From the Field

Challenges of Value Chain Development: Experiences from Milk Production and Marketing in Iringa Municipality and Tanga City

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Introduction

The project focused on milk value chains in Iringa Municipality and Tanga City with a view to draw specific impacts of urban dairy farming on income and poverty levels. These towns represent two distinct milk collection and marketing arrangements. Milk marketing in Iringa Municipality is generally through informal[9] outlets. In contrast, milk from farmers in Tanga is pooled for sale to processors including (M/s Tanga Fresh Ltd) and Ammy Dairies. The two cases describe similar market arrangements also found elsewhere in Tanzania.

A comprehensive study conducted in Tanzania show that milk is mainly sold through informal marketing channels which deal mainly with raw milk and traditional dairy products such as fermented milk (Omore *et al.*, 2009). The

[9]In the context of milk value chain a formal value chain is defined as a chain whose actors are licensed to handle milk after complying with defined minimum standards for competence in hygienic milk handling and processing to safeguard consumers' healthy. This chain is operated as an organized system of milk collection, using well established mechanisms of bulking (e.g. through cooperative societies or agents) and transportation in insulated tankers after chilling to factories where it is processed and packaged before marketing.

predominance of informal chain is attributed to various factors including: (i) high unawareness levels about what constitutes safety and quality of milk products; (ii) preference for cheap milk and milk products relative to quality products and; (iii) lax enforcement of milk regulations that among other things, forbids sale of unprocessed milk yet such milk is sold openly. Consequently, many operators in the informal sector operate at a limited scale and with high levels of inefficiency while incurring high transaction costs. Moreover their supplies are often unreliable leading to low producer price and high consumer price (Omore *et al.*, 2009).

Given such market condition, which allow milk products of different quality to compete as homogeneous products, farmers' continued participation in the informal market has several economic and livelihood implications. Many analysts argue that it is generally difficult to enforce food safety standards in the informal market because there are no well-established and recognised coordination mechanisms for effective enforcement of milk standards (Chen *et al.*, 2002; Moran, 2009). This failure imposes health risks to milk consumers (Jiwa *et al.*, 1997; Lanyasunya *et al.*, 2005) and deters farmers from accessing alternative markets thereby imposing limits on milk production and earnings. Dairy farmers who produce low quality milk for the informal market cannot produce beyond what that market can take. Hence, reliance on this market leads to losses during surplus production. Dairy farmers under this category are often uncertain about securing markets as they rely on spot market where the demand and earnings fluctuate over time.

The main assumption underlying the project's interventions in the two sites is that many farmers keeping dairy cattle fail to market milk in formal channels because they are unable to differentiate milk products and identify market niches that pay premium price for higher quality. They are unable to communicate their product's quality and safety to immediate buyers. Moreover, they are unable to the reduce cost of production while maintaining quality and high levels of production.

Thus, the interventions piloted in this project, which involved support to improve feeding, animal health, reduce cost of milk production and improve milk handling were designed to enhance the capacity of smallholder dairy farmers to seize opportunities from the rapidly growing demand for milk. The rationale was to identify leverage points that can enable small scale dairy farmers to produce more and higher quality milk; adjust to the changing market conditions and devise strategies that will enhance their ability to enter into alternative markets. especially formal milk chains possible, sustainable and

profitable. The project mainly targeted farmers producing (low quality) milk for the informal market.

Approach

The project implementation had three phases. The first phase entailed preliminary surveys to have a quick appraisal of the value chain. The second phase was meant to solicit detailed information from all chain actors. During this phase a comprehensive analysis of stakeholders was done to identify actors informal and formal milk chains along with their performance levels and constraints they faced. Phase three involved planners and decision makers from central and local government to validate the findings and deliberate on value chain challenges with a view to identify relevant policy interventions to address such challenges (Table 1).

Interventions that were piloted fall under four practices including: producing own feed for cattle using simple technologies to reduce cost; preventing common diseases to enhance milk production and quality of milk as well as milk products; reduce labour cost (e.g. through labour saving equipments such simple hay bailers, grass choppers and special machete to harvest pasture) and improving hygiene through proper milking and handling practices to reduce contamination. These practices were piloted using grant meant to support acquisition of capital items such as gears for artificial insemination and appropriate seeds of pasture required to adopt such practices.

