INCREASING SMALL SCALE DAIRY FARMERS’ PARTICIPATION TO FORMAL MILK MARKETS

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Kenya Markets Trust (KMT) is a Kenyan not-for-profit organisation that specialises in market transformation. We work to stimulate inclusive and resilient growth that will lead to a step-change in the livelihoods of millions of Kenyans. We take a long-term approach, staying true to our vision while adapting to the forces that are shaping the markets we operate within such as climate change and access to emergent technologies.

Kenya Markets Trust strives to make markets work for the poor by introducing competitive, inclusive and sustainable solutions to eliminate gaps in the value chain. The systemic change is achieved through partnerships established with national and county governments, private institutions and other development organizations.

With more than nine years’ of experience implementing projects through Markets Systems Development (MSD) approach, we believe in partnerships which bring about sustainability.

Following our proven results over the years, KMT has produced this case study referencing work done in Kenya’s Dairy sector, led by Dairy Africa Limited (DAL). Specifically, the authors would like to acknowledge the contribution of Dr Joyce Bwire (Chief Executive Officer, DAL) during implementation and documentation.

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Executive Summary

KMT’s work in the Dairy sector started in 2012 under the management of TechnoServe. Its objective was to improve the performance of dairy market systems by addressing systemic constraints in feed, breeding, animal health and milk supply chains.

In the milk supply chains, two existing constraints identified were; Kenya Dairy Board’s regulation banning the sale of raw milk, and the high cost of milk processing equipment.

To address these constraints, KMT contracted Dairy Africa Limited in 2016 to co-facilitate systemic change in Kenya’s dairy sector using Pasteurizing Business Units. Thirteen dairy groups were evaluated but only three were selected for the pilot phase, based on their willingness and capacity to pasteurise milk for the traders. The project was successfully ran for two years, after which the sector work was closed out in 2018.

Despite the close out of the dairy sector in 2018, the projects undertaken transformed the lives of many locals hence the need to document and share the learnings from the piloting of the models used.

One of the models was in formalising the dairy sector through pasteurisation of business units.
Kenya’s informal dairy markets are central to the livelihoods, food security and nutrition of the majority of its citizens, particularly the poor, women and children. Kenya’s informal dairy market is significant in size in that 86% of Kenya’s milk which is 5.2 billion litres produced annually is sold by unorganised, small-scale businesses in informal markets or consumed directly at home. The sector generates 70% of the 40,000 jobs in dairy marketing and processing and contributes 14% to agricultural GDP and 3.5% to the total GDP, thus making it the single largest sector in Kenya.

The formal dairy market system operates below capacity with only 40% utilisation and 80% of all marketed milk going through the informal markets. This is encouraged by consumer’s preference, fair pricing to consumers and farmer’s inclination to better daily farm gate payments. Informal milk market plays a crucial role in the milk market and improving it will lead to a positive impact in the country’s dairy sector which is anticipated to grow by 4-5% annually for the next 10 years.

According to the National Dairy development Policy of 2013, there has been a rise in cases of milk contamination, unhygienic practices, and use of non-food grade containers due to the increase in demand of raw milk. This has raised a lot of safety concerns in the informal milk market and is attributed to the low investment in safe milk handling skills, equipment and adherence to standards. Consequently, in 2013 the Kenya Dairy Board (KDB) imposed regulations banning the trade of raw milk. This ban has implications on informal traders and by extension the dairy farmers who sell milk through the informal sector.
The KDB ban on sale of raw milk implied that traders should only sell pasteurised milk. However, access to modern processing equipment for many milk traders has been a challenge, as most of these equipment are too centralised, leaving many milk producing zones without processing facilities.

Additionally, the cost of acquiring this pasteurising equipment is relatively high since they are not locally available, hence the need to import from other countries like Ireland at a cost of approximately KES 6 million.

While the KDB regulation is good, which conforms all milk traders to pasteurize milk before selling it, access to these facilities and high prices charged for services rendered on pasteurizing prohibits traders from complying.

This, therefore, causes traders to result into operating outside the normal business hours to avoid penalties from regulators.

The total installed capacity of pasteurising equipment in the country is still inadequate and can only process about 32% of all milk produced, if fully utilised.

In efforts to formalise the sector, there is therefore need to cultivate more investments especially towards decentralising processing plants and guiding traders to play part as key investors in acquiring milk processing equipment.
The Intervention

Kenya Markets Trust ventured into the dairy sector in 2012 to facilitate improvements in breed, feed, veterinary services and supply chain management and structures for the smallholder dairy farmers, with the objective of expanding their access to and participation in the formal milk market.

Engagement in the sector however was concluded in 2018 with the end of projects implemented by PKF and Dairy Africa Ltd.

After six years, it is imperative to document the journey toward formalising the informal dairy sector, improving and widening smallholder participation in the formal markets and the accruing benefits to the households and the milk value chain.

