

**TANZANIA MILK PROCESSORS ASSOCIATION
(TAMPA)**

**A BASELINE STUDY ON THE IMPLEMENTATION OF THE VAT RATE OF
ZERO PERCENT IN THE DAIRY SECTOR IN TANZANIA**

FINAL Report

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Acronyms and Abbreviations

ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
ASDS	Agricultural Sector Development Strategy
BEST-AC	Business Environment Strengthening for Tanzania - Advocacy Component
COMESA	Common Market for East and Southern Africa
COMSTAT	COMESA Statistical Database
DDA	Dairy Development Authority
EAC	East African Community
EPZA	Export Processing Zone Authority
ESADA	East and Southern Africa Dairy Association
FAO	Food and Agricultural Organization
FAOSTAT	FAO Statistical Database
GDP	Gross Domestic Product
IDACOS	Ilala Dairy Cooperative Society in Ilala
TDCU	Tanga Dairy Cooperative Union
KCC	Kenya Creameries Cooperative
KDB	Kenya Dairy Board
KEPSA	Kenya Private Sector Alliance
MLFD	Ministry of Livestock and Fisheries Development
NBS	National Bureau of Statistics
NSGRP	National Strategy for Growth and Reduction of Poverty
RLDC	Rural Livelihood Development Company
TAMPA	Tanzania Milk Processors Association
TDB	Tanzania Dairy Board
TZS	Tanzanian Shilling
UBOS	Uganda Bureau of Statistics
UDFA	Uganda Dairy Farmers Association
UDPA	Uganda Dairy Processors Association
UHT	Ultra-High Temperature
UIA	Uganda Investment Authority
UNDTA	Uganda National Dairy Traders Association
URT	United Republic of Tanzania
USD	United States Dollar
VAT	Value Added Tax

EXECUTIVE SUMMARY

The main objective of this study was to carry out a baseline survey on the performance of the dairy sector in Tanzania compared with other East African countries for the purpose of facilitating a follow-up on the impact of the VAT rate of zero percent on milk and milk products introduced by the government in 2012. Specifically, the study sought to develop baseline data on the dairy sector to evaluate the impact of the VAT rate of zero percent; establish the level of awareness of the change to the Finance Act, 2012; establish the changes milk processing firms intended to make following the policy change; establish the extent to which milk processors are taking advantage of the revised tax law; determine other challenges relating to tax compliance in the dairy sector; and establish other factors that increase the cost of doing business in the sector. The study was carried out through desk research and fieldwork done in Tanzania and Kenya. Questionnaires were administered to 18 milk processors, 12 owners of retail outlets, 5 milk importers in Tanzania, and 2 milk processors in Kenya. In-depth personal interviews were conducted with 6 milk processors, 12 owners of retail outlets, 5 milk importers in Tanzania, and 3 respondents from Kenya. In addition, views were collected from a stakeholders' workshop organized during report launching. The field data were combined with the information generated from the documents reviewed to produce the report presented in this document.

The major findings of the study are summarised as follows;

- i) Despite the largest cattle herd amongst East African countries, Tanzania lags behind in terms of performance of the dairy sector as measured by its contribution to GDP, milk production, milk yield, processing capacity and its utilisation, per capita milk consumption, export share and unit cost of processing milk.
- ii) Before the amendment of the Finance Act, 2012, only unprocessed dairy products from cow and goat milk, and other unprocessed milk products that underwent simple processes of preparation or preservation were exempt from VAT in Tanzania. Other East African countries, particularly Kenya, Rwanda and Uganda, had enjoyed a greater tax advantage resulting from zero-rated VAT on milk and milk products.
- iii) Prior to the amendment of the Finance Bill, 2012, VAT placed a greater cost burden (3.7 percent) on milk processors than other taxes and fees (1.3 percent).
- iv) Until 2012, over 50% of the milk processors visited were VAT registered, while all dairy importers and retail outlets were registered. Therefore, a substantial number of inputs used by milk processors attracted VAT.
- v) About 44% of the VAT imposed on inputs were shifted by processors to consumers in the form of higher product prices.
- vi) With effect from July 2012, all categories of milk and milk products in Tanzania do not attract VAT following amendment of the Finance Act, 2012.
- vii) Although all value-added dairy products currently attract a VAT rate of 16% in Kenya, the dairy sector is strongly lobbying for the reintroduction of the VAT rate of zero percent on all value-added dairy products.
- viii) The strengthening of the Dairy Board, formalisation of milk-processing activities and the promotion of milk consumption have played a crucial role in the growth of the dairy industry in both Kenya and Uganda.