Some of these interventions required project support in terms of knowledge that was acquired through different activities. These included training sessions (workshops) offered by discipline specific experts through lectures, in-class and on-site demonstrations as well as exchange visits which allowed farmers keeping dairy cattle to learn new knowledge and skills (through experience) as they interacted with fellow farmers who had successfully adopted different practices.

Table 1: Preliminary process prior to introducing main interventions, rationale and outputs

S/N	Activity	Rationale	Output(s)
1	Inception workshop	• To introduce and publicise the project to stakeholders so as to harness their support and brainstorm about implementation strategies.	• Inception report detailing stakeholders' view with respect to the relevance of the project, anticipated challenges and prospect for success.
2	Preliminary survey in study sites	• Introduction of the project to relevant authorities and acquaint researchers on general information and characteristics	• Refined list of value chain actors developed; • Preliminary value chain report

S/N	Activity	Rationale	Output(s)
		of the dairy sector. • Identification of key actors in the milk value chains and consultations with key informants. • Carrying out initial stakeholder analysis.	produced.
3	Initial planning workshops	To engage stakeholders in: • Refining the course of action for the research. • Carrying out participatory stakeholder analysis and; • Deliberating on how to implement and monitor the project activities.	• Refined list of activities with potential to improve milk quantity and quality and strengthen business linkages between value chain actors, especially dairy farmers and processors; • Least cost methods of improving milk quantity and quality identified.
4	Baseline survey	To establish entry level information (indicators) as basis for planning subsequent interventions and monitoring changes and impacts of the project.	Baseline report produced.
5	Validation workshop	To seek stakeholders' views with respect to what constitute feasible options to address critical problems in the value chain and how best to pilot the interventions (options).	Location-specific (refined and prioritized) interventions for piloting ratified.
6	Final Policy Workshop	To engage stakeholders in discussion to pin-point interventions to address policy challenges.	Policy paper for country-wide dissemination.

One of the crucial interventions established during the baseline survey was to improve the availability and quality of cattle feed. Means to achieve this objective were supporting smallholder farmers keeping dairy cattle to:

i) Acquire appropriate knowledge on feeding and feed quality as well as supplementation and pasture seeds so as to establish own pasture (grass and fodder trees);

ii) Form functional groups and assisting them to establish links with local suppliers of hay.

iii) Acquire entrepreneurial skills so as to venture into the business of pasture production to ease it supply to farmers.

iv) Improve the genetic potential of dairy cattle to enhance milk production.

Also the baseline report established that farmers required additional support to improve their knowledge on artificial insemination (AI) particularly heat detection and appropriate time for AI. The report also established the need for farmers to be organized into functional groups as means to acquire in-calf

heifers and ensure sustainable transfer of calves from one farmer to the next, through "get a heifer pay calf" programme.

Moreover, the baseline study identified livestock disease as major problem affecting milk production. Lumpy skin disease (LSD), foot and mouth disease (FMD) and East Coast Fever (ECF) were the most common and debilitating diseases for dairy cattle leading to low milk production and mortalities. To address these challenges two interventions were implemented including: Providing training to control LSD, FMD and ECF and; strengthening farmers' capacity in diseases control through mass vaccination campaigns.

Project outputs, outcomes and short-term impact were evaluated based on quantifiable and observable changes with respect to key indicators of performance that were measured before, during and after interventions.

Several quantitative and qualitative indicators were established during initial stages of project implementation to capture changes during and after the project. The domain of change monitored included farmers': feeding regime and feed quality; risk attitude and preparedness to cope with adverse conditions; initiatives at farm and community levels to enhance productivity; cost consciousness and reduction and; empowerment and integration to formal milk markets.

During the analysis data for small holder farmers were disaggregated by gender groups (male and females; young and old) and by poverty groups to assess whether the interventions impacted differently on these groups. Poverty was objectively assessed using a multidimensional poverty index (MPI) that classified the dairy farmers into non-deprived, subjected to deprivation, deprived and severely deprived groups following the approach proposed by Alkire and Santos (2010) and Alkire and Eli (2010).

Outcomes

The adoption of new technologies on pasture management and utilization; genetic improvement and other aspects of animal health led to increased milk quantity and quality and farmers' earnings from milk sale. This increase was observed across all gender groups and poverty classes considered. The increase in milk production intensified the competition in informal market and prompted some group and non-group members to contemplate supplying milk to processors and restaurants outlets that were difficult to penetrate before the project.

