



Today dairying is considered a sector that has the potential of improving food security and welfare in Africa

Milk report

“The Rwandan government is aggressively importing dairy cattle from Uganda and Kenya to pass on to rural households in a bid to increase milk production in the country. The cattle also provide beef, as bull calves are raised for fattening and slaughter, as well as organic manure to support crop agriculture”

Africa needs to bridge the supply gap by Moses Nyabila, Rates dairy specialist

Cattle-keeping in Africa is an age-old tradition. Africans have historically been classified in two distinct groups, namely cattle keepers or pastoralists and farmers. Cattle and other domestic animals have been – and continue to be – used as bride price, investments, a source of nutrition and prestige.

Recent analysis provides clear evidence of increasing demand for dairy products in sub-Saharan Africa and other developing regions of the

world. This is largely due to rapid population growth, urbanisation and increased purchasing power.

The analysis estimated that between 1993 and 2020, the annual demand for milk and dairy products in developing countries would grow at between 3,2% and 3,5% annually. This implies that the demand will more than double over the period – from 168 million metric tonnes in 1993 to about 400 million metric tonnes in 2020.

Apart from problems with management and stockmanship, African cattle keepers now

face great structural issues. Cows capable of producing 40 litres a day now yield only eight litres. Additionally, there is seasonality of production and government involvement stifles initiative and investment.

This poses a formidable challenge to these countries – especially as milk production is presently estimated at only 200 million metric tonnes. Currently, milk in the Common Market for Eastern and Southern Africa (Comesa) and the East African Community (EAC) is estimated at only 12 million metric tonnes, compared to a demand for 14 million metric tonnes.

Rwandan dairying at a glance by Michael Baingana



Michael Baingana Comesa editor of *Dairy Mail Africa* with Innocent Rutamu, the chairman of Rwanda Dairy Processors' Association (RDPA)

The Rwandan dairy industry is characterised by three dairy production systems: the extensive pastoral production system of the north-eastern region of Mutara, the large-scale commercial system with stall-fed herds of 60-100 dairy cattle and the intensive zero-grazing system with one to three animals per farmer.

The Rwandan government is aggressively importing dairy cattle from Uganda and Kenya to pass on to rural households in a bid to increase milk production in the country. The cattle also provide

beef, as bull calves are raised for fattening and slaughter, as well as organic manure to support crop agriculture.

Innocent Rutamu, the chairman of the Rwandan Dairy Processors' Association (RDPA), says Rwanda's gross milk output is 190 000 metric tonnes per year and the *per capita* milk consumption is somewhat higher than the East African average.

RDPA has 14 member dairies spread across Rwanda. Nyabisindu Dairy, a state-owned dairy started in 1937 and situated in Nyanza, in southern Rwanda, where Rutamu is now in charge, is the largest. It has a processing capacity of 15 000 litres per day although only 6 000-7 000 litres are processed, says Rutamu. The products produced include pasteurised milk and the popular Rwandese cultured milk product known as *ikivuguto* (a type of drinking yoghurt).

In the liberalised economic environment, several other private dairies have been set up. These include Inyange Dairy in Kigali that also produces pasteurised milk and drinking yoghurts. Eleven small-scale cheese processors are also set up in Rwanda.

Namibian milk business turns sour

The managing director of Namibia Dairies, Desmond van Jaarsveld, recently accused South African dairy product importers of flooding the local market with cheap imports. "Irresponsible statements made in the local media by some dairy importers, which obviously do not have the Namibian economy at heart, are a reason for great concern," Van Jaarsveld said.

In March, the dairy importers, calling themselves Alternative Dairy Industry (ADI), strongly denied engaging in any dumping practices and revealed that they are working behind the scenes to persuade government not to impose further protection measures on dairy products than the current 10% levy. Namibia Dairies is Namibia's only dairy producer. The company is the subsidiary of Ohlthaver & List Group of Companies. ADI is a pact of four companies that import brands, such as Parmalat, Nestlé, Everfresh, and Dairybelle.