- ix) The majority of milk processors in Tanzania and retail outlets and all dairy importers were aware of the change introduced in the Finance Act, 2012.
- x) Although the impact of the VAT rate of zero percent on milk processors' businesses had not been computed, a small number of milk processors showed the intention of reducing the price of their milk products by about 10%.
- xi) About one-third of the retail outlets had seen a positive impact of VAT changes on the price and sales of milk and milk products.
- xii) The milk processors intended to use the advantage of zero-rated VAT to increase the price paid to farmers for their raw milk, to procure more storage tanks, to open up new collection channels, to increase the amount of raw milk collected from farmers and to buy in bulk. In addition, processing firms intended to use the tax savings to buy more inputs and processing equipment, to increase processing capacity, invest in producing a variety of quality products, to raise awareness and promote the consumption of milk products.
- xiii) In addition to the benefits of the VAT rate of zero percent, the milk processors in Tanzania suggested using a holistic approach to address the challenges facing the dairy sector in the entire value chain from production and processing to the marketing of processed milk and milk products.
- xiv) The majority of milk processors felt that the introduction of the VAT rate of zero percent would enable them to reduce the costs of production if and only if other cost drivers in the sector were controlled.
- xv) If the challenges facing the dairy sector are adequately addressed, the sector has the potential to process up to 1 million litres per day by 2018. If this is achieved the government will be able to collect a total of Tshs. 95.8 billion in corporate tax over the ten-year period due to a significant growth in profitability, which is almost 40 times the total amount of Tshs. 1.487 billion collected in VAT from 2005 to 2011. This will also increase the daily average earnings per farmer to \$2.35.
- xvi) Despite this amendment made in the Finance Act, 2012 concerning VAT, there are still many other challenges constraining the sector. These include the high cost of doing business, limited skills and expertise, the high cost of milk-processing equipment, the limited consumption of milk and access to capital, unreliable power supply, competition from imports, inadequate regulations and transport infrastructure, the limited supply of raw milk during the dry season and the difficulty in meeting export standards.
- xvii) The study found a number of challenges facing processors, importers and retail outlet owners in complying with the tax amendment made in the Finance Bill, 2012.
 - About 33 percent of processors and 30 percent of retail outlet owners are still unaware of the change in the VAT rate introduced by the government. This is also true of regional and district offices, and the tax collectors themselves.
 - 38 percent of milk processors and 40 percent of retail outlet owners have not yet started implementing this change as they continue to charge their customers VAT.
 - Few processors showed the intention of reducing the price of their milk and milk products, believing that this would send a message to customers that their products are of poor quality.

- Processors were concerned about consistency and how to fill in the tax return as they were unclear about what was involved. They require training therefore to enable them fill in the return correctly so that they can reclaim the tax after six months.
- Processors felt that being reimbursed for the VAT paid after six months while having to pay for inputs during that period meant that it would take a long time to recover the costs of production.

Policy Recommendations

The recommended policy actions focus on both improving the dairy value chain and enhancing the benefits of the amendment of the Finance Act, 2012. In terms of improving the value chain the following key policy actions are recommended;

i) Adopt a holistic approach to develop the dairy sector value chain by effectively engaging stakeholders (both public and private) involved in the production, processing and marketing of milk and milk products to participate in the development of the value chain. This could be achieved through;

- Strengthening dairy farmer cooperative societies and farmers' groups and improving milk procurement by milk processors.
- Establishing a public-private partnership (PPP) between the public sector (the Ministry responsible for livestock development and the Tanzania Dairy Board (TDB) and the private sector (TAMPA, processors, etc.) to initiate projects that would promote the development of the value chain and good practices as regards livestock development.
- Milk processors working with producers' associations (e.g. TAMPRODA) to jointly improve milk production and the supply of raw milk to the milk-processing plants through the collaborative procurement and transport of milk, training in good dairy farming practices, the procurement of inputs and services, the screening of milk in collection centres, etc.
- Creating a link between milk producers, milk processors and traders to ensure that milk flows smoothly from producers to the market. This could be done through a PPP.
- Incorporating informal traders and hawkers into the value chain by training them in hygiene standards, and engaging them to collect and distribute milk for processors.

