and dairy farming. Many farmers here are subsistence farmers who keep dairy cows as well as grow tea and maize on a small to medium scale.

Dairy farming has been practiced here by many generations mostly for household consumption as well as to generate income for families. The intervention of East Africa Dairy Development (EADD) project to catalyze rural economic development through dairy hubs has created an attitude shift to commercial dairy farming. Anchoring this economic development are the farmer-owned milk cooling tanks such as the 6,000 liter capacity tank in Kokiche.

Kokiche dairy cooling plant is a farmer owned limited company with members drawn from smaller dairy management groups of farmers from Konoin, Kimulot and Cheptalal divisions of Buret District. These smaller dairy management groups enable small-scale farmers to pool their resources together to be able to buy shares in the cooling plant. A share at the plant is sold at Kshs 20 (USD 0.25). The minimum number of shares each member is allowed to purchase is 150 shares and maximum is 250 shares.

With support from EADD, the management of Kokiche has managed to mobilize 2100 investor dairy farmers who raised the initial capital required to purchase the milk cooler they are currently using. Mobilization and sensitization of farmers is an on- going activity and Kokiche hopes to attract as many farmers as possible to be part of the new business that will significantly increase their milk earnings. Operations in Kokiche began earnestly in March 2010 when the new milk cooler was officially launched by then Kenyan Minister for agriculture William Ruto.

Gideon Cheruiyot is a retired civil servant who is now a dairy farmer and one of the directors at the milk cooling plant. He has watched the company grow out of nothing to where they are right now. "We started with about 500 liters and now we are averaging about 2, 500 liters per day. This is a big boost for us and we are working towards increasing our productivity and fully utilizing this cooler," says Cheruiyot.

Currently there are about 350 active milk suppliers to the cooler supplying an average of 5-10 liters of milk per farmer, per day. Milk production has increased following intense training by EADD through the cooling plant management. Farmers are now adopting new technologies such as artificial insemination and good feeding practices to increase their milk production and subsequently their income.

"Our farmers now know they do not need large tracts of land to keep their animals. Zero-grazing is more efficient and with better management, their dairy cows can now produce more milk," says Kenneth Rotich, the manager of the dairy plant, who is in charge of overseeing its daily operations.

The dairy plant directly employs 8 staff and another 20 milk transporters. It has also indirectly stimulated income generating activities especially for many young men and women in the area who have found new opportunities as collectors and transporters of milk from the villages surrounding the plant. Many small businesses providing farmers with services such as mobile phone money transfers, artificial inseminations, animal feed stores have also began to emerge.

#### **Turning Challenges into Opportunities**

It has not been a smooth ride for the Kokiche plant. In its initial stages, the plant encountered a number of challenges; the biggest of them was milk hawkers who have operated in the area for many years. Competing with hawkers is a difficult feat as hawkers offer farmers slightly higher prices for their milk. But Kokiche has been able to win over many farmers by providing a stable market for their milk as well as other add-on services like subsidized artificial insemination, farmer trainings and the check-off system of payment. Many of the hawkers have now began delivering milk to the cooler.

"Despite the challenges, the business model is working and we are paying farmers on time and consistently, which encourages them. I see the challenges we face as opportunities, they make us think of new ways of reaching farmers and I believe Kokiche will grow to greater heights," says Rotich. Farmers of Kokiche have big plans for their business. Already they are planning to launch an Agrovet shop to provide farmers with a range of farm-care and animal health products in the next two months. The farmers are also planning to establish a village bank in the near future to provide them with banking services including access to loans to upgrade their dairy businesses.

"We want our farmers to fully enjoy the benefits accrued from the dairy industry. With this milk cooler, we are seeing that farmers are going to engage fully into the business of dairy farming," concludes Cheruiyot.

#### **Tetra Pak:** Committed to Strengthening the Dairy Value Chain | Wanjiku Mugo, communications manager, Tetra Pak.

Tetra Pak Eastern Africa Limited is collaborating with EADD and the state owned processor, New Kenya Co-operative Creameries (New KCC) to develop dairy hubs that will regulate milk production in Kenya.