ADI challenged Namibia Dairies to operate competitively and called for a forum to discuss the "nitty-gritty, nuts and bolts of the real

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issues" in the dairy industry. The 18 suppliers to Namibia Dairies, who form the Dairy Producers' Association of Namibia (DPA), have since last year been calling for government to set up additional restrictions on the volumes of dairy products entering Namibia.

The dairy importers, however, question the relationship between the Namibia Dairies and the DPA, and have been lobbying government for an audience on the matter, as they believe Namibia Dairies appears to be using its monopoly muscle to control the DPA.

Dairy importers also said that they are being disadvantaged unfairly by the Namibia Dairies through the 10% levy that is being wrongly implemented. The levy was supposed to be an eight-year phase-down levy until 0% at the end of the year. However, it was never applied as such and is still at 10% when it is expected to have gone down to 7%. The ministry of trade and industry has launched an investigation into the industry. Its findings and the subsequent recommendations will be made public. – *Namibia Economist*

Revised Zambian VAT up in flames by Karien Slabbert

The Zambian government has decided to retract its decision to standard-rate all agricultural products for Value Added Tax (VAT). This comes after the 17,5% VAT that was introduced earlier this year was ill-received by consumers and farmers alike.

Although it looked good on paper, Zambian Finance Minister Ng'andu Magande's decision to standard-rate all agricultural products was difficult to implement. In addition, food price increases negatively affected the agricultural industry.

According to Piet Theron, managing director of Parmalat Zambia, the theory behind the new system was to help small-scale farmers become commercially viable. In reality, tax-registered farmers were able to claim tax on inputs. However, smaller farmers were not able to claim as most of them fell under the K200 million tax threshold.

In reaction to the new tax system, Guy Robinson, president of the Zambian National Farmers' Union,

noted that small-scale farmers would have suffered the 17% VAT on agro-chemicals, seed, fertilisers, stock feeds and grain bags.

The tax revision marginalised 80% of informal traders, as it was difficult – if not impossible – for all informal traders to register for VAT, Theron said. The VAT registration system was implemented overnight, which presented Parmalat with a logistical nightmare, Theron said. The new tax system compelled Parmalat to check whether all suppliers are VAT registered. This placed small-scale milk producers with a low entry level for milk production in a predicament.

The problem was further compounded by the requirement to charge 45% withholding tax for farmers who were not registered. If a small farmer sold vegetables or cows worth more than K200 000, he was compelled to show a tax clearance certificate to the buyer.

DSA: the South African dairy watchdog



In the spirit of improving dairy safety practices in Africa, members of the the South African Dairy Standard Agency (DSA) give Moses Nyabila from Kenya and Michael Baingana from Uganda a copy of their *Code of Practice*. At the back stands Nellie Prinsloo, from the DSA, Moses Nyabila, dairy trade specialist from Kenya, Ina Jordaan, managing director: DSA, Michael Baingana, from *Dairy Mail Africa*, and Tanya Bignaut, DSA. In front are Jompie Burger, Johan Neethling and Dalene Herselmann, also from the DSA **DMA**



Ways to control safety and quality

by Karien Slabbert

The Mbarara district in south-western Uganda is home to many smallholders who collectively own more than 800 000 cows. The area mostly supplies milk to Kampala, situated 280 km away. Raw milk is collected on farm level by bicycle, whereafter it is taken to a milk collection centre. The milk is then transported by lorry to Kampala where it is distributed to selling points.

Poor pasteurisation techniques give rise to food-borne, infectious diseases and lower shelf-life for milk. In a bid to assess and improve milk safety standards in the district, the Mbarara University conducted a series of platform tests for raw milk analysis. Samples were sent to hygiene laboratories at the university. The study concluded that the bacteria plate count dramatically increased *en route* to Kampala. Additionally, it was found that farm level contamination was high.