ii) Facilitate formalisation of the dairy sector through enforcing the laws that promote formalisation and enhancing the ease of doing business in the dairy sector. This could be done through a number of ways including:

- Enforcing laws and regulations, and sensitizing and educating consumers to consume safe and processed milk, using, for example, district health officers.
- Forcing informal traders and hawkers that form over 97 percent of the dairy business to comply with laws and regulations on safety and hygiene.
- Harmonising regulations that add costs to formal milk processors so as to encourage formalisation.
- Simplifying the requirements for formalising milk-processing activities by reducing the bureaucracy and costs involved.

iii) Strengthen TDB to play its role in promoting the industry. This could be done through;

- Allocating more staff on a competitive and commercial basis to TDB to build its capacity to both adhere to the regulations and promote the industry.
- Allocating sufficient funds to TDB to carry out the role of promoting the growth of the sector.
- Providing TDB with training, and developing its infrastructure so that it functions more effectively.

iv) Promoting the Dairy Industry in Tanzania, that requires:

- Advertising and promoting dairy products using billboards, TV and radio programmes and social networks.
- Using the Social and Behavioural Change Communication (SBCC) strategy to educate the public on the importance of consuming safe and processed milk.
- TAMPA developing a newsletter and other appropriate channels to promote the sector.
- The government using the school milk programme in order to address malnutrition in children.
- The government aggressively using non-tariff barriers to restrict the imports of dairy products in order to protect Tanzania's infant industries.

With regard to taking advantage of zero-rated VAT on milk and milk products, the following policy actions are recommended;

i) Facilitate the formalisation of milk processors and their registration for VAT by enforcing the Dairy Industry Act, 2004 and the amendment made to the Finance Act, 2012. This requires;

- Creating awareness of the requirements of the Dairy Act, 2004 that insist on the use of safe and processed milk.
- Simplifying the process of tax returns and creating awareness of the procedures and the benefits of operating formally.
- Rationalising regulations governing the dairy sector and improving the business registration process.

ii) Make milk processors, tax collectors and regulators aware of the VAT rate of zero percent, its benefits, the process of registration and compliance and procedures for making claims. This requires:

- TAMPA and TDB to embark on education and awareness-raising programmes across the country through the support of the government, milk processors and development partners to create awareness of the amendment of the Finance Act, 2012 concerning VAT.
- The Tanzania Revenue Authority (TRA) and the government authorities to inform their staff about the amendment to the Finance Act and ensure that it is enforced.

iii) Conduct follow-up surveys to monitor the implementation of the VAT law and the improvements needed in both the public and private sector to ensure that the benefits of the VAT rate of zero percent are gained by milk processors and other stakeholders.

This requires that:

- TAMPA uses the baseline data generated in this study to measure the impact of the amendment to the Finance Act.

- *Make the impact assessment study as comprehensive as possible to ensure that other factors that increase the cost of doing business in the dairy sector are captured.*

iv) Increase Investment in the Dairy Sector through the following ways:

- *Formalising and registering with the Tanzania Investment Centre (TIC) to access relief from tax, investment and other start-up costs.*
- *Inviting both local and foreign investors to invest in the Tanzanian dairy sector.*
- *Processors obtaining a franchise to sell reputable local or foreign brands to aid initial market penetration.*
- *TAMPA and TIC organizing and coordinating platforms where processors and other dairy stakeholders will be informed and educated on investment relief and the opportunities available at TIC, such as SAGCOT and agribusiness catalytic funds.*
- *Encouraging banks and other financial institutions to invest in the dairy sector.*
- *Encouraging the investment in support industries, such as packaging, tools, equipment and other dairy technologies.*

v) Strategise Lobbying Efforts to Enhance Sustainability of the VAT rate of zero percent through:

- *Requesting the government to keep implementing the zero VAT rate until 2018 or until the sector is able to process up to 1 million litres per day.*

Although several policy actions are recommended, some of them require further follow-up and advocacy. One of the major issues that can be derived from this study for advocacy is the **formalisation of milk processors**. Formalisation of the dairy industry will benefit both the public and private sector in terms of increasing the amount of milk processed, creating employment and contributing to tax revenue and economic growth. However, for formalisation to happen, industry stakeholders need to advocate for **simplification of regulations in the industry and an improvement in the ease of doing business for milk processors**. This complements the ongoing project and it stands a chance of reducing the cost of doing business, thereby encouraging formalisation. The proposed policy actions are likely to have a remarkable impact on the economy of Tanzania given the potential of the sector.

