



MAIN FEATURE

Milk for our children

by Fidelis Zvomuya

On Mondays, Wednesdays and Fridays, while his parents are still asleep, seven-year-old Peter Wanjiru from the Mukuru slum in Kenya's capital, Nairobi, rises in the early morning darkness to prepare for his long walk to school.

During these three schooling days, Peter doesn't need his mother's school wake-up call to take a bath and put on his tattered school uniform, leaving for school with an empty stomach. These days Peter and other children take on the long walk in a happy mood, as they expect to each receive a 200 ml bottle of milk provided by Tetra Pak Kenya under its school milk programme.

Close to 1 000 pupils at Gatoto Primary School in Mukuru kwa Reuben, a shanty-town in Nairobi's industrial area, come to school with an empty stomach. The shanty-town is home to most of the poor and vulnerable people in Kenya. Here, the people face a wide range of physical, social and environmental problems.

A reason to go to school

But during the school milk days, Gatoto Primary always records a 100% school attendance. According to Helen Too, Tetra Pak Kenya's marketing and communications manager, the school milk programme offers many rewarding benefits to the learners, parents and everyone involved in the dairy supply chain.

Too says this programme was started under the umbrella of her company's corporate responsibility and all the milk provided to the school is sponsored by Tetra Pak.

"We have seen that children develop their eating habits at a young age. Often these habits will be decisive factors in their health, throughout their lives. It is our goal as a company to promote both the present and future health of our children by helping schools to provide dairy products to their pupils and encouraging children to maintain a healthy diet."

She says that milk gives children nutrition that improves concentration, energy levels and learning performance: "We have made it a priority to support the development of good eating and nutritional habits that will last a lifetime.

"The whole idea is to encourage children to consume dairy products as part of a balanced diet and the promotion of the revamped school milk programme, which provides subsidies for the distribution of milk and other dairy products in schools and other educational establishments," Too says.

Health comes first

The scheme does not only have a nutritional character, but also an educational character and contributes greatly to the fight against obesity among children. This programme is also meant to support the development of the agricultural sector, as school milk programmes increase the demand for locally produced milk and eliminates milk surpluses. Jobs are created through the milk value chain.

"We have made it a priority to support the development of good eating and nutritional habits that will last a lifetime"

"It increases the demand for similar products in the commercial market, further fuelling growth. Except for all positive effects listed above, society as a whole benefits when costs for health care are reduced through the increased health and nutritional status of its population," she says.

Besides improving school enrolment and attendance, the provision of milk at Gatoto School now serves as a means of introducing healthy habits and basic hygiene practice.

In Kenya the school milk programme was introduced by former president, Daniel Arap Moi, in 1980. Its objective was to boost the health and diet of children. It was totally funded by government and rolled out throughout the country. It targeted primary school children between five and 13 years of age. By 2005 more than 4,3 million children from 11 000 schools were benefiting from the programme.

Local involvement

Kenya Cooperative Creameries (KCC) processed and packed the school milk. About 80% of the milk consisted of 200 ml containers of long-life milk, targeting schools far from the plant. The other 20% consisted of pasteurised 200 ml fresh milk aimed at the urban areas.

KCC provided three months' worth of training on milk-handling to the education officers. The milk was delivered to district educational offices. The offices, in turn, delivered the milk to schools twice a week. By 2005 the estimated milk requirement was 61,8 million litres per year.

But despite its successes, the programme also faced some challenges. It became too costly and unsustainable for government to deliver the milk, due to poor road infrastructure and high transportation costs. Heavy losses through spoilage, due to lack of experience/knowledge of milk-handling, were also recorded.

Lack of personnel capacity to handle the huge stocks of milk, as well as poor accountability on the part of the ministry of education, were some of the other challenges facing the programme. According to a Kenyan government report on the programme, they learnt the lesson that "free" is not sustainable in the long term.

"A countrywide programme may pose management challenges, as there is a need to start on a small scale, monitor and upscale appropriately," the report states.

The government continued with the programme on a lesser scale in the arid and semi-arid lands before pulling out altogether, leaving beneficiaries under the mercy of the World Food Programme (WFP). WFP was then taking care of 750 000 pupils in those areas, as well as in the Nairobi slums.

The School Feeding Initiative

The programme was briefly abandoned and was re-launched in September this year. The new programme, known as the Homegrown School Feeding Initiative, is an essential addition to the free primary school initiative which, despite removing the fee burden on parents, has left out many children whose families grapple with basic issues such as food and clothing.

The programme, which hopes to receive support from the government of Japan, will ensure that 450 000 of the country's poorest school-children have access to at least one nutritious meal a day. But, in general, Africa is now geared for an aggressive school milk programme as a way to create a milk drinking habit that benefits both individuals and society as a whole.


Many of the continent's countries are involved in school milk programmes and the structures and financing of these programmes vary. Also, the reasoning behind the implementation of the programmes varies.

But besides some countries having a successful school milk programme, many African countries are still lagging behind due to logistical, financial and organisational obstacles.

World School Milk Day

This year's World School Milk Day was held on 24 September. This date was chosen because schools were open in all the countries surveyed during this month. The end of the month was selected to allow countries in the Western hemisphere sufficient time to prepare for this day, as in most of these countries the school year starts in early September. Wednesday was chosen as it was a school day in all countries surveyed.

The first day was held in 2000 and it has since become an annual event. Over 30 countries, regardless of whether they are large or small, rich or poor, celebrate World School Milk Day, demonstrating that the interest in school milk is universal.