In this partnership, Tetra Pak joined its partners in launching the first dairy hub which was Kokiche dairy hub in Sotik town of Bureti District in Kenya in March this year. The second hub which Tetra Pak is committing to help develop is Metkei dairy hubs in Keiyo South District which was recently launched in October 21 2010. Working with New KCC and EADD, the hubs will benefit over 30,000 dairy farmers and further develop the dairy sector value chain.

"The intention of this unique partnership was to bring together players in the local dairy value chain by sharing expertise and resources so as to increase, the quantity and quality of milk processed through the cooling plants established by EADD. This is expected to bring sustainability in the sector and ensure milk availability all year round," said Tetra Pak's Project Manager Walter Ogonje.

#### How Does the Partnership Work?

Tetra Pak is currently conducting a value chain study on milk availability, collection patterns and practices and proposing strategies and resource requirements for both hubs. Tetra Pak will also equip the farmers with food grade containers for transporting and packaging of milk to satellite collection centers and the cooling plant while strengthening the hubs' management capacity. NKCC will then offer competitive milk prices to the hub farmers for all milk produced at the two cooling plants and transport this for processing into long life (Ultra Heat Treated) milk at the Sotik processing plant.

EADD on its part will continue to provide technical support to the hubs and to farmers to increase milk production through improved breeds, good feeding practices and continuous trainings offered to the farmers and the hubs management.

This combined effort will ensure that small-scale farmers maximize maximise income accruing from the dairy industry.

Tetra Pak is looking into increasing the number of hubs they support in the near future. "It is our endeavor to collaborate with sector players with an overall aim of introducing professionalism in the dairy industry whilst ensuring processors have consistent quantity and quality of milk supply throughout the year," Says Ogonje.

## ...The Partnership between Tetra Park, New KCC, EADD and the dairy hubs will benefit over 30,000 dairy farmers...

### EADD Launches Farmer Training Radio Program in Uganda | Brian Kawuma

In an effort to increase access to information and knowledge along the dairy value chain and more so for the benefit of smallholder dairy farmers, the EADD project in Uganda has launched a farmer radio training program called *Ente Bugagga* (livestock is wealth).

The program, a first of its kind in the dairy industry in the country, is offering trainings to hundreds of dairy farmers on different topics relating to the dairy industry as presented by different experts assisted by EADD field staff. It is also providing a forum in which farmers can discuss issues that are affecting their dairy production through interactive call-in and short messaging (sms) sessions.

In Uganda, Radio is the most listened to mass medium commanding a large listenership especially in the rural areas. Radio is also relatively affordable and cuts across the barriers of illiteracy. Currently, EADD is partnering with two local radio stations, Buddu FM in Masaka and Radio Kitara in Masindi to air 1 hour programs on dairy farming. The programs air on Sundays from 9-10 p.m on Buddu FM and on Wednesdays from 8-9 p.m on Radio Kitara.

The programs are mostly pre-recorded based on issues that farmers on the ground are asking for and once in a while experts are brought into the studios for live discussions with farmers. The programs also feature news



Hamzat Senoga, one of the radio reporters interviews a farmer for the weekly farmer's training radio program

updates on events and happenings in the dairy sector as well as provide weekly updates on milk market prices in the different EADD project sites and the country at large.

This radio initiative is currently being conducted on a pilot scale for a period of six months but EADD hopes to partner with more local radios stations to engage a wider audience.

#### EADD Mid-Term Evaluation: Taking Stock of Progress and Looking Ahead Simiyu Gaitano



A small-scale farmer milks her cow in Mukono district in Uganda. The independent mid-term evaluation indicates that EADD has made significant progress in improving the income of smallholder farmers. Photo/EADD

The East Africa Dairy Development (EADD) independent mid-term evaluation was officially completed at the end of August, 2010. The exercise started in May and was conducted by a very competent team from TANGO International (USA).

The evaluation involved EADD's major stakeholders across the areas of operation, including farmers, project staff, processors, government officials and partners. Key findings from the draft report circulated in October shows positive progress of the project interventions towards its vision of success.