SECTION ONE: CONTEXT AND THE ISSUE

1.1. Background

The dairy sector has the potential to greatly contribute to the economic development of Tanzania by improving food security, creating employment and opening income-generating opportunities, especially for rural households¹. Despite the potential benefits of the sector, commercial dairy activities in the country are still in their infancy. The bulk of milk produced originates from the traditional cattle that form over 90% of the cattle population and is consumed at household level, with only about 3% of the milk filtering through to the formal market. Despite this, the sector contributes to the employment of over 2 million households in its value chain (ibid). Dairy production also provides small-scale farmers with a regular cash income that can be several times greater than many other types of on- and off-farm enterprises. Other benefits of dairy production include the establishment of linkages with input service providers and milk traders, the supply of nutritious and affordable food for the local population and opportunities for long-term expansion in domestic and regional export markets.

Although the dairy sector is recognised as one of the strategic economic sectors in Tanzania, and the policy framework encourages commercialisation of dairy activities to achieve an efficient and internationally competitive sector, the general performance of the industry is still uncompetitive. This situation has recently attracted a number of stakeholders to take various measures to address different challenges facing the sector. In the last decade, the Tanzania Milk Processors Association (TAMPA) has initiated several projects to promote the growth of the sector by addressing challenges affecting the dairy value chain. Some of the projects implemented by TAMPA cover regulations, development of the value chain, the marketing of milk and tax-related issues. However, the sector has remained stagnant for a long time and in recent years it has shown a declining trend. Studies indicate that Tanzania lags behind other EAC countries in terms of the contribution of the dairy sector to national GDP, as well as its processing capacity, productivity, yield, utilisation, per capita consumption, performance of external trade and competitiveness².

One issue about which milk processors have been complaining is the high tax on milk and milk products. There has been a growing concern that, in terms of VAT in East Africa, Tanzania is at a disadvantage compared with other EAC countries. A review of the VAT laws in East Africa indicates that the rate in Tanzania is 18% (that is similar to Uganda, Rwanda, and Burundi), while Kenya charges a smaller rate of 16%. Before the Finance Act was amended in 2012, only unprocessed milk products were exempted from VAT. In Rwanda, all dairy products processed by local firms are exempt from VAT. In Uganda, milk products with up to five percent of value addition are exempt from

¹ Tampa Study, (2010)

² FAOSTAT, 2013

VAT. In Kenya, all milk and milk products were zero rated for fourteen years (1990-2004). Although the East African VAT rates are similar (with the exception of Kenya), milk processors in Tanzania felt that they were at a disadvantage because of the high cost of processing milk and inefficiency associated with tax compliance. The high cost of processing milk in Tanzania has meant that the dairy industry has been less competitive, and so a policy framework is needed that would enable the industry to take advantage of the potential that exists. The issue of zero-rated VAT appeared to be one of the strategic moves that would help to reduce the cost of doing business for milk processors.

In view of the above, TAMPA, with financial support from BEST-AC, initiated an advocacy project in May, 2012 to put pressure on the government to improve the tax environment for milk processors in Tanzania. The overall objective of the project was to have a solid policy proposal to advocate the government to introduce a VAT rate of zero percent on milk and milk products so as to increase the competitiveness of sector. At the beginning of the study an inception report was produced based on a review of literature and tax laws in the region. As a matter of strategy to create awareness of the issue, TAMPA organised a stakeholders' workshop to share the inception report, launch the study and inform the public about it. Fortunately, after the workshop and following the initial lobbying efforts, the government amended the Finance Act, 2012 to provide for a VAT rate of zero percent on all milk and milk products produced by local processors, using local raw materials (raw milk) with effect from 1st July, 2012.

Although the policy change was made, TAMPA decided to continue with the study and develop the policy proposal for a number of reasons. First, it was observed that other issues would be covered in the study that would need to be tackled in the face of the amendment. Second, for the purpose of measuring the future impact of the changes made, it was important to conduct a baseline study on the status and performance of the sector, to review the implications of the VAT change and how they would lead to the benefits intended. Third, it was important to establish how processors could best strategise to reap the advantages of the tax revision. The Association also sought to establish what other challenges faced the sector and how they could be overcome. In view of this, TAMPA engaged consultants to undertake a study that would form the baseline data for measuring the impact of the VAT rate of zero percent and to make recommendations for improving the competitiveness of the sector.