The Food and Agricultural Organisation (FAO) coordinates the celebrations. It is an "open" day and people are free to celebrate as they wish. Celebrations can be at any level – from national or regional events to individual schools. Some countries have started in a small way and have organised bigger celebrations with each passing year. 

HPI in Kenya

by Dr Reuben Koech, Heifer International Kenya

Heifer Project International (HPI) is a non-profit, humanitarian organisation dedicated to ending world hunger and saving the earth by providing livestock, training and other resources to help poor families around the globe become self-reliant.

What makes HPI unique, is the practice known as "Passing on the gift". By now *Dairy Mail Africa's* readers are well aware of this fantastic concept, where families who receive livestock and training, agree to pass on the first offspring, skills and knowledge to another family in need, starting a chain of giving that often touches thousands of lives.

Heifer International Kenya

Heifer International Kenya (HPI-K) started its operations in 1981 through the invitation by the Quakers church in Western Kenya. It started by supporting a women's group with their dairy cow project in Kakamega District under representation of Techno Serve (TNS).

In 1996, the programme became independent from TNS and grew gradually in its activities, covering more districts. The programme diversified support to communities with livestock species to include dairy goats, milk marketing, meat goats, oxen, donkeys, beehives, camels and livestock marketing.

By the end of June 2007, the programme had three fully operational regional offices in Nyanza, Coast and Western Kenya and has grown to cover six provinces and a total of 31 districts in Kenya.

In addition to the direct support to communities with livestock, HPI-K is currently supporting communities to initiate livestock enterprises including milk, meat and honey

marketing, community-based animal health service delivery systems and also supports private livestock service providers in the areas of animal health, extension and artificial insemination.

HPI-K continues to work with more partners and collaborators to support resource-challenged communities, including vulnerable men and women, widows, widowers, orphans and vulnerable children (OVCs), and people with special needs, particularly visually impaired persons.

“By the end of June 2007, the programme had three fully operational regional offices in Nyanza, Coast and Western Kenya”

The programme strengthens the capacity of supported families through training and provision of various livestock and livestock-related services. In addition, the programme also continues supporting communities to develop and strengthen market linkages, so that they can be able to sell surplus livestock and livestock products.

Programme vision

The vision of the HPI-K country programme is that, by 2010, beneficiaries, staff and stakeholders will have sustainable and secure livelihoods, dignity and hope for the future and will be resourceful, sensitised and aware of gender, HIV/Aids and living in a healthy environment.

To attain the vision, the HPI-K programme's implementation team comprises of relevant and strong partners, farm associations and

collaborators. The programme and office has effective and efficient systems, procedures and policies managed by competent staff. The programme supports communities in the current locations, and has also expanded its support in Rift Valley and Eastern Kenya.

The key priority areas of the programme are:

- Staff development
- Capacity building for project participants
- Enterprise development
- Resources and donor support
- Livestock and technical support
- Partnership and collaboration
- Gender and HIV/Aids.

Support to families


As of December 2007, HPI-K has assisted over 35 000 families comprising of over 254 000 members. Among others, the families have been provided with 4 003 dairy cows. In addition, most of the families are benefiting

from farmer-owned and managed livestock and livestock products (milk) marketing enterprises supported by HPI-K.

During the fiscal year 2006/07, a total 800 families were supported by the Maasai Livestock Health and Marketing project to vaccinate their livestock against major diseases.

Promoting the dairy industry

In 2007, a total 7 436 farmers marketed 10 517 884 litres of milk through the HPI-K supported four milk cooling plants in the Rift Valley and Central regions. They earned a net income of Ksh153 228 091 (US\$2 321 637). The milk cooling plants are Siongiroi Dairy Plant (Bomet District), Kipkelion Dairy Plant (Kipkelion District), Tanykina Dairy Plant (Nandi North District) and Olkalou Dairy Plant (Nyandarua District).

In these dairy plants, HPI-K has invested Ksh25,8 million jointly with dairy farmers. 



Mentoring for the greater good

by Fidelis Zvomuya

Smallholder milk producers should strive to produce good quality products to make it into commercial production and work towards the success of the country's dairy empowerment drive, says South African dairy mentor, Kotie Annandale.

Annandale is a mentor of the Centre for Producer Development (Cendel), an initiative of South Africa's Milk Producers' Organisation (MPO).

"Mentorship, empowerment and transformation of the smallholder dairy sector must be designed with the idea of making sure that upcoming producers will be in a position to join established commercial farmers in serving the dairy value chain and, most importantly, the consumers," Annandale believes.

According to him, mentorship must be about the transition from extensive quantity-based farming to intensive quality-based

farming. "We have to make sure that our upcoming farmers move from concentrating on production only, to connecting pre-production with post-production practices. They need to realise that production, supply and marketing are not isolated practices, but that all three elements must be integrated to ensure success," he says.

"Mentorship must be about transforming an inward-looking industry into one focused on becoming commercial and meeting the needs of consumers," he believes.

"This can only be achieved if the farmers get all the necessary support from the private sector, government and donor communities," he says. This support must be in the form of technical skills, as well as financial and material skills transfer. "Without government support, the success of the sector will remain a pipedream."



The South African Agricultural Research Council's emerging master dairyman for 2008, Jan Zim (left), is one of mentor, Kotie Annandale's (front), mentees. At the back are Adam Swarahla and Karabo Molomo, both milk recorders of the ARC's milk recording scheme (Photo: Johan Norval)

The mentorship programme is meant to expedite the smallholder's industrialisation – based on integration of the sectors before, during and after production. The farmers are taught technical skills, basic financial management, animal health, planning, feed production, milk handling, and identification and detection of diseases.