An expert perspective

Milk safety needs a comprehensive action plan, Dr Paul Capstick from Analabs in Kenya says. He warns that substandard quality control can hurt consumers. According to Dr Nathan Makoni, from ABS TCM in Kenya, processors tend to collect milk for volume and not for quality.

Cows produce milk that rarely contains more than 10 bacteria per ml, Capstick says. "The fact that processors have to deal with millions of bacteria per ml is self-inflicted."

According to Capstick, there are two types of standards to improve milk quality, namely:

- ▶ **Voluntary standards:** These standards are not subject to legislation and are normally found in developed countries, but can be successful in developing countries. Voluntary standards are expensive to set up, because of high capital competition. If voluntary standards are raised, the entire national standard goes up.
- ▶ **Legal standards:** These standards are enforceable by law. Therefore, milk producers and/or suppliers who sell

substandard milk can be prosecuted. Most developing countries rely on legal standards to improve milk quality. The legal standards that the British imposed have been around in Africa for the past 60 years, Capstick says. It is extremely difficult to get a law passed in Africa. Changing standards are equally difficult.

Create quality methods

Capstick says that standards and methodologies for improving milk quality differ, but boils down to the same thing, namely quality. In addition, a standard is something of value for others to look at and try to achieve.

Milk safety standards are critical components to develop any country's milk commodity chain, says Patrice Grimaud, a lecturer at Makerere University in Uganda. There is a need for internal control at every step of the value chain. Additionally, one needs to convey the message that better quality and better profit go hand-in-hand, he says.

Dr Philip Cheron, technical services manager at the Kenya Dairy Board, points out that role players need to come up with their own standards to improve milk quality. This should include:

- ▶ Milk handling
- ▶ Milk management (eg the correct cooling techniques)
- ▶ Infrastructure.

Consumer education, Grimaud adds, is an important component in improving milk quality and safety. Consumers need to learn how to distinguish between safe and unsafe milk. A way to achieve this is to impose a "quality stamp" to help consumers choose safe products. **DMA**

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Education is the key to improved processing

by **Karien Slabbert**

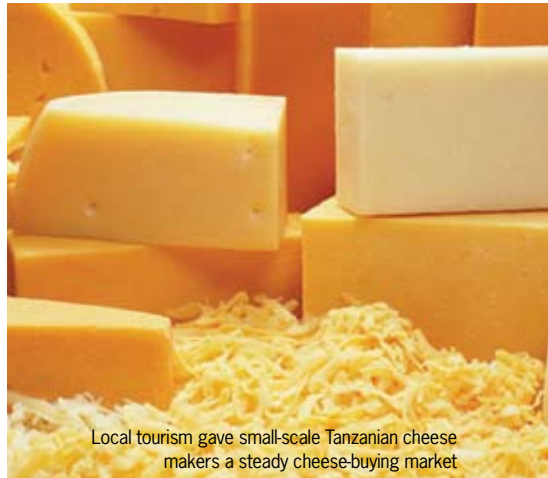
Dr Ruth Ryoba, a lecturer at the Sokoine University of Agriculture in Tanzania, believes that education on processing, preservation and microbiology will help advance the dairy processing industry – not only in Tanzania, but throughout Africa.

According to Ryoba, Tanzanians are not traditionally cheese eaters. They rather prefer to drink fermented milk. Although this poses a problem, cheese makers Arusha, Moshi and Kagera on the slopes of Mount Kilimanjaro have found a limited – yet lucrative – market in the region's budding tourism industry. "This makes sense. There is a lot of tourism in the area and tourists are cheese eaters. An added bonus is the moderate temperatures," says Ryoba.

The small-scale cheese makers mainly produce gouda and mozzarella – an industry that the American multinational co-operative Land O' Lakes helped secure, says Ryoba. Most processors milk their own cattle (a combination of Friesians and Jerseys) and buy milk from their neighbours.

To become more competitive, some producers have gone as far as to form farmer groups and co-operatives. The cheese-making industry has produced a steady market for milk in the area, and farmers get higher milk prices than by vending practices. Because processors buy milk from their neighbours, the cold-chain is almost non-existent. The Sokoine University is involved in a training project that teaches these small-scale processors how to harvest milk hygienically.