However the change in quantity and quality of milk led to insignificant shift of milk marketing from informal to formal markets because the informal market was still more lucrative than the formal market. The preference for the informal market was particularly high among inefficient small scale dairy farmers, who constituted the majority at both sites. Such farmers often produced only a limited amount of milk that could be easily sold to consumers within the local market. Medium and large scale dairy farmers (estates) preferred to sell in the formal market where processors were the main buyers and chain champions. The processing plant had sufficient capacity to absorb surplus milk. While the shift by small scale producers from informal to formal markets was gradual, over the years, the likelihood for continued shift was high as Artificial Insemination (AI) and other interventions such as the "get a heifer pay calf" initiative were sustained through capacity building.

In view of the intended outcomes to improve income and hence livelihoods, enhancing milk production and quality at the farm level are the best means to increase efficiency within the value chain, promote business linkage between small scale farmers keeping dairy cows and processors and ensure diversified income opportunities and gains to actors involved.

Effective engagement of planners and decision makers was instrumental in aligning land use policy to accommodate the needs of dairy cattle and improve support services to farmers (e.g. support on AI and advisory services to group members).

Enhancing collaboration among actors and between stakeholders was crucial for improving value chain efficiency. Following the intervention, there was a significant change in farmers' behaviour as many dairy farmers realized the need to cooperate in addressing common concerns. Many of the target farmers realized that significant growth of the milk value chain could not be achieved unless they collaborated with the processors for mutual gains.

Farmer exchange visits enabled them to learn from each other through sharing experiences and established contacts for continued communication to share skills and experiences on dairy matters. The visits also allowed farmers to interact with various experts and service providers including researchers. This provided room for seeking support and technical advice thereafter.

Main Challenges and Recommendations

Policy issues that are discussed in this article revolve around key constraints[10] that impinged on actors' abilities to fulfil value chain roles efficiently or increase services and products quality leading to poor coordination of activities and low earnings. In this presentation the main challenges for each actor's category are identified, implications of these challenges are revealed and policy recommendations are presented in turn starting with suppliers of inputs followed by other actors of the milk value chain.

Input Suppliers

Input suppliers were faced with two main challenges; first, there was institutional failure to deter suppliers of sub-standard veterinary inputs leading to an influx of unregistered and fake products. In relation to this there is also weakness in the oversight bodies to ensure handling and use of veterinary inputs is practiced in accordance to professional standards and the law; Second, there are overlapping responsibilities between the Tanzania Food and Drugs Authority and the Ministry of Livestock and Fisheries Development leading to some differences in criteria for assessing quality of inputs.

Consequently users of veterinary inputs often doubt the quality of domestically sourced inputs in favour of relatively more expensive imported inputs which are deemed to be supplied by credible and more reputable suppliers. The uncontrolled supply of veterinary inputs is associated with a risk of increased use of sub-standard inputs and a spectrum of antimicrobial-resistant infections leading to higher cost for disease control. These multiple regulations also impose extra regulatory burden to users of veterinary inputs, especially increased regulatory cost resulting from uncoordinated quality control visits and multiple accreditation and certification of suppliers. Stakeholders were also concerned about a possibility of having contradicting regulations and rules or policy imposed by the regulators.

There is a need for greater synergies between regulators of veterinary services at the national and lower levels to address these challenges through: Identifying and registering competent (qualified) providers; Undertaking regular monitoring and testing of registered veterinary inputs; devising a mechanism to register complaints related to ineffective veterinary inputs as basis for planning (ad-hoc and regular) monitoring visits; harmonizing roles of regulators for

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[10]Note that these constraints include those identified during the initial comprehensive analysis of stakeholders and when piloting the project's interventions.

more effective regulation and: Identify avenues for synergies and collaboration in fulfilling their mandates.

Providers of Veterinary Services

The main challenge relating to the provision of veterinary services was having inadequate number of veterinarians. This challenge led to two inter-related problems in the study area: First, there is a challenge of chronic shortage of experts to diagnose animal diseases, especially in rural areas where professional veterinarians were unwilling to practice. The first problem was related to the second problem, which was the inability to meet the demand for services. Veterinary services were provided by experts with different credentials such as professional veterinarians, para-veterinarians and community based health workers (CAHWs) whose ability (competence) to diagnose animals' health problems and their moral values (ethics) were not well-harmonized.