Individual attention

Annandale, who is mentoring five smallholder milk producers in Quaqua near the town of Harrismith, started the programme in February 2006. The farmers he mentors are Elliot Moloka, Ephraim Mbele, Jan Zim, Daniel Motoeng and Letta Mloi. He visits each farmer once a week. "I don't believe in group mentoring. I treat every farm as a different case. I like spending enough time with one farmer before moving to the next one. I am a

believer of hands-on mentoring. I must be on the ground with the farmer, working with him and giving practical examples," he says.

The farmers produce more than 700 litres of milk per day, which is sold to Nestlé. Since the farmers started working with Annandale, their milk quality and production went up 50% as a result of genetic improvement in their herds and the installation of cooling tanks.

Annandale says the bacterial and somatic cell count has also dropped significantly, although there is a need to engage a veterinary officer who will ensure that the required standards are met consistently.

Challenges

"Since I started working with the farmers, I have learnt that the smallholder dairy sector faces some cardinal challenges, which include household production on the super-small

scale, low-level industrialisation, concentrated market presence, and irrational structure,” he says.

Other challenges facing the farmers include cattle theft and slow response from the police in this regard, as well as the fact that the district has been without a veterinary officer for more than a year. Inadequate treatment and processing, an imperfect market mechanism, unsound distribution system for agricultural commodities, and an underdeveloped infrastructure are all causes of concern within this sector, says Jan Zim, one of the farmers participating in the mentorship programme.

“The mentorship programme has taught us that if we solve the productivity challenges, we will be able to operate more efficiently, thereby increasing our profit margins,” Zim says. Zim’s milking herd consists of 16 cows-in-milk, producing 250 litres per day (he also has some pregnant cows, calves, 32 dry cows and two Shorthorn bulls). His enterprise has developed to such an extent, that he has registered a brand, marked all his cows with eartags, erected an approved milking parlour and mixes his own feed rations – all with the assistance of his mentor.

Partnerships

The involvement of Nestlé, the MPO and agricultural service provider, Afgri, has seen not only the face of their dairy production changing, but also the strength of other agricultural sectors such as maize production. Most of the farmers are planting between 30 and 70 ha of maize with the help of Afgri.

This has seen farmers significantly increasing their profit on maize production. Afgri has agreed to plant an additional 10 ha of silage per farmer for the dairy animals.

Nestlé has provided the farmers with cooling tanks on a credit loan basis. They are also thinking of engaging a private veterinary officer to give the farmers technical skills.



Jan Zim, one of the farmers mentored by Kotie Annandale, in the veld with his milking herd

Success

The success of the programme has already been realised. Two of the farmers have been rewarded at provincial and national level. Ephraim Mbele was named the National Emerging Dairy Farmer of the Year in 2007, and Zim was named the Provincial Producer of the Year in 2008.

For the mentorship programme to succeed, the farmer must be willing and must have the resources – a farm and animals. “The mentor must have the necessary experience in dairy farming and must be willing to work odd hours – even if it means setting up his own hotline where the farmers can reach him 24/7.”

Annandale believes there is a lot of potential within the emerging sector: “The success of these farmers depends on the assistance which the sector receives from government and the private sector. Efforts to improve livelihoods should not just be limited to increased production, but should also emphasise market orientation.”

According to Annandale, this underlines the need to introduce a value chain approach; a market and technological support link between the producer and end-user. “Experience shows that small farmers can improve their earnings from dairy products by up to 50% when they are directly involved in the processing and marketing their own surplus milk,” he says. **DMA**

Milk report

The 2008 to 2017 *Agricultural Outlook* report produced by the Organisation for Economic Cooperation and Development (OECD) together with the Food and Agricultural Organisation (FAO), states that world dairy prices are expected to weaken somewhat over the next two years, as supply responds sufficiently to strong price incentives.

The *Outlook* report made public in June this year, says that while prices are expected to decline from current high levels, the expectation is that they will remain firm over the entire outlook and will remain higher compared to the previous decade.

“As with the majority of other agricultural commodity prices, when expressed in real terms, the well-established longer-term falling trend was reversed radically in recent years. However, dairy products are expected to resume a modest declining trend in future years, albeit from a much higher level than in the past,” the report states.

A pressing issue in the projections, concerns how the global dairy industry will react to the unprecedented price spikes observed in 2007 across dairy product ranges. There is broad consensus that industry has undergone structural changes – where international markets have

shifted from a supply-driven paradigm supported by distorting policies which used these markets as a dumping ground for excess supplies, to a more demand driven paradigm, responsive to market signals and consumer needs.

The growing relative importance of demand factors is further explained by urbanisation and higher incomes which have shifted diets in some developing economies towards a more diversified basket of dairy products, encouraged by growth in dairy marketing and retailing channels.

The *Outlook* report foresees that high international prices of dairy products will transmit strong signals for supply response from both traditional and emerging exporters.

More importantly, where trade linkages allow higher prices to be transmitted to producers in developing countries, they may create incentives for investment, expansion and restructuring. This will help to reshape their industries, which will be increasingly geared towards higher value-added processing of dairy products. Rising supply potential will enable future production growth and improved domestic marketing linkages, placing these countries in a stronger competitive position in regional and global markets.

Milk production gains over the *Outlook* period, will be overwhelmingly driven by output growth in non-OECD countries. Dairy expansion in India, the largest producing country in the world, will be especially marked, where surging demand growth will stimulate a strong increase in milk and butter production.