Overall, the report indicates that in all three countries EADD is on course towards achieving its goals of positive impact on household income earned from dairy, diversification of household livelihood strategies and improved commercialization of small-scale dairy production.

The evaluation team also came up with a number of findings of areas to strengthen/improve on or change interventions/strategies all together within the remaining period of phase one of the project and/or in the potential phase two, including targeting of poor dairy farmers.

We thank all the farming communities, EADD staff, consortium partners and all stakeholders who participated in this exercise; your time and availability was of great value in making this exercise successful. We are committed to making good use of the findings and recommendations across all appropriate levels in the regional dairy sector.

## Update on the Science and Innovations Project for Agricultural Value Chains Project (Cassava, Dairy, Maize) | Brian Dugdill

The EADD family supports a number of other agriculture initiatives in Africa funded by the Bill and Melinda Gates Foundation. One of these, the above-mentioned agricultural value chains project, brings together leading African and US scientists and venture capitalists along with value chain specialists in the cassava, dairy and maize value chains to: 'indentify out-of-the-box, innovative technologies that would add significant value for smallholder families'.

The Scientists and venture capitalists visited Kenya last year to observe the dairy and maize value chains. They also visited Ghana for cassava. EADD provides dairy value chain expertise. At the first briefing meeting in Nairobi we proposed a number of potential areas for consideration that could greatly benefit smallholder dairy farmers in Africa and, indeed, the dairy sector at large.

- 1. Milk safety: rapid, low cost platform test for assessing raw milk hygiene/keeping quality
- 2. Dairy cow reproductive health: rapid, low cost test for stall-fed cows for
  - (i) prenancy diagnosis &
  - (ii) pregnancy diagnosis
- 3. Tick-borne diseases: a panel test
- 4. Maize/feed storage: low-cost, modified plastic tank with dryer option
- 5. Plastic milk can with anti-micrbial inner lining: easy stackable-transportable-cleanable
- 6. Cassava tuberator: energy efficient dryer

Over 200 ideas were generated during the Africa safari. These were whittled down to 22 technology concepts that were presented to the Foundation in Seattle last November. Six technologies were selected for further development (see box). Our EADD team is involved in five of these including, with the East African Grain Council (EAGC), adapting the ubiquitous plastic water storage tank to store and dry maize, initially at farm level and, ultimately, to add maize storage and trading at the dairy hub level.

Many of you will know that post-harvest losses of maize and milk in Sub Saharan Africa are extremely high: 15-30% for maize and up to 25% for milk. And that maize and milk losses directly affect the food security and livelihoods of our EADD farming families. Both maize and milk are staples in our three EADD countries of Kenya, Rwanda and Uganda, where losses valued at over US\$ 200 million annually are reported (FAO, 2006; EAGC, 2010).

Safe on-farm maize storage not only has the potential to boost farm incomes by reducing losses but would also permit farmers to sell later in the year when prices are higher than immediate post harvest prices. EADD and EAGC therefore requested the Foundation to fast track commercialisation of the low-cost plastic tank storage technology, and to add silage making and feed storage – making the tank multi-purpose. When smallholder dairy farmers make silage in small quantities wastage is usually high and feed value poor; making silage in air-tight tanks should improve quality and reduce wastage.

A cheap multi-purpose prototype tank, tentatively christened the Food-Feed Bank, has been developed with the Kentainers company in Nairobi (see photo – the lid is air-tight). Kentainers have a 60% plus share of the plastic water tank market in East Africa. Food grade plastic is more durable and significantly cheaper than the small on-farm metal maize stores being tested elsewhere.

Development and commercialisation of the Food-Feed Bank will take place in two phases. First an EADD-EAGC field team will carry out preliminary on-farm tank testing with farmers at the Kabiyet Dairy hub near Eldoret. The work has just started on 50 farms with two prototypes: (i) a one bag (90 kg capacity) tank and (ii) a five bag (450 kg capacity) tank for:

- storing maize;
- making maize stover/molasses silage;
- making Napier grass/molasses silage;
- making green maize stover silage;
- making sweet potato vine/maize bran silage (together with the ILRI Sweet Potato Project).