1.2. Objectives of the Study

The main objective of this study was to carry out a baseline survey on the status and performance of the dairy sector in Tanzania, and assess how it compares with other EAC countries for the purpose of implementing the VAT rate of zero percent introduced by the government. Specifically, the study aimed to;

- Develop the baseline data (profile of processors, current performance, current tax practices, milk supply and demand data, prices and turnover information, cost data, capacity utilisation, etc.) on the dairy sector as a basis for evaluating the impact of the VAT rate of zero percent.
- Establish the level of awareness of the change implemented by the government in relation to milk processors and assess the extent to which implementation of this

change would benefit the sector. The study therefore sought to establish whether milk processors understood and interpreted the Finance Bill, 2012 adequately and if they were already complying with the new VAT system.

- Establish the changes milk-processing firms intended to make in price structure following the change in the law.
- Establish the extent to which milk processors were taking advantage of the revised tax law in their operations.
- Determine other challenges concerning tax compliance in the dairy sector (process of paying tax, the rates charged, tax information, attitude of tax collectors, etc.)
- Determine other factors that increase the cost of doing business, and how milk processors could overcome them (taxes, materials, logistics, manpower, etc).

1.3. Scope of the Assignment and Methodology

The scope of this assignment entailed undertaking a study, facilitating stakeholders' workshops and delivering the report. The major deliverables were the study report, presentation of the findings and recommendations to stakeholders and the final policy brief and fact sheet. Although this research basically concerned policy, the study was changed with developing a baseline survey to reflect the needs of the sector and the change already made by the government. It follows the model of advocacy that moves from identifying and gaining an understanding of the issue to developing a policy proposal, influencing and following up, with slight modifications. In order to deliver the intended deliverables, the consultants used both secondary and primary data collection approaches.

In terms of secondary data collection, the consultants combined the information already collected from the initial phase and additional information with data collected from various documents such as tax laws, general literature on best practices and documents obtained from the companies visited. The primary data were collected by means of a questionnaire, personal interviews and a focus group discussion. The consultants administered a questionnaire to 18 milk processors, 12 retail outlet owners and 5 milk importers. In-depth personal interviews were conducted with 6 milk processors, 12 retail outlet owners and 5 milk importers. The consultants also administered questionnaires and conducted personal interviews with 2 milk processors, 1 respondent from the Kenya Dairy Board and 2 respondents from the East Africa Dairy Association (ESADA) in Nairobi to establish the best practices and key lessons that would inform the study. In addition, dairy stakeholders' views were gathered through a focus group discussion with 31 members during the report-launching event. The quantitative data generated were analysed using simple descriptive statistics, ratios and trends, while the qualitative data were analysed using the thematic approach. The field data were combined with the information generated from the literature to produce the report presented in this document.

1.4. Organisation of the Report

This report is organised in different sections as follows. The second section presents an overview of the East African Dairy sector. The third section focuses on the dairy sector value chain (production, collection and marketing systems) in East Africa with a greater emphasis on Tanzania, which was the major area of interest. Section four reviews the

VAT laws and tax situation prior to the amendment of the Finance Bill introducing the VAT rate of zero percent in 2012. The main purpose is to reflect on the situation and justify the concern of the sector and why the decision should be upheld. The section that follows reviews the current status of the VAT issue covering the aspects of awareness of the amendment, actions that have already been taken by milk processors, actions that are planned to take place and their implications. The next section presents key lessons drawn from the Kenyan dairy sector in an attempt to trace the trend in the development of the industry, to discover the driving force behind its success, to look at the VAT issue in relation to the dairy sector and to highlight the major implications for Tanzania's dairy sector. The last section draws major conclusions and offers policy recommendations to key stakeholders in the industry. Most recommendations focus on strategies for addressing the remaining challenges that are likely to make the VAT rate of zero percent ineffective, on how best to take advantage of the change and on how to measure the impact of the VAT rate of zero percent.