Driven by substantial yield gains, strong growth in milk production is also expected in China. This contrasts with moderate growth in the OECD area, where milk production increases mainly due to gains from Oceania and the United States, and is chiefly constrained by domestic production controls in many other countries. These supply developments constitute one of the more prominent trends in the *Outlook* for dairy markets.

Supply response, however, could be checked by higher production costs induced by both higher feed and energy prices. These affect production, processing and distribution of milk products, and will encourage the competitiveness of pasture-based systems.


They also will affect trade, as higher transportation costs put local production at greater advantage. The evolution of world dairy markets will also be influenced by extensive policy interventions and by internal food-security concerns, but also increasingly by environmental constraints linked to high livestock populations, water availability and competition for pasture. Increasingly, a higher production response in many countries will come from higher yields as opposed to increased cattle numbers.

OECD countries still dominate exports

World exports of dairy products are expected to grow for all products, with only a few developing countries able to affect the shares of traditional OECD exporters of Australia, New Zealand and the EU. In the latter, export shares could decline substantially, in light of a tight domestic market. Among the new exporters, Argentina is emerging as a dominant player in markets for whole-milk powder (WMP) and cheese, supported by its rising milk production capacity.

Similarly, Ukraine is expected to increase its presence on the export markets mainly for cheese. Import markets will remain rather fragmented compared to those for exports. The six largest importers of dairy products are expected to cover less than 50% of the world market.

In China, despite a strong increase in milk production, demand will continue to outpace supply and imports are expected to grow over the *Outlook* period, in particular for milk powders, where China will become one of the leading importers.

Russia is foreseen to remain the world's most prominent importer of butter and cheese, with imports rising by more than 60% over the *Outlook* period compared with the 2005-07 base. Driven by milk reconstitution needs, global imports of milk powders will grow by over 3% annually over the medium term, mostly in Asia and the Middle East. 

Service comes first

by Fidelis Zvomuya

Palmhouse Dairies Limited, a family business that grew out of a small-scale dairy farming venture, has made a considerable community impact by setting up one of Kenya's educational support foundations.

The company, which is owned by Eric Kimani and Margaret Munene (who is also the general manager), started keeping dairy cattle in 1987 and "hawked" raw milk in Nairobi from 1991 to 1996, when they set up a micro milk processing plant.

The processing plant

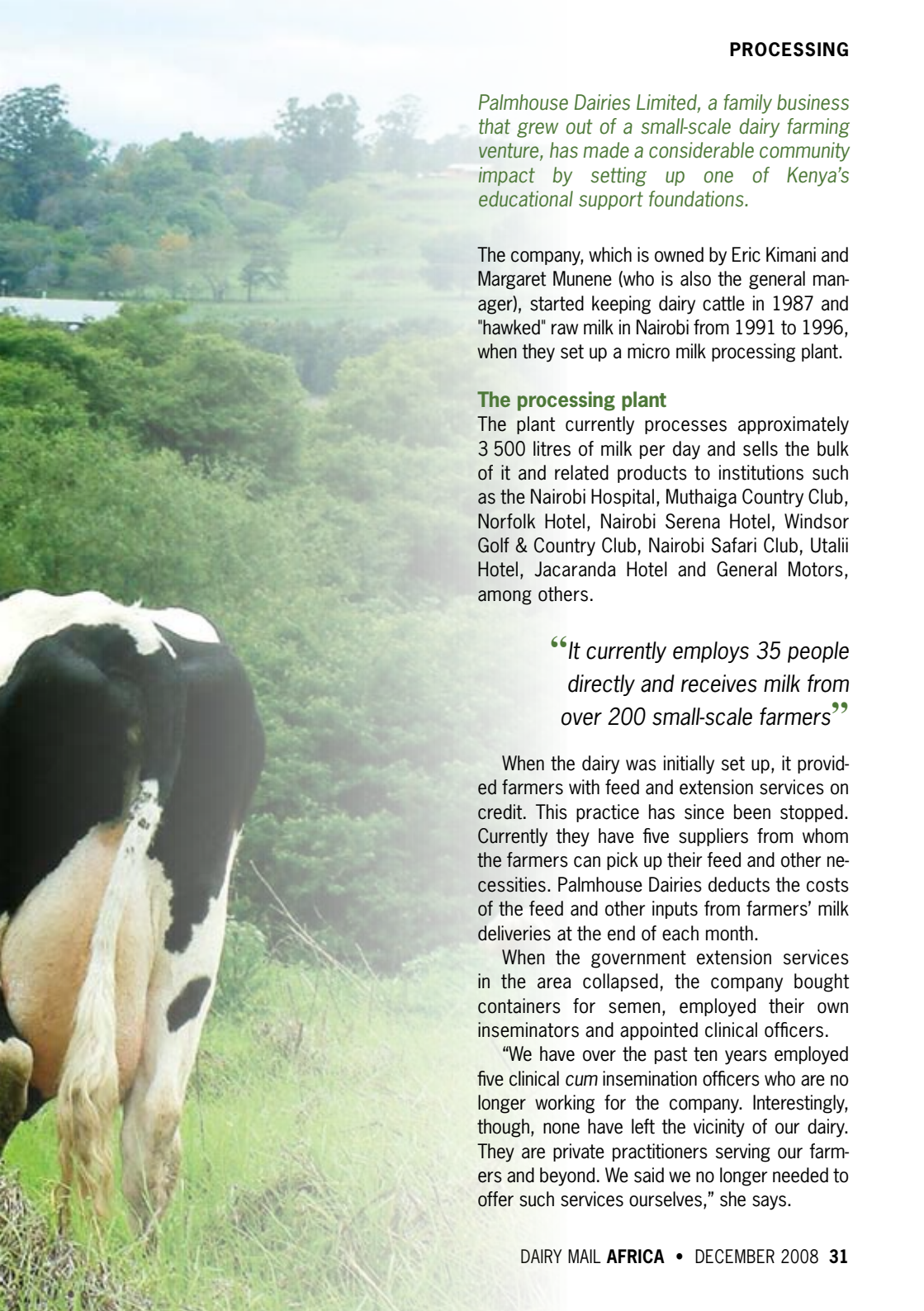
The plant currently processes approximately 3 500 litres of milk per day and sells the bulk of it and related products to institutions such as the Nairobi Hospital, Muthaiga Country Club, Norfolk Hotel, Nairobi Serena Hotel, Windsor Golf & Country Club, Nairobi Safari Club, Utalii Hotel, Jacaranda Hotel and General Motors, among others.