The prototype maize tank- Photo/Brian Dugdill

#### Feedback from the pre-testing will inform the main project to be jointly funded by the Foundation and USAID that will include:

- Further tank testing for maize storage, including against post-harvest pests such as the maize weevil and large grain borer; also on in-tank dying.
- Developing larger scale 20 to 50 tonne capacity plastic storage silos and adding maize and animal feed trading to the dairy hub business platform (see diagram). Maize trading will incorporate the EAGC promoted small-scale grain producer warehouse receipting system. It is hoped to use waste heat from milk cooling for drying purposes.
- Commercialising the technologies, including skills transfer, awareness and marketing.

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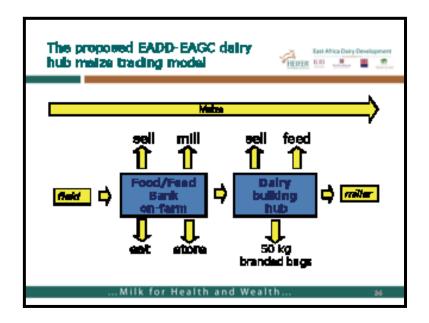
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The storage initiative has attracted a good deal of attention. Institutions and investors such as CIMMYT (International Maize and Wheat Improvement Centre), Root Capital – a US-based venture capital group, USAID and others have recently come on board for the main project.



To Ben and Menjo, the EADD-EAGC Kenya field team and Kabiyet farmers – *good luck with the on-going scoping work!* 

Work is also underway to progress the validation and potential commercialisation of the other dairy technologies.

Given the intense interested in the entire value chains initiative, and following a stakeholder meeting at the American Academy of Sciences in New York in May this year, Meridian Institute, the US-based consulting firm that leads the Foundation value chain project, has drawn up a proposal to establish a permanent Post-Harvest Technology Commercialisation Hub in Sub Saharan Africa.

The hub would:

- Catalyze technology commercialization processes by engaging key partners and structuring effective product development, commercialization, and adoption partnerships between technology developers, private sector partners (entrepreneurs, SMEs, MNCs), sources of financing, and smallholder farmers, processors, and other value chain actors.
- Strengthen and scale up design and commercialization practices that focus on technology adoption through early and on-going engagement of relevant stakeholders across the value chain including but not limited to farmers, product manufacturers and distributors.

We will keep you posted on developments!

## **Country Updates**

### From Uganda | Brian Kawuma

#### Farmer mobilisation and dairy groups

An extra 2041 farmers were mobilised and a total of 280 Dairy Interest Groups (DIGs) created. The community based organisation in Kirinya has been facilitated to kick off the process of transformation into a cooperative society. An interim committee was elected to spearhead mobilisation of farmers in the existing Dairy interest Groups.

Nsambya Dairy Farmer Business Association (DFBA) elected a new executive board. Registration of Wankoba as a cooperative has commenced while farmers of Tusuubira womens group were trained in cooperative formation, registration and governance and the grou-p was given by-laws.

#### Farmer trainings and field days

Six farmer field days were held in quarter three with a total of 695 farmers trained in different production topics that included animal health, feeds, milk quality and breeding. 53 new trainers of trainers (ToTs) were trained.

#### **Community animal health services**

2,122 farmers accessed animal health services and 53 linkages were created between DFBAs and private Vets. In Bugulumbya, the extension services assistant was equipped with a motorcycle.

#### Model farmer development

96 farmers were identified for development into model farmers and supported with seed for establishment of fodder.

#### Feeds

Farmers have been seriously engaging in dry season feeding activities (silage and hay making) in preparation for the December-February dry season. This comes after their participation and experiences in dry season feeding technologies. The use of pulverizers to increase utilization and management of crop residues has aroused a lot of interest among farmers following a learning visit to Kenya and seeing how their counterparts there maximise use of crop residues. Many farmers are seeking to purchase the pulverizers.

#### Milk bulking and chilling

Farmers have continued to work together and pool resources to buy shares and raise equity to buy their own chilling plants. Nabitanga Dairy Farmers Co-operative Society acquired a 5000 litre capacity cooler. The chilling plant is up and running and is currently bulking over 3000 litres. EADD is in talks with the Uganda Microfinance Support Centre to try and secure chilling plant financing for the other DFBAs.