Universities help secure a steady flow of knowledgeable extension officers. "Our university also has many smallholder farmers who come for training. In the end, training is the only way to promote the processing industry. Farmers do not know the correct processing techniques," says Ryoba. Therefore, Ryoba and her team visit upcoming processors and do research. They are also currently busy with a small pilot project to supply producers with starter cultures. "We also recently trained Rwandan processors that the



Local tourism gave small-scale Tanzanian cheese makers a steady cheese-buying market

United Nations Food and Agricultural Organisation sponsored."

Tanzanian small-scale processors do not have access to equipment, says Ryoba. Equipment quality is also a problem and suppliers manufacture large and expensive milk separators, she says. Therefore, processors still rely on buckets for cheese production.

Other training challenges Ryoba and her team face are:

- ▶ Ignorance
- ▶ Preservation of milk processing
- ▶ Low milk production
- ▶ Unmotivated farmers
- ▶ High wastage
- ▶ Inaccessible and expensive equipment. **DMA**

Processing news

► Nichrome



Nichrome was founded in Pune, India in 1948. In 1977 they developed the first indigenous vertical form fill seal machine (VFFS) to pack milk in pouches. This was a revolutionary concept that changed the packaging scenario in India from bottled milk to convenient pouches. Nichrome later developed VFFS machines to pack free-flowing solids.

The company supplies custom designed packaging machines in 40 countries all over the world. The company has 3 800 installations in 40 countries.

Nichrome has created a strong, multi-skilled, competent and qualified workforce and has a modern manufacturing infrastructure for machine assembly.

Nichrome has pioneered breakthrough technological development of aseptic pouch packaging systems for the dairy and beverage industry and has developed a comprehensive know-how in aseptic packaging technology. The company has also developed extended shelf life (ESL) packaging system for milk and other liquids. The ESL products can achieve a shelf life of up to 15 days at temperatures below 7°C. The ESL at lower capital investments, increases the distribution range of the product.

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► Forbes Marshall



For more than half a century, Forbes Marshall, an ISO 0991-certified global and advanced engineering company, have been manufacturing steam boilers for dairy, textiles, packaging, food and beverages to name only a few.

Forbes Marshall also manufactures flow metres for milk, steam and various other applications. In the last five decades, the company has grown from a modest Mumbai-based trading company, to a multi-divisional company that specialises in the processing industry. Forbes Marshall is probably the only company in the world to have extensive expertise in both steam and control instrumentation. Forbes Marshall's goal is to provide solutions in energy, efficiency and automation by using the best technology the world has to offer.

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▶ Zeuser India



Zeuser is a state-of-the-art technology-based ISO 9001: 2000-certified company, committed to quality assurance. The company's mission statement is total customer satisfaction that is based on a holistic approach. The company's services include total engineering and design technology. Its highly developed processing facility is equipped with a variety of material. Zeuser has been in the field for more than a decade, and has a team of experienced designers. Their repeat orders stand testimony to ongoing customer satisfaction.

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- ▶ Turnkey projects for dairy food and beverage industries.

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▶ Alpha Dairies

Alpha Dairy Products is part of the Alpha Group Companies based in Nairobi, Kenya. It has a strong presence in Eastern Africa, as well as the United Kingdom, the United Arab Emirates as well as other parts of the world. All the establishments within the group are divided into the dairy and marine division.

The group ventured into the dairy product market as part of its expansion programme. After Alpha purchased all the assets of Western Highland Creameries, it conducted extensive renovations over a one and a half year period. Alpha Dairies started production in July 2002. The company's first product, fresh milk, was an instant hit on the market. During the first 12 months, Alpha Dairies sold 15 000 litres of milk per day.