Moreover, improper selection and training of para-veterinarians along with CAHWs and inadequate monitoring of their field activities led to abuses and failures in animal health care service delivery while inadequate facilities[11] for diagnosis of animal diseases circumvent efforts to develop early warning systems for disease outbreak to facilitate prompt preventive measures such as immunization of livestock against fatal diseases. These problems could be minimized through:

i)   Mandating changes in the legal framework governing the delivery of veterinary services in Tanzania so as to legally recognize, define, sanction and regulate the status and activities of para-veterinarians and CAHWs and:

ii) Strengthening the capacity of the veterinary investigation centres to assume effective roles in diseases surveillance, diagnosis and control along with undertaking intensive vaccination campaigns. This means, where groups of dairy farmers are well-organized and managed, they could be supported by relevant local authorities to serve dual roles — as a platform for delivery of immunization support and an avenue for using joint efforts to mobilize own resources for immunization of dairy cattle. However, this support should be placed outside political influences to make it effective and pro-poor.

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[11] Initial consultation with a Veterinary Investigation Centre in Iringa Municipality revealed limited ability to effectively fulfil its responsibilities owing to financial constraints.

Breeders

One of the main breeding challenges in the field experience was that AI services were not effective, which was attributable to: i) poor quality of semen due to poor genetic potential of bulls. In addition the semen used by farmers was not progeny tested because the technology was not readily available in the project sites. Moreover, unreliable and erratic supply of liquid nitrogen compounded to the problem of semen storage, leading to low success rate of inseminated cows; ii) Discontinuity in breeding programme and absence of a clear national breeding policy; iii) Shortage of competent inseminators in urban areas while in remote areas AI services were completely lacking; and iv) Failure by regulators to identify and monitor inseminators' activities; many of the practicing inseminators were not registered by Tanzania Veterinary Para-professional Association (TAVEPA).

These problems have several ramifications on the dairy industry. The poor genetic potential of semen lead to inferior calves while the low probability of conception along with uncertainty of having male or female calves lead to high cost of artificial insemination, unpredictable calving intervals and reduced milk production. The failure to monitor activities of AI service providers lead to unethical behaviour (malpractices), which in turn resulted into high cost of insemination (e.g. repeated but ineffective inseminations), exposing the animal to other health risks.

In view of these challenges, there is a need for the public and private sectors to continue supporting dairy farmers to acquire proper knowledge on AI. Also it is important to identify competent and dedicated inseminators, enhance their skills to perform this task and support them to acquire AI gears and commercialize their services. These interventions are useful for reducing AI acquisition cost and enhance its availability to a wider circle of dairy farmers. The interventions also improve efficacy of farmers in using resources as they allow farmers to source the AI service from the neighbourhood thus minimizing travel costs of inseminators from distant locations and delays in timing the heat period. To make AI service sustainable there is a need to maintain collaboration between inseminators and dairy experts who are the custodians of AI services in the study sites.

Dairy Farmers

Many small scale dairy farmers relied on cheap low input – low output management system leading to low milk production. Urban dairy farmers were increasingly experiencing the problem of shrinking land for dairying, particularly space for: livestock shed, pasture and waste disposal. This was

especially true in places where land use was changing to accommodate other uses. The problem of shrinking land for dairying and changing land use plans was reported during the preliminary survey in both sites although it was more severe in Tanga City than Iringa Municipality. Farmers producing milk for selling in the informal market were not effectively monitored as there was lax enforcement of milk regulations in the informal and strict enforcement in the formal milk value chain. Hence, many farmers sold raw (unprocessed) milk directly to consumers although regulations forbade sale of unprocessed milk to protect consumers from unsafe milk.

Small scale dairy farmers had persistently revealed higher preference for informal than formal market owing to their inefficient production and poor quality of milk. What they produced was only enough to meet the demand of buyers in the informal Moreover, their average cost of production high, which reduces their profit margin. Another challenge that faced smallholder farmers in the project areas was inadequate heifer units to produce calves for distribution to other farmers. Significant genetic erosion has also occurred due to poor breeding and record keeping. Moreover, many of these farmers operated in areas where there were unreliable AI services. Also they had poor access to good quality extension and related support services (e.g. market) and limited ability to cooperate in addressing dairy problems.