#### From Rwanda | George Mose

## Mobilization of women into dairy co-operatives intensifies

EADD Rwanda intensified the mobilization efforts in the third quarter to increase the number of women participating in the co-operatives as shareholders and as leaders. The team used different strategies including engaging women leaders in the community, holding specific trainings for women trainers of trainers (TOTs) and using women networks. Three workshops targeting women leaders in Nyagatare, Rwamagana and Gatsibo districts were held and over 300 women participated.

In September, EADD conducted an open day in Ndatemwa, Gatsibo where over one thousand women from different sectors attended. Gertrude Uwanyirigira, a resident of Kiramuruzi Sector was a participant and had this to say, "Women have not had enough knowledge about benefits of joining together through co-operatives, such trainings make us informed about the benefits of pooling our resources together so we can lift each other up and be able to improve our lives". The event was also attended by the local administration.

# Musha dairy co-operative elects new committee members: Woman elected as chairperson

Members of Musha chilling plant re-elected a new committee to replace the old one that was deemed ineffective. The elections, held on the 3rd September, 2010 was attended by 152 members and a female chairperson was elected to replace the old chairperson. EADD will work closely with the new committee and build their capacity in group dynamics, effective governance and management of farmer businesses.

#### Management teams and staff of dairy hubs trained on business opportunity services

In order for the dairy hubs to expand their business options, EADD trained the management teams and staff from the six new sites of Rubona, Kigabiro, Ngarama, Musha, Muhazi, and Ndatemwa. The teams were trained on business development services (BDS) and business opportunities service (BOS) in August, 2010. Follow up sessions after the trainings revealed that some chilling plants like Kigabiro and Ndatemwa are already implementing some of the lessons learned from the trainings. Kigabiro chilling plant is now selling feeds to its members while Ndatemwa has signed contract with a service provider dealing with feeds.

#### Farmer open days

EADD held two farmer open days in Muhazi and Ntunga, of Rwamagana cluster. The farmer open days attracted over 600 farmers and over 30 service providers. EADD's external midterm evaluators from Tango had a chance to attend the open day in Muhazi. The aim of farmer open days is to link farmers and service providers so that farmer co-operatives can explore new business opportunities.

#### **Creating market linkages**

One of the objectives EADD is to improve market access. While securing market in Rwanda for dairy farmers pose considerable challenge, Rubona dairy cooperative in Rwamagana did manage to sign a milk supply contract with the nearby Jewish centre. where it will be selling milk.

#### Agrovets businesses in Kirebe and Isangano re-open as more dairy hubs acquire milk cans

Agrovet shops in Kirebe and Isangano which had been closed for over a year making it difficult for farmers nearby to access agrochemicals re-opened early July 2010. Meanwhile a number of dairy farmer business associations (DFBAs), including Rubona Gahengeri, Rwambiharamba, Isangano, Mbare, and Kirebe during the quarter procured milk cans from BrazAfric and Rwanda Animal Resources Development Authority (RARDA). The milk cans will be provided to farmer members on a credit basis, making them affordable. This is a positive development as the use of milk cans will boost the quality of milk delivered to the chilling plants.

#### Gender mainstreaming workshops

In the past quarter EADD Rwanda conducted two workshops on gender mainstreaming where a total of 80 female farmer trainers attended. 38 farmers were drawn from Nyagatare cluster while 42 came from Rwamagana cluster. The participants of the workshops were equipped with facilitation techniques to sensitize fellow farmers on gender issues in dairy development, specifically, the need for women to be involved in co-operative management committees and be shareholders. The women trainers are expected to be champions at the grassroots level.