“It currently employs 35 people directly and receives milk from over 200 small-scale farmers”

When the dairy was initially set up, it provided farmers with feed and extension services on credit. This practice has since been stopped. Currently they have five suppliers from whom the farmers can pick up their feed and other necessities. Palmhouse Dairies deducts the costs of the feed and other inputs from farmers' milk deliveries at the end of each month.

When the government extension services in the area collapsed, the company bought containers for semen, employed their own inseminators and appointed clinical officers.

“We have over the past ten years employed five clinical *cum* insemination officers who are no longer working for the company. Interestingly, though, none have left the vicinity of our dairy. They are private practitioners serving our farmers and beyond. We said we no longer needed to offer such services ourselves,” she says.



Liberalising the sector

According to Munene, Palmhouse Dairies was among the first that responded to the liberalisation of the milk sector in Kenya.

It currently employs 35 people directly and receives milk from over 200 small-scale farmers. The farmers deliver their milk twice a day and the milk is electronically weighed on a computerised scale that ensures accuracy.

“Once received, the milk is pumped into the factory holding tanks or directly to the pasteurisation tank.

“It is pre-heated to certain degrees to allow it to go through a standardisation process and also remove cream, which we sell as a separate product,” says Munene.

The milk is then taken through a homogeniser and pasteurised to the required level and cooled to less than 10°C. The milk is then packed using semi-automatic pouch filler and put into a cold store, from where it is then issued for the market.

The packaging is done in half and quarter litre packets, while cream is packed in 1-litre packets. “We have other customers that we supply our product to in 10-litre returnable containers. Our milk can either be full-cream, standardised or skimmed. We pack other products in both packets and bottles. These are mainly yoghurts and other cultured products,” she says.

Milk is delivered to the market once every day in the morning, using vans.

“We pay our farmers on the 10th of each month through a direct bank transfer to the farmer’s account. We used to pay the farmers cash during our first two years of operation. At that time the farmers were resisting banking, but we have managed to instill a banking culture in them,” Munene says.

Palmhouse’s marketing strategy is aimed at serving a niche market, with 90% of the product being sold to 20 large premium institutions such as hotels and hospitals.

“Our winning marketing strategy is service delivery. We assure and deliver to our customers a customised service, both in terms of product and delivery schedule,” she says.



Margaret Munene, the general manager and co-owner of Palmhouse Dairies

Educating the nation

As a result of its success, Palmhouse has set up a foundation called the Palmhouse Foundation, which supports more than 136 students in various secondary schools throughout Kenya. The students are selected based on their needs and circumstances.

This includes students who have lost one or both parents through disease, or ethnic or politically instigated clashes, family instability, separation and divorce.

The Palmhouse Foundation presents several opportunities for individuals, corporate institutions and donor organisations that wish to be involved in philanthropic or corporate social responsibility initiatives in the field of education.

In addition to the Foundation, Palmhouse Dairies were also largely responsible for the Mukore Academy, a pre-primary and primary school, built next to Palmhouse Dairies with funds provided by the business. This was the first private primary school providing quality education in the area. Currently, some 300 students attend the school.

But despite all these successes, Palmhouse Dairies still faces some challenges. “Our major challenges are unfair competition from raw milk, poor infrastructure, power outages, cyclical weather leading to shortages and a lack of access to cost-effective funds,” she says. *DMA*

Lessons from China

by Koos Coetzee

During 2007 the world was shocked to learn that Chinese feed manufacturers had added melamine to feed products to increase the protein content thereof. The melamine-contaminated products ended up in pet foods and resulted in the death of several dogs before the practice came to light.

In 2008 a new melamine crisis developed – this time around the Chinese used melamine to give false higher protein readings for infant formulas. The resulting crisis caused huge problems for the Chinese dairy industry, as consumers stopped buying dairy products. At this stage it is still uncertain when or if consumer confidence in China will return to normal.

What about Africa?

Africa is a net importer of food products. While African food control regulations are more or less on par with standards in developed countries, the same is not true of our application of these regulations. Products are allowed to enter our borders without sufficient controls. Veterinary export permits from other countries are usually accepted without any questions.


The melamine crisis caused immense damage to the Chinese dairy industry and the industry will have to spend millions to repair this damage. African countries will have to beef up their customs control if they hope to prevent dangerous products from entering their countries.