Consequently milk production was highly inefficient leading low milk supply and artificially higher prices in the informal than formal market. Changes in land use imply that farmers in these areas may be required to relocate to other places with adequate land. If poorly designed and implemented such relocation can result into social conflicts, especially between farmers growing crop and those keeping dairy cattle. Alternatively, farmers may be forced to abandon free grazing in favour of intensive livestock keeping systems that require some investment for pasture improvement.

There is need for policy makers and planners to evaluate thoroughly land use policies and regulations, and weigh the costs and benefits of alternative land use options. Recommendations related to relocating farmers to other areas should take into account the resources required to make the new areas habitable. Clarity is also required in relation to financing such relocation and implemented modalities.

Effective engagement of planners and decision makers is essential to reshape land use policy to accommodate urban dairying in the project sites and improve support services to farmers. Other interventions to address farmers challenges

include: Securing an appropriate business environment by developing reliable utility services, especially electricity and water; formation of platforms for linking stakeholders involved in milk production and processing as well as promoting ethical behaviour and market competition in the provision of critical services (feed, veterinary and AI).

Other alternatives such as linking farmers with providers capable of offering a basket of services such as feed, agro-chemicals, AI and veterinary through contracts involving individual farmers or farmer groups should also be pursued. Enterprises capable of offering such services were identified in both project sites. Collective contracts can reduce the cost of accessing support services, especially search and engagement costs, which should encourage more farmers to use the services.

Milk Processors

The major challenge for milk processors was capacity underutilization, which was partly attributable to low milk production, especially during the dry season; and partly to frequent power rationing. Another problem was stiff competition from milk buyers in the informal sector leading to suppliers changing loyalty as buyers offered more attractive terms. This problem was amplified by the fact that contracts between processors and dairy farmers were purely based on mutual trust, being neither legally binding nor enforceable.

Moral hazard was another problem that was associated with such contracts. This problem occurred when farmers contracted to supply milk to processors elected to supply only part of the milk to the processor while the remaining was sold to other buyers including hawkers or vendors. This practice always occurred when the quoted contract price was less than the "spot" market price. This and other business related constraints call for the need to strengthen Business Registrations and Licensing Agency (BRELA) to minimize unfair competition.

Shortage of milk supply restrained the processors from adopting the ultra heat treated (UHT) technology which is good for longer shelf life of milk products. Thus, milk processors were able to produce yoghurt, pasteurized milk, cream, butter and ghee only. It is worth noting that the supply of electricity in Tanzania was erratic during the research phase. Milk processors were therefore forced to rely on fuel-powered generators that were more expensive to run and maintain.

Stable utility services are pre-requisites to enhance operational efficiency among processors. Also there is a need to promote collaboration between farmers' network and the main processors, which can enable farmers and processors to identify synergies for business linkage. Moreover, regulation of the private sector through

Farmer Groups/Networks and Cooperatives

Many of the farmer groups and networks and cooperatives were unable to broaden their functions apart from undertaking core functions such as milk collection and provision of basic services to members. Milk marketing chains that involved several primary societies which delivered milk to processors through contracts signed by their respective apex organizations were perceived to be long and bureaucratic. This structure was more likely to be associated with high transaction costs that could be minimized by allowing primary societies to directly enter into agreement with the processor on their own account. It is worth noting that as business entities these institutions succumbed to the same growth impediments as the private business but they were less able to adjust their business modes norms because some decisions were centralized.

There is a need to extend technical support to dairy cooperatives to identify a good business model that can potentially entail restructuring or reorganisation of the current system based on an objective assessment of operational and managerial efficiency. Also there is a need to devise and institute legal reforms within the milk sub-sector to facilitate the execution of enforceable contracts. These contracts can induce compliance to code of conduct. The reforms should be instituted in a way that: ensures there is efficient and effective management of marketing information and: strength the abilities of primary cooperatives to bargain, assume greater roles in milk marketing and where possible sell milk directly to processors. These interventions might help in reducing price erosion through deductions arising from the engagement of many intermediaries.

Hawkers of Milk and Milk Vendors

The main challenges for hawkers and milk vendors were: low knowledge on milk regulations and use of the recommended aluminium containers and: institutional failures to regulate and guide their operations. Many hawkers and vendors had limited knowledge on how to handle milk leading to health concerns related to supply of unsafe milk.