SECTION TWO: OVERVIEW OF THE EAST AFRICAN DAIRY SECTOR

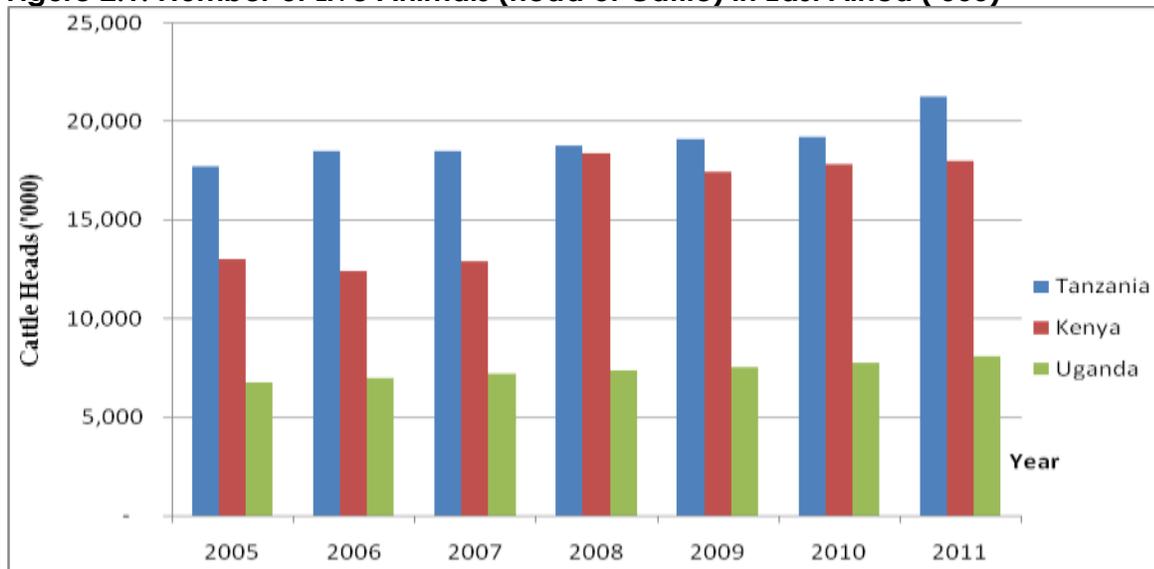
2.1. Introduction

This section presents an overview of the dairy sector in East Africa. It mainly covers the cattle population in the region and the contribution of the dairy sector to the Gross Domestic Product (GDP) of the East African countries. The information presented in the section is relevant for three major reasons. First, it indicates the dominance of the livestock sector and dairy sub-sector in the economies of the East African countries. Second and more important, it shows the position of Tanzania (which is the main focus of the study) in the livestock sector and dairy sub-sector. Third, the data presented form the basis for comparing the competitiveness of the sectors in the East African countries.

2.2. Cattle Population in East Africa

The dairy industry in East Africa is one of the largest in Africa, and is an important part of the region's agricultural economy. However, over 90 percent of the livestock population in the region is an indigenous type known for their low genetic potential (MLFD, 2010). According to FAOSTAT, (2013), the cattle population in Tanzania was estimated to be 21.3 million compared with 18 million in Kenya, and 8.1 million in Uganda. Based on these data, Tanzania is ranked third in Africa after Sudan and Ethiopia in terms of cattle population. As indicated in Figure 2.1, the herd grew from 17.7 to 21.3 million head of cattle between 2003 and 2011 in Tanzania compared with from 12.5 to 18.0 million in Kenya, and 6.5 to 8.1 million in Uganda during the same period. This translates into a growth of 20.3 percent in Tanzania, 43.6 percent in Kenya, and 24.3 percent in Uganda. The equivalent annual growth rates for Tanzania, Kenya, and Uganda are 2.3, 4.8 and 2.7 percent, respectively. The data suggest that, despite the fact that Tanzania is leading in terms of cattle population, the growth rate of cattle in Kenya and Uganda has surpassed the annual growth rate in Tanzania.

Figure 2.1: Number of Live Animals (head of Cattle) in East Africa ('000)