#### Farmer exchange visits

A total of 127 farmers from 8 hubs benefited from two regional exchange visits to Kenya (Eldoret) and Uganda (Masaka) where they were exposed to modern farming systems and had opportunity to share both experiences and knowledge. The farmers were mainly from the new hubs engaged in 2010, including Ndatemwa, Muhazi, Kigabiro, Rubona and Musha. The aim of the trips was to expose the farmers to new innovations and share experiences. Similarly there were two local learning events within the national boundaries. Some farmers visited the Gicumbi district of the Northern Province while their counterparts from Rwamagana district visited dairy farms in Nyagatare district.

#### Community animal health providers (CAHPS) and farmer trainers (TOTs) trained on heifer heat detection and reproductive performance

Milk production that forms the core business of many smallholder dairy farmers in Rwanda can only be sustained through regular calving. Therefore, the key to success of the smallholder dairy farmers lies with good management of reproductive performance. In order to improve conception rates EADD Rwanda organized training on heat detection and reproductive performance. The participants included farmer trainers (TOT's), community animal health providers (CAHPs), artificial inseminators and co-operative leaders. The participants were drawn from the Nyagatare and Rwamagana clusters that are actively involved in the EADD project. The total number of participants who attended the first workshop on 24 September 2010 were 67 (14 females & 53 males) with 21% of them being females. The average age was 39 years with an age range of 23 to 60 years. The second workshop held on 27 September 2010 was attended by 78 participants (25 females & 53 males) with 32% being females. The average age was 41 years with an age range of 22 to 66 years. On evaluating the workshop some participants pointed out that the course was conducted in a participatory manner, the training pamphlets were good and understandable while others commended the facilitators and were particularly impressed by records keeping module.

#### Matimba dairy acquires loan to expand its business

During the quarter Matimba dairy co-operative acquired a loan amounting to Rwf 4 million (USD 6,803) from Umutara Community Resource and Infrastructure Development project (PDRCIU), a project of IFAD to expand its business. The cooperative is looking into buying a truck or a second milk cooler. The dairy co-operative which has been selling its milk directly to Kigali thus cutting out middlemen is currently enjoying an increase in its profit margins.

#### From Kenya | Jane Kithuka

#### Identification of dairy cows

Cow registration has been one of the activities that EADD has spearheaded. This activity is important because it the basis for proper record keeping, adds value to the dairy herd and enables traceability for purposes of proper breeding. In quarter three of 2010, 4451 cows were registered across all the sites.

## Local and regional exchange visits and technical learning events

After training the farmers on the various topics, farmers are taken on exchange visits to practically see and apply what they learnt. This activity boosts farmer adoption of new technology and increases their loyalty to the chilling plants. Exchange visits during the quarter focused on dairy management groups (DMGs) from one location to improve the impact of the training and ease logistical arrangements at the dairy farmer business association (DFBA) level. Priority was given to women and youths who went for farmer exchange visits in both Nakuru and Nyeri agricultural society of kenya shows. A total of 1,700 farmers participated in the activity.

## Animal health assistants (AHAs) trained and services to farmers increased

During this period AHAs were trained on Tick and Tick borne diseases which is one of the main killer of improved breeds. EADD is partnering with Galvmed and government through the department of veterinary services to provide dairy farmers with the East Coast Fever (ECF) vaccine. The implementation of ECF vaccination programme is schedule to start in the next quarter after necessary logistical plans are in place.

Other topics trained include milk quality and hygiene which has impacted positively in all sites by improving milk quality by more than 50% and reducing milk rejection significantly. Fertility of the dairy herd has also improved tremendously after training on breeding. Animal health assistants were also trained on de-worming, vaccination and other disease control techniques.

# Animal health assistants (AHA) provided with starter kits and motorbikes

Animal health assistants starter kits have come in handy in improving service to the farmer. 100 kits were issued and this

resulted to the confidence and trust that the dairy farmers place in the animal health assistants.

The tripartite agreement developed by EADD between the service provider, dairy farmer business association (DFBA) and a financial institution facilitating access to motorbikes has enabled 77 animal health assistants to access motorbikes. The motorbikes are paid through a check-off system by the DFBAs. Other beneficiaries for this arrangement are the artificial insemination service providers (AISPs), TOTs and transporters. This has not only improved the availability of animal health service but also artificial insemination services, extension work and milk collection.