There is a need to devise an effective strategy to monitor and regulate the operation of hawkers and retailers, and support them, especially those supplying milk to collection centres so as to enable them to adopt best practices

thereby upholding milk standards. Such support should include mechanisms to monitor the quality of milk upon delivery.

Consumers

Many consumers demonstrated a low level of knowledge on what constitutes milk quality and safety, especially among those buying milk from informal sources. In terms of purchasing power many consumers were unable to afford (on a regular basis) the cost of processed milk, which reduces the demand for processed milk in favour of unprocessed milk. Nonetheless, per capita consumption of processed milk was generally low.

The low level of knowledge regarding milk quality may lead consumers to make misinformed choices of milk products. For instance consumers' low purchasing power may compel some of them to settle for low quality milk products, because they are not aware of the health risks associated with such milk.

On this basis, there is a need to devise and support initiatives such as public information campaign to raise awareness among consumers on the value of milk (as food) as well as hygienic and food safety requirements for milk so that they make informed decision upon buying milk and milk products. It is worth to note that enhancing milk production is the best way to lower its production cost which can potentially reduce the price of milk products thereby making these products more affordable to consumers.

Summary and Conclusions

This article sought to identify challenges facing the dairy industry in Iringa Municipality and Tanga City and propose alternative policy to address the challenges. To achieve this objective the authors identified value chain actors and constraints that impinge on their abilities to fulfil value chain roles efficiently or increase the quality of services/products leading to poor governance and/failures to engage competitively in the milk market.

Results showed that failure to enforce regulations, laws and by-laws on aspects such as quality, standards and ethics; ineffective provision of critical support services like veterinary services, feed and feed formulation as well as milk handling and storage; low adoption of appropriate technologies; scarcity of competent personnel required to perform specific value chain activities and; failure to cooperate, were the main factors that limited value chain performance and development in the study areas.

In general, there were complex dynamics within the milk sector that offered limited scope to achieve the desired effect of promoting linkage between informal and formal markets in Tanzania and enhancing the welfare of actors involved. This and previous research have established that: i) Milk production was highly inefficient leading to low milk supply and artificially high prices in the informal market; ii) actors in the informal market were not effectively monitored as there was lax enforcement of milk regulations to actors in informal value chain and strict enforcement to actors supplying milk through the formal value chain; iii) consumers were not well-informed about what constituted safety in milk and their choices for milk products were mainly based on price and not quality attributes.

Consequently milk producers were persistently willing to supply milk in the informal market where the price was relatively higher (about 1000-1200 TAS/litre) than in the formal market (about 700 TAS/litre). It was also established that milk production by smallholders was generally inefficient, they incurred high cost per unit volume of milk and the volume produced was too small to meet the demand of buyers in the formal sector, unless they operated in groups or through collection centres. Limited supply of milk meant that the informal market, which offered a high price was not saturated during the dry season. Thus short-term gains of an assured market during the rainy season, when there is an oversupply of milk, was not attractive enough among the target farmers. Nor was there an incentive for them to improve milk quality since the informal market paid a higher price throughout the year irrespective of milk quality. It was therefore observed that milk quality and standards were not sufficiently improved as anticipated although such gains were likely to improve in the long-run as market development unfolded -through sustained interventions for milk value chain development and market integration.

These findings imply that that improving efficiency in production and at other nodes of the milk value chain is the best option to enhance productivity within the chain. Such action will also promote business linkage between small scale dairy farmers and processors and ensure diversified income opportunities and gains for actors involved.

In terms of policy the following are key leverage points for enhancing chain efficiency:

i)   Clarifying mandates roles of regulatory authorities to ensure standards and safety requirements are enforced among suppliers of inputs;

ii)   Extending support in capacity building and governance to providers of critical support services to ensure effective delivery and ethical practice;

iii) Devising support programmes such public information campaign to raise awareness among consumers on the value of milk (as food) as well as hygienic and food safety requirements for milk to allow consumers make informed decision when they buy milk;

iv)   Reviewing land use to accommodate urban dairying and;

v)   Devising an effective strategy to monitor and regulate the operation of hawkers and retailers and enticing them to adopt best practices for uphold milk standards and monitor the quality of milk upon delivery.

Acknowledgements

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