To facilitate transformation of the informal dairy sector, Kenya Markets Trust (KMT) intended to facilitate sector players to solve the milk quality and safety challenges faced in the informal milk market by facilitating them to formalise the sector and increase processing capacity. This was to be achieved through working with milk traders and facilitating them to establish pasteurising enterprises, while encouraging processors to optimise their pasteurising capacity.

In the efforts to facilitate the sector players to resolve the identified constraints, KMT entered into partnership with Dairy Africa Limited (DAL) to co-facilitate systemic change in Kenya’s dairy sector through the provision of professional management services to dairy hubs. They were also facilitated to acquire Pasteurising Business units (PBU’s).

The consultancy was engaged to work with milk traders’ groups, dairy hubs, processors, investors, and other partners in transforming the informal milk market by providing alternative stable market for milk traders and promoting affordable safe and hygienic milk for consumers.

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The intended outcome was:

1. to reform informal milk markets into stable milk markets, profitable dairy enterprises, and secure businesses in the informal milk trade by enhancing compliance and access to finance by milk traders from group security,
2. creation of more jobs in the value chain
3. providing safe milk though the informal markets to bottom of the pyramid consumers

Dairy Africa Limited explored business opportunities within the market to drive milk pasteurising opportunities within the informal milk markets. The firm developed three generic business models;

1. dairy trader owned-trader led pasteurization model
2. dairy hub/ processor owned- dairy hub / processor led pasteurization model
3. dairy hub/investor owned- dairy hub /investor led pasteurization model

The models were presented to various trader association for validation through regional stakeholder’s meetings. From the stakeholders’ meetings several dairy enterprises showed interest.

DAL developed a Pasteurizing Business Units (PBU) selection criteria in which eight (8) dairy traders’ association and five (5) private dairy hubs were appraised out and from this number three (3) were selected for PBU piloting on the three models. which are;

• Home-best Dairy Limited (Pangani Dairy Traders Association in Nairobi) to pilot the “dairy trader owned-trader led pasteurization model” In this model, the milk traders’ groups were to own both the milk and the PBU;
• Kangema Dairy Limited to pilot the “dairy hub/ processor owned- dairy hub / processor led pasteurization model” in this model the pasteurizing business units were to be owned by either a dairy hub or milk processor or an investor while the milk traders bring their own collected milk for pasteurization at a cost; and
• Njabini Dairy Group to pilot the “dairy hub/investor owned- dairy hub /investor led pasteurization model” In this model, the hub/processor was to collect milk from farmers, pasteurize and sell to milk traders.

After identification of gaps in the Dairy Sector through a value chain market analysis, KMT through DAL provided consultancy services to co-facilitate systemic change in the sector using PBU’s.

Additionally, KMT also provided technical assistance on implementation of the models through M4P approach and guaranteed purchase of the 5.1 million milk processing equipment.
The Hub operates two collection routes – Murang’a and North Kinangop – with a total of 750 farmers; 450 farmers from Murang’a route and 300 North from Kinangop route.

Through services received from DAL, this hub has realised business growth and great achievement.

In the period January through March 2017, DAL offered training to the farmers under the hub. The training curriculum was centred on innovative ways to increase milk yields, milk handling processes, management of milk bars and value addition procedures. Farmers reported an increased volume of milk produced as a result of the skills gained from the training.

The hub has experienced business growth too. In 2016, Home-best used to collect 200 litres of milk per day. As of October 2018, it was collecting up to 7,000 litres per day. This was attributed to the training and technical assistance received from DAL.

Further the hub has created 18 new direct jobs. 12 of the new employees are loaders at the collection sites while six are managers at the various milk ATMs. These new jobs are attributable to the efforts of the project intervention within the partnership of the hub and DAL.

The hub has increased the number of selling points from seven in 2016 to 23, currently comprising of 17 automated milk machines in Nairobi, supplying to five hotels and one hospital.
Kangema Dairy Limited

The hub is owned by Kangema Unity Investment company. The company has registered farmers to be shareholders with different levels of shareholding. Among a total of 11,350 registered members, 250 are youth.

DAL worked with the company at various levels of technical assistance; support during company formation, legal registration, and during construction of a milk processing plant. The hub registered 127 new farmers as a result of various mobilisation by DAL.

The company constructed a fully-fledged milk processing plant which DAL facilitated since inception of the vision, to design and construction.

From this construction, the hub offered part time jobs to the youth as casual labourers.

The vision behind forming the company was to offer a milk collection centre but later through DAL’s intervention they decided to build a milk processing plant. Here, they will collect milk from farmers, offering them competitive prices, before processing it for distribution even outside the locality.

In preparation, through DAL’s support and technical advice, the company acquired a 10,000 litres milk storage tank to be used when the plant becomes operational.

The construction of the milk collection and processing centre was underway, at the time of visit, and after completion the storage tank will be installed and kick-start both milk collection and processing.
**Njabini Dairy Group**

The hub is privately owned by an investor operating a milk processing plant alongside pasteurisation services. It collects milk from both traders and farmers. They also offer pasteurisation services to traders.