Consumers can only make intelligent decisions if they have all the required information. Labeling standards must clearly specify the minimum information needed on product labels. These standards must be enforced, either through government or a government sanctioned certification agency, so that the consumer also knows that he can believe the information on the label. The consumer has the right to know the actual ingredients of the product he or she buys.

Religious groups are particularly sensitive for products prohibited by their religion. If it says “Halaal” on the label, the contents must be Halaal. And if it says “Kosher” it should not contain pork.

Food crises do happen periodically. When a food crisis occurs, industry must be able to reassure the consumer that its products are safe. Traceability from farm to fork is a prerequisite for any industry that wants to convince the consumer that its products are safe.

The recent melamine crisis is a wake-up call for the dairy industry to get its own house in order and to ensure that the consumer gets the safe, wholesome and healthy products he or she deserves.

(Dr Koos Coetzee is the chief economist at the Milk Producers' Organisation in South Africa. He is also the author of several books on the economy) 

A true partner for farmers

Brookside Dairy Ltd has emerged a market leader in milk production in the East African region, with fully-fledged sales operations in Kenya, Uganda and Tanzania. In Kenya, Brookside Dairy is proud of a legacy of helping to improve the standards of the livestock sector, and particularly helping to transform the lives of thousands of small-scale dairy farmers in Kenya.

Now marking 15 great years of existence, the company has formed a strong bond with Kenyan livestock farmers whose success is now a case study for other small-scale dairy farmers in the region. The case of Elisha Chumo, a one-time small-scale dairy farmer in Eldoret in Western Kenya, best exemplifies the success of the Brookside Dairy farmers' programme.

Before interacting with the Brookside Dairy field extension team in 2001, Elisha used to practice maize farming on his 100 acre farm, and kept only a few cows for the family's daily milk needs. That was before Brookside introduced him to dairy farming.

He converted his entire farm to dairy farming and now talks with pride of being able to produce over 400 kg of milk daily. His farm is now a model farm for upcoming dairy farmers in the area.

Our formula for increased milk production

Our success, and indeed that of the Kenyan dairy sector, is heavily dependent on the production of quality milk, in the right quantities, by our farmers. For this reason, our primary responsibility has been to establish strong linkages with farmers.

Elisha is but one of 80 000 small-scale dairy farmers throughout Kenya who has joined the Brookside farmers' programme, which include:

- A guaranteed market for their milk
- Empowerment through education
- Credit facilities for farm inputs and animal feeds
- Loan facilities
- A grassroots milk collection network
- And much more!

Join a winning partnership

Farmers choosing to partner with Brookside Dairy are assured of a committed and faithful partner, and of a mutually beneficial relationship that aims to transform them to world-class farmers. For more information about our farmers' programme, please contact us:


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Prevention is better than cure

by Lynette Louw

We all know that healthy animals deliver healthy products. This is especially true for dairy cattle. When a dairy cow is ill, her milk production will drop, the milk might contain harmful organisms and the animal may even die from the disease.

Viral diseases are difficult to cure and not all dairy farmers have the funds to pay for expensive veterinarian visits and medicines. But it also doesn't pay to lose your prized animals to a disease that could have been prevented. There is only one sure way to fight off diseases, and that is by vaccinating your animals.

Build immunity

The main purpose of vaccination is to build herd immunity against disease. A vaccine allows the animal's system to build antibodies

against life-threatening and notifiable diseases (diseases that have to be reported to your state veterinarian, because they can become an epidemic if they spread).

The antibodies then act as the soldiers of the body, destroying the viruses or bacteria that cause disease. The stronger the animal's immunity, the better its chance to fight off and survive the disease.

Vaccination should not be left to the last minute. Often farmers wait until a disease hits their herd, and then they want to vaccinate. This is too late. Once an animal has contracted a



disease, that animal will have to be treated with expensive medicines or may even have to be put down. A vaccine cannot heal a sick animal.

Vaccination should be done regularly. In most cases, once-off vaccination is not sufficient and the farmer will have to give a booster vaccine after the first vaccination, and then repeat the vaccination every year. Annual vaccination is very important, as it prevents the animal from losing its immunity.

A vaccination programme

Diseases differ from region to region and from farm to farm. Thus it is impossible to supply a generic vaccination programme in this article. Obtain a good vaccination programme from your local veterinarian, state veterinarian or extension officer.

It is important to note that there are different vaccination programmes for different diseases. Vaccines are developed from the specific viral strain that causes a disease. Therefore you cannot use a vaccine for one disease, to vaccinate against another disease. There are specific vaccines for diseases such as Rift Valley fever, heartwater and lumpy skin disease.

Vaccination programmes will stipulate the dosage, age and number of vaccinations that are appropriate for each disease.

Correct handling

Whenever animals are vaccinated, it is very important that one follows the instructions on the packaging. For a vaccine to work properly, you will need to:

- Prepare the vaccine correctly
- Administer it correctly and give the right dosage
- Always work in a sterile environment
- Vaccinate animals at the correct age
- Be sure that animals are healthy at the time of vaccination
- NEVER use vaccines after their expiry date
- Buy vaccines when you are going to use it. Do not buy in advance
- Leftover vaccines cannot be stored for later use. Throw all leftovers away.

Once vaccines have expired, they should be thrown away or destroyed. An expired vaccine will not give the animal the immunity that it requires.

Syringes: Automatic syringes must be correctly calibrated before use. However, manual syringes are normally used, in which case it is extremely important that the syringes and needles are sterile and cleaned properly. Do this by boiling the equipment for approximately 15 minutes before use.