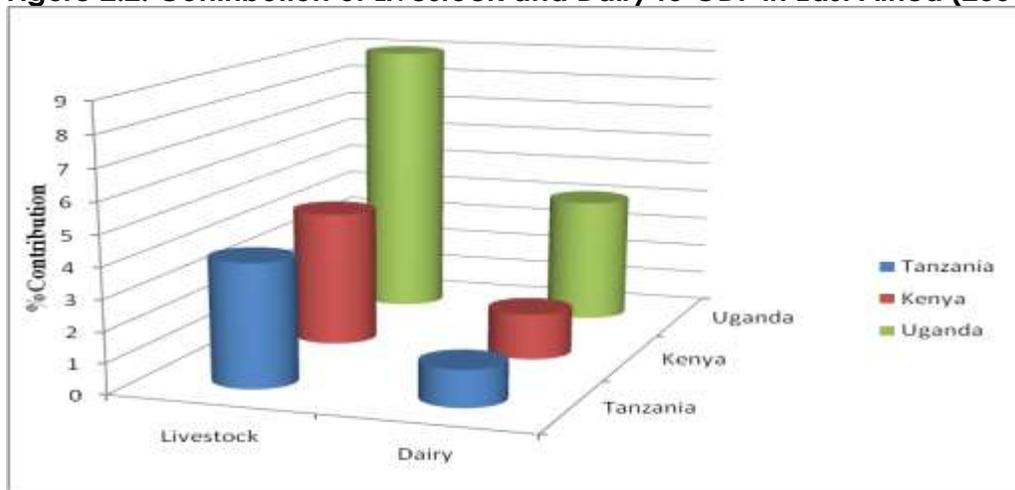
Source: FAOSTAT (2013)

2.3. Contribution of the Livestock Sector to GDP

The livestock sector in East Africa contributes a considerable amount to the GDP of the region. In Tanzania, for example, out of 4.9 million agricultural households, about 36 percent, that is 1.8 million, are livestock keepers (MLFD, 2010). The TAMPA study of 2007 revealed that the dairy sub-sector employs more than 2 million households and over 100,000 intermediaries. In Kenya, agriculture accounts for more than 65 percent of total exports, 7 percent of which are of livestock. The sector provides more than 18 percent of formal employment and more than 70 percent of informal employment (ASDS, 2010). In Uganda, agriculture is a source of livelihood for about 4.5 million people and has been growing at an estimated rate of 2.2 percent per annum (UBOS, 2010).

The 2009 statistics (Figure 2.2) indicate that the livestock sub-sector contributed about 4.0 percent to Tanzania's GDP in, 4.4 percent to Kenya's and 9.0 percent to Uganda's. The contribution of the dairy sub-sector to national GDP was 1.2, 1.5, and 4.1 percent in Tanzania, Kenya and Uganda, respectively (MLFD, 2010; ASDS, 2010; UBOS, 2010). As may be noted from Figure 2.2, Tanzania lags behind Kenya and Uganda in terms of the contribution of the livestock and dairy sub-sectors to the nation's GDP. Despite the fact that Uganda has a lower number of cattle than Tanzania and Kenya, the livestock sector makes the greatest contribution to GDP. One of the drivers of the dairy sector in Uganda, according to the TAMPA study, (2010), has been the empowerment of the Dairy Development Authority (DDA), the Uganda Dairy Farmers Association (UDFA), the Uganda National Dairy Traders Association (UNDTA) and the Uganda Dairy Processors Association (UDPA), all of which are represented on the DDA Board. DDA carries out its mandate by entering into a partnership with all stakeholder organisations, specifically UNDATA, focusing on capacity building and joint enforcement. It focuses attention on educating and sensitising the general public to bring about a change in consumer behaviour and greater appreciation of processed milk and safe milk products and on making the entire sector more aware of the regulatory requirements.

Figure 2.2: Contribution of Livestock and Dairy to GDP in East Africa (2009)