DAL has offered technical assistance to the hub since 2016 through mobilisation of farmers and traders who were eventually linked to the hub. From 2016 to 2018 the number of farmers registered with the hub increased from 200 to 800. Further, the hub engaged 38 more traders to increase the number from 11 to 49.

The hub has increased its production capacity from 200 litres per hour in 2016, to 3,000 litres per hour as of October 2018. This is attributed to the increased number of farmers and traders from whom the hub collects milk from.

As a result of growth in revenue from the increased production, the hub has also set 11 collection centres along the roads and highway as a new innovation that makes it easy for their farmers to deliver milk at a convenient point.

The growth in business has also created new employment opportunities. In 2016, the hub had only 39 employees at the processing plant and seven transporters. Currently there are 67 employees at the plant and 17 transporters.

Also, DAL offered technical assistance to the hub and facilitated them to introduce a mobile-based system that tracks collection and payment for all the farmers and traders. This improved the financial health of the hub as they were able to track the records for individual farmers in terms of volumes collected, payments made, advances and accounts book keeping. This system has improved the operations at the hub as it is easy to reconcile records at the end of the month.
Market System Changes

The three hubs have received several inquiries from other dairy traders interested in either being linked to the consultant or learning from them. This validates the potential in this approach to transforming informal milk markets.

The automated milk machines promote access to quality milk by the pro-poor population. This population is not able to afford the packaged milk in the supermarkets and shops. The milk sold at the milk ATMs is the best option for them as it’s priced reasonably and they can pick the quantity they afford, thus improving access by the populations and in the long term it is expected that it will improve their quality of life.

Njabini Dairy Group is able to offer pasteurising services to milk traders who distributes the milk to various outlets. This ensures that the traders are complying to the KDB’s regulation on selling pasteurised milk. This hub has received request for information from other dairy hubs on how set up a milk processing plant, specifically on farmers’ mobilisation, setting up the pasteurising equipment and processing plants.

The farmers were positive that all the three models would go a long way to increase their participation in formal milk trade. The three models would change the way milk trade is operated and better manage farmers affairs, like professional and timely payment.

Notwithstanding this, most farmers were more content with the dairy hub/investor owned- dairy hub /investor led pasteurisation model. Infact, they stated that it will shield them from exploitation by the middlemen traders since the investors will collect direct from them along the various trade routes. It was also established that in this model the farmers will be able to access better market prices as compared to the other two.
Challenges and Lessons Learnt

Access to finance has been a major bottleneck in facilitating the hubs to acquire pasteurisation equipment. Due to the high costs involved, it was challenging for the hubs to finance the purchase of the equipment. This means that they had to look for financing from financial institutions, which often gave them unrealistic ways of raising the collateral required. In the process, the hubs gave up.

When it came to scaling up of the production, the investor-owned hub model experienced great challenges due to competition from established companies in the dairy sector. This happens especially when there is high production capacity from the farmers. These big companies collect milk in bulk and since they have sophisticated equipment, they are able to process, store, and even perform value addition. Therefore, these companies tend to offer higher prices to the farmers. Regardless of the fact that the farmers are registered with the hub, they always shift allegiance and sell to these other companies since they offer higher prices.

Due to financing challenges, Njabini Dairy Group is not operating at full capacity in terms of space. If they could only acquire an extra PBU equipment, it will enable them separate the processing of the plant’s milk from that of the milk traders.

Another related challenge is farmers’ knowledge on fodder management especially at Njabini area during dry seasons. The production capacity from farmers tends to go down as they are not able to get enough fodder for their cows.

“ When it comes to scaling up the production, the investor owned hub model experiences great challenge on competition from established companies in the dairy sector. “
Conclusion

The partnership between KMT and DAL has generated evidence that there is a huge potential for market system change in the informal milk markets. Crowding in on adoption of pasteurisation business units by dairy hubs and dairy traders has also been evidenced by the enquiries the hubs received from farmers, milk traders and other hubs.

Although the acquisition of the pasteurisation equipment was faced by access to finance challenges, there is a big opportunity to grow the informal dairy sector if this challenge is unlocked. The three models developed by DAL are also applicable in the formal sector, hence they can be scaled to other established dairy companies.

Opportunities for Scale Up

Unlocking access to finance can be pursued as one of the interventions for future consideration. To formalise the informal dairy sector, the traders are required to have the pasteurising equipment. During the partnership with DAL it proved not possible for them to finance the equipment, if they could be facilitated to access finance then they pay on instalment terms this will go a long way in unlocking the challenges and moving the sector forward.

Traceability system is key in addressing the constraints in the informal dairy sector. If all the milk from the informal milk traders is labelled for instance with stickers showing the dairy hub that processed it and the trader who distributed it, this will facilitate tracing the origin of the final milk such that if there are quality issues this will also act as a caution to the farmers as they will consider the hygiene issues seriously.