Storage: Vaccines must be stored at the temperature shown on the packaging. If this is not done, the vaccine will lose its effectiveness and will not give your animal the immunity that it requires. If you do not have a fridge in which to store vaccines that require colder temperatures, you can use a cooler bag and ice packs. Keep the temperature steady until the vaccine is used.

Freezing: Liquid vaccines must never be frozen. In the case of freeze-dried vaccines



Blue ticks are responsible for the transmission of diseases such as anaplasmosis (gallsickness) and redwater

that have been mixed with its liquid, the vaccine must be kept cool and administered within an hour or two.

Tick-borne diseases

There are many diseases against which dairy and other cattle can and should be vaccinated. In this article, we will look at some of the tick-borne diseases against which cattle can be vaccinated, as well as other methods that can be applied to prevent these diseases.

The most significant diseases caused by ticks among dairy cattle, are:

- Anaplasmosis, a very serious disease also known as gallsickness, which is transmitted through the bite of the male blue tick
- East Coast fever, which is transmitted by ticks that usually attach to the animal's ear. These ticks are known as brown ear ticks
- Heartwater, which is transmitted by the bont tick
- Redwater, also known as babesiosis, which is usually transmitted by the blue tick, although the red-legged tick has also been known to cause the disease.

The symptoms of these diseases are many and varied. In most cases the dairy producer should look out for high temperature (fever), anaemia (where the eyes and gums turn white), jaundice (the eyes become yellow), lack of appetite, dull coat, slow movement, a drop in milk production and laboured breathing. In the case of East Coast fever, the lymph nodes often become swollen, especially in the nodes just below the ear.

Vaccination and control

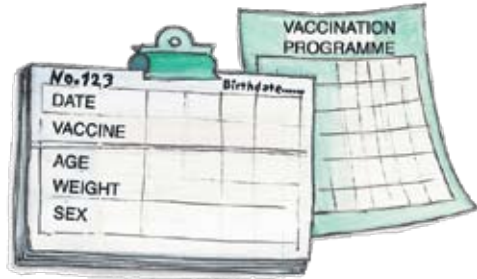
A vaccination programme will usually indicate that calves between the ages of three to nine months should be vaccinated. Thereafter they should receive regular annual vaccinations. It is also important that young animals get colostrum from their mother within the first few days of life. Colostrum contains antibodies and will give the young calf initial immunity against diseases.

In the periods between vaccinations, you can apply a tick control programme on the farm. Control measures include plunge-dipping, spraying (by hand or mechanical), pour-ons and good pasture management.

Plunge-dipping is the cheapest and most effective form of control. The other methods are also effective, but are quite expensive and labour intensive. A pasture that is infected with ticks, may have to be burnt to rid it of ticks. A good dipping programme will eliminate the need for drastic steps. **DMA**

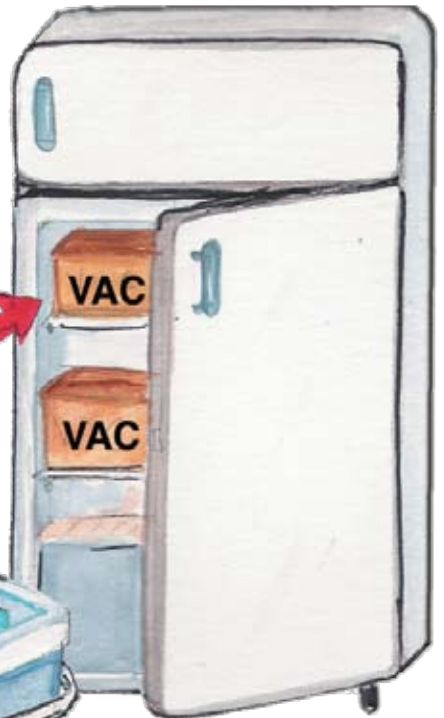
Why vaccinate?

- Healthy animals produce better
- Vaccination is the best defence against tick-borne diseases.



How?

- Follow an immunisation programme.
- Use the correct vaccine.
- Administer it correctly.
- Do not use vaccines after their expiry date.
- Vaccinate in a clean environment.
- Vaccinate at the correct age.
- Vaccinate only healthy animals.



Storage

- Many vaccines need to be stored below certain temperatures, otherwise they might become ineffective.



Remember!

- Expired vaccines will not work anymore and should be thrown away.

- Clean syringes and needles before and after use by boiling them.

Tick control

- Ticks cause many diseases, especially in summer.



- Plunge-dipping is the cheapest dip method. 



A 5-point hygiene plan for professional dairy farms

Consistently healthy cows produce quality milk and show improved profits.

It is agreed among mastitis experts that rigorous and continuous application of the Evans Vanodine 5-point plan, is essential to maintain low levels of mastitis and low somatic cell counts. In addition it is also essential to pay attention to the cow's environment to control environmental mastitis and to maintain low Bactoscan counts.

Evans Vanodine International has developed a dairy hygiene programme which details the steps needed to apply the 5-point plan and to:

- Maintain good teat condition
- Reduce bacterial challenge
- Thoroughly clean the dairy plant.

Farm assurance schemes and bonus targets for cell counts and Bactoscan counts, require the dairy farmer to pay attention to detail and to follow the best practice in all areas of dairy husbandry.

A range of Evans Vanodine products can be tailored to meet the specific requirements of individual farms. Advice on the most appropriate products and how to achieve the best results, is available from our experienced technical sales, chemistry and microbiology laboratory personnel.