## Farmers trainings on how to increase production and improve milk quality conducted

Farmer training has been a core activity for the EADD production team. The three main approaches of training farmers have been dairy management groups (DMG) training by Trainer of Trainers (TOTs), Field Days and exchange visits. Majority of the farmer are trained by TOTs. During the quarter 48,972 were trained by TOTs, 5,097 through field days and 1,700 through exchange visits. A total of 55, 789 farmers were trained.

22 qualified trainers were taken through a 3 day training and accreditation exercise. Topics of training included; clean milk production and handling, udder care and mastitis control, business development service (BDS) concept in extension service in milk quality and dairying as a whole. Others were dairy legislation and standards, dairy value chain and business development service, EADD data collection and reporting templates and business development operating environment and accreditation. As a result, 9,959 farmers were trained on clean milk production and udder care by the TOTs.

#### Aluminium milk cans slowly replacing plastic cans

Within the quarter the EADD dairy team worked towards reducing the use of plastic containers for milk delivery by farmers. This was done by facilitating linkages between aluminum milk can suppliers and the dairy plants hence encouraging the stocking of aluminum cans of small quantities (3 to 10 liter capacity) in the dairy plant's agro vet shops which farmers can access through check-off system of payment. Dairy farmer business associations (DFBAs) have acquired around 500 aluminum milk cans intended for milk collection and bulking. One of the DFBA's (Kabiyet) has completely eliminated the use of plastic containers to deliver milk. In Kipkelion Dairy Company Limited, a donkey harness has been developed to enable transportation of milk in aluminum cans by the donkey.

#### More milk collection centers established

This quarter saw the establishment of 11 milk bulking centers and one satellite village cooling tank installed at one these collection centers in order to reduce long hours in transporting milk attributed to milk spoilage.

#### Milk sampling and analysis

Periodic milk sampling and analysis have been an important exercise in the improvement of milk quality. This monthly exercise has majorly contributed to the reduction of microbial load and level of contamination. During the quarter, there was no occurrence of antibiotic residues in milk. This was attributed to intensive farmer training. Participation of the whole dairy farmer business association (DFBA) management and staff (manager, board, quality staff, graders, interns and field trainers) in improving milk quality and intervening on poor milk quality is yielding results.

#### EADD engages the Dairy Training Institute to train chilling plant staff on milk quality management

Since the milk cooling plant staff are a link between the dairy plants and the farmers, it is necessary for them to undergo rigorous trainings on dairy management. Hence a memorandum of understanding (MoU)was signed between EADD and the Naivasha based Dairy Training Institute to provide refresher courses on dairy management. Within the quarter 31 chilling plant staff were trained.

#### On-farm demonstrations of improved feeds and feeding systems

372 demonstrations were established within the quarter. Broadly, the demonstrations comprised fodder establishment, forage conservation, on-farm feed ration formulation - the total mixed rations using locally available feed resources and pasture improvement.

#### Trainings of extension-provider workshops conducted on high quality feed production and use.

In preparation for the expected dry spell, a major extension provider training was held where two extension providers drawn from each hub were trained on feed planning, partial budgeting and dry season mitigation strategies. In total 19 extension providers trainings were conducted with 258 providers trained. Farmers using high quality feeds

From the records of farmer trainings, exchange visits, study tours, field days and sales of the DFBA agrovet shops, an estimated 14,436 farmers had adopted improved feeds and feeding systems during the quarter.

## **Picture gallery**



Farmers attend gender mainstreaming workshop in Kibondo, Rwanda. Photo/George Mose



Molly Kusheka, EADD investment advisor trains farmers during a field day in Uganda. Photo/Brian Kawuma



Florence Kandole EADD milk quality and breeding specialist demonstrates to farmers good milking practices during an open day in Uganda. Photo/Brian Kawuma



Farmer trainers get trained on heat detection techniques in Rwanda. Photo/George Mose



Farmers deliver milk to the newly launched Metkei dairy hub. Photo/Jane Kithuka



During the launch of Metkei dairy plant, Tetra Pak presented a cheque of USD 31, 250 as part of the partnership to develop the plant into a fully-fledges dairy hub

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