To date, Alpha Dairies produces 30 000 litres of fresh milk along with ghee, butter, yoghurt and ice cream on a daily basis. It has a current market share of 25% for fresh milk, ghee (25%), butter (40%), yoghurt (10%) and soft-serve (20%). Alpha Dairies has also launched its most trusted product, UHT long-life milk.



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► Goma



Goma is an ISO 9001-certified company that was established in 1982. Its excellent track record has made Goma a market leader in India. Goma is involved in the designing, engineering and marketing high-pressure equipment, homogenisers, pasteurisers and dairy equipment. It also undertakes dairy projects on turnkey basis.

“The company undertakes dairy projects from 2 000 litres per day to one million litres per day on a turnkey basis”

In 1990, Goma developed India's first 100% indigenous high-pressure homogeniser that was previously imported at a very high price. Since then, the Goma homogeniser has been installed in government dairy plants, milk co-operative dairies and private dairies.

Homogenisers

Goma has produced 500 homogenisers for the Indian market and exported their products to Aus-

tralia, France, Vietnam, Indonesia, Switzerland, United Arab Emirates, Oman, South Africa, Sudan, Tanzania, Ethiopia, Algeria, Nigeria, Bangladesh and Sri Lanka.

Apart from manufacturing homogenisers of international standard, Goma has increased their product range by manufacturing the HTST plate heat exchanger (PHE), sanitary pumps, butter churns, storage tanks and cream separators.

Goma plans, designs, manufactures and installs dairy plants with a range of capacities. The company undertakes dairy projects from 2 000 litres per day to one million litres per day on a turnkey basis. Goma also undertakes manufacturing projects for the ice cream, butter, cheese, ghee and yogurt industry. The company has successfully installed a 5 000 litres per day milk processing line in Tanzania.

Headquarters

The company's headquarters are situated in Thane, approximately 30 kilometres from Mumbai. The manufacturing facilities at Wada are spread across five acres. The factory is equipped with modern facilities for manufacturing, fabrication, machinery, assembly, painting, testing and warehousing.

After-sales services

Goma has excellent after-sales services that minimises down-time. The company has branches in Bangalore and Calcutta and has a dedicated team of 100 qualified and self-motivated workers that take care of administration, design, research and development, marketing, manufacturing, dispatch, quality control, installation and commissioning.

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► **Clover Fonterra Ingredients**

Clover Fonterra Ingredients (CFI) is a joint venture between the South African dairy company Clover Industries (Pty) Ltd and New Zealand dairy company Fonterra Co-operative Group.

The joint venture company, CFI, handles contract manufacturing, the marketing of bulk ingredients, supplies of food service products to nominated quick-service restaurants throughout sub-Saharan Africa.

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The joint venture will combine strengths of Fonterra's International supply base and Clover's strong regional platform.



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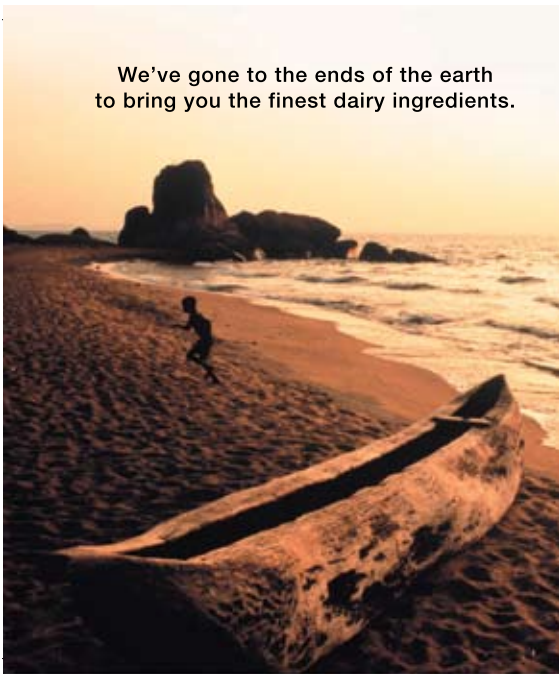
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