The Evans Vanodine full product range covers veterinary medicinal authorised teat dips, pre-dip, udder treatments, liquid and powder circulation cleaners, bulk tank cleaners and MAFF (DEFRA) approved disinfectants.

Please contact us to obtain your copy of the 5-point dairy farm plan.

DISTRIBUTOR OPPORTUNITIES AVAILABLE IN AFRICA.

Contact us by telephone +44 177 232 2200
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Partners in dairy

The new Tanzanian initiative

There is a significant unutilised potential for the dairy sector in Tanzania. Only a small percentage of locally produced milk reaches dairies which usually run on very low capacity. At the same time milk and dairy products are imported in large quantities. Why has the sector not developed further? Why have investments not been made?

These questions are the starting points to the initiative to grow the dairy sector in Tanzania through public private partnerships – an initiative taken by the Tanzania Dairy Board, the Tetra Pak Food for Development Office and DeLaval, writes **Bogdan Krol**, dairy development director at the Food for Development Office of DeLaval International AB in Sweden.

Milk production in Tanzania

Although its land, population and arable land mass is very similar to neighbouring Kenya, unlike its neighbour, Tanzania has a very under-developed dairy sector. In 2007/08 the country produced an estimated 1,5 billion litres of milk with a national cattle population of 18,8 million head. Thirty per cent of total milk was produced by approximately 600 000 cattle (3% of the total cow population) from 130 000 households.

Seventy per cent of total milk produced came from local cattle kept by an estimated 1,6 million small-scale subsistence farmers. Of the milk produced by small-scale subsistence farmers, 90% was consumed on the farm, while 10% was sold in the market. Breaking that down even further, of the 10% that is sold in the market, 80% is sold in the informal market and 20% in the formal market.

In terms of milk processing in Tanzania, there exists a current processing capacity of

507 000 litres per day. Yet actual processing is currently approximately 66 000 litres per day. Thus milk processing capacity utilisation is approximately 14%. Consequently, there is a shortage of value-added production, a dependence on importation and an inability to grow the domestic market.

At the same time, *per capita* milk production is approximately 41 litres against the annual recommended *per capita* consumption rate of 200 litres. In regions without milk production, *per capita* milk consumption falls dramatically. For example in the Rukwa region annual *per capita* milk consumption is 8,1 litres.

Finding solutions

Within the framework of the United Nations Development Programme (UNDP) initiative "Growing Sustainable Business" (GSB), Tetra Pak East Africa, the Tetra Pak Food for Development Office and DeLaval, in cooperation with other stakeholders in the dairy sector, proposed a "Value Chain Analysis and Socio-economic Assessment of the Dairy Industry in Tanzania".

This study, financed by UNDP, Swedish International Development Cooperation Agency (Sida) and Tetra Pak, was carried out by Scanagri Tanzania together with a local partner, Business Care Services. The study was presented during the 6th National Dairy Congress in Morogoro, Tanzania in June 2006.

For Tanzanian dairies to source large enough volumes of quality milk, support is needed in the areas of improved development and collection



The purpose of the study was to identify the need for technical assistance and investments in the different parts of the value chain for milk, and to analyse how dairy development will contribute to the attainment of the millennium development goals and poverty reduction.

One solution presented in the study, is to improve and increase local milk production through the introduction of UHT technology allowing production of long-life, high quality dairy products. The introduction of school milk is also mentioned as a way of stimulating demand of quality milk and dairy products.

In Kenya, the introduction of school milk in the 1970s proved to be an effective way of stimulating investments in the dairy sector. The government of Tanzania has expressed its commitment in supporting the development of a national school milk programme with the dual purpose of providing much needed nutrition to school children and to create demand for locally produced milk.

Taking the next step

The value chain analysis was a first step in efforts by the private sector to develop the dairy sector in Tanzania. The study itself cannot create more milk or better conditions for dairy farmers and processors, but it provides the basis for future support and gives good arguments in favour of new investments in the dairy sector.

To follow up on the results of the study, Tanzania Dairy Board, Tetra Pak and DeLaval organised a stakeholder dairy development conference in Dar es Salaam in September 2008. The purpose of the conference was threefold:

- To work towards the establishment of public private partnerships between the government and the relevant private sector stakeholders
- To set a process in place to move from milk production for subsistence to commercialisation, and thereby make dairy farming profitable
- To develop infrastructure and organise milk collection so as to develop the processing and consumption of milk.

The role of the public sector was given a priority focus. Areas where the public sector can lead in terms of dairy development included but were not limited to; creating new milk regulations and sector tariffs and taxes, working towards the implementation of industry strategies and developing a national school milk programme.

From an industry perspective focus was given to solutions for industry fragmentation and the need for unification, access to affordable financing, access to banking facilities to farmers, access to cooling facilities and processing and packaging equipment.

Other key areas of focus and challenge identified included developing and growing milk production and collection, breed improvements, skills development, infrastructure challenges, organisational development and the current lack of adequate quality of local milk.

In the near future

The first UHT processing and packaging lines have now been taken into operation in Tanzania, producing long-life juices and milk. Several dairy companies are also in the process of evaluating investments for production of long life milk and dairy products, both for school milk programmes and for the commercial market. For dairies to source large enough volumes of quality milk, support for improved milk production and collection of milk will be needed.

As the next step the key stakeholders will meet with the Minister for Livestock Development and Fisheries. The goal of this meeting is to get commitment for a concrete action plan for dairy development in the country. Stakeholders are also working on the development of a pilot milk collection project to show how farmers and dairies can work together and jointly develop the value chain for milk.

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