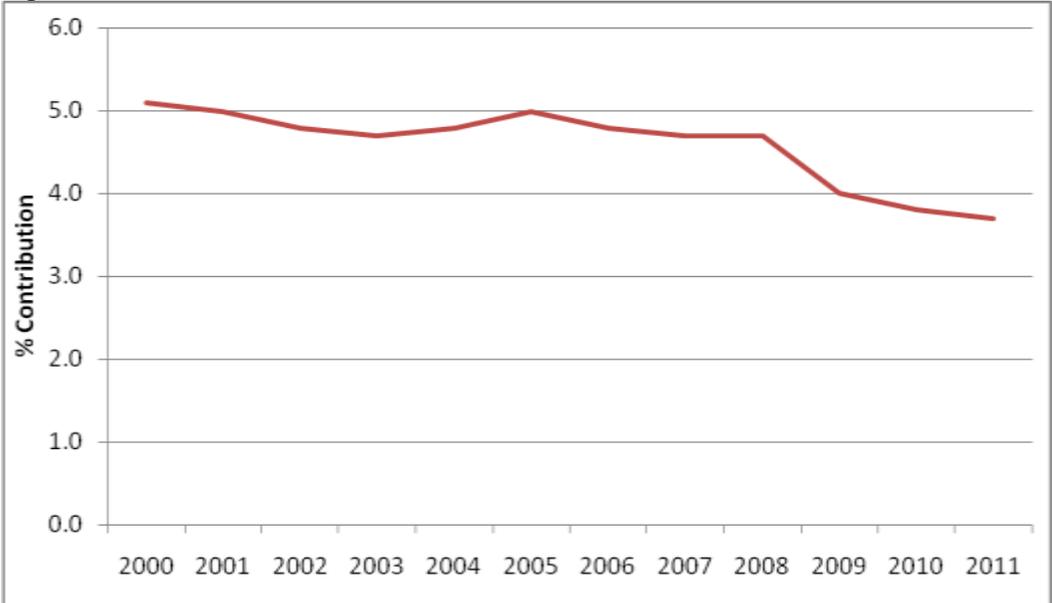


Source: MLFD (2010), ASDS (2010), UBOS (2010)

Figure 2.3 indicates that the contribution of the livestock sector to Tanzania's GDP has not shown an encouraging trend as it has been declining persistently since 2005. It

contributed only 3.7 percent to GDP in 2011 compared with 5.1 percent in 2000, partly due to the growth of other sectors such as mining and tourism and the low growth rate of live animals and production, a high mortality rate, a low reproductive rate and poor quality of the final products from the industry. Over the last decade the livestock sector recorded an average growth rate of 4.6 percent, which is much lower than the target of 9.0 percent that the National Strategy for Growth and Reduction in Poverty (NSGRP) envisaged would enable the sector to make a significant contribution to poverty reduction and food security by 2010. This gap is too wide and is a major challenge for all livestock sector players.

Figure 2.3: Contribution of Livestock to GDP Trends in Tanzania



Source: NBS (2013)

This study reveals that the value of sales of the 17 major milk processors involved in this study was Tshs. 32.4 billion, contributing 0.08 percent to GDP in 2012. In 2012, these processors generated about 567 jobs in processing plants and 236 jobs in collection centres, and purchased milk from 14,834 farmers. An additional 115 jobs were created in six milk-importing enterprises and 462 jobs in twelve retail outlets. A total of 16,214 people were employed by the firms visited. The 27.8 million litres of milk collected from 14,834 farmers by the eleven biggest processors in 2012 generated an annual income of Tshs. 18.2 billion for farmers that translates into an annual income of Tshs. 2.9 million per farmer.

2.4. Key Observations on the Performance of the Dairy Sector in East Africa

The data presented in this section demonstrate that livestock is one of the major agricultural sub-sectors in the region. It has the potential to contribute to poverty reduction and economic development given the land that is available for the development of the sector. Although the East African dairy industry is quite large, it is a domestically focused activity, with less than 10 percent of milk being sold and distributed through formal channels and less than 1 percent of the region's milk

products being exported³. However, these figures may not be a true reflection as most of the sector is informal and so official statistics only capture the small portion that is formal. The problem with establishing how much milk is produced is that only a fraction of it is processed and enters the formal sector, and thus official statistics.

Despite the fact that existing statistics have been drawn from different sources, they give comparative indicators showing how each country is performing in the region. Based on the statistics, it is apparent that even though Tanzania is leading in terms of the number of cattle, it is outperformed by other countries in terms of other performance indicators. This calls for deliberate actions to rescue the sector as a whole. In view of this, creating an enabling environment for milk processors that reduces the cost of doing business is of the utmost importance.

Overall, the key policy message is that Tanzania's dairy sector is in a leading position given its number of livestock and the land available to develop the sector. However, FAOSTAT (2013) data show that even though Tanzania is ranked third in terms of the livestock population in Africa, Kenya is by far the region's strongest dairy producer and exporter and is responsible for 83.1% of total EAC exports, following by Uganda (12.7%), Tanzania (3%), Rwanda (0.9%) and Burundi (0.3%). Both Kenya and Uganda have the capacity to manufacture a wide range of processed products, including pasteurised milk and various kinds of higher-value-added products, such as UHT long-life milk and dry milk powder that can be exported. They also have a large and vibrant small-scale trading sector in which milk vendors, milk shop owners and mini-processors link small farmers with city and town buyers. These traders are generally less concerned about quality than formal processors and account for 80-85% of total milk marketing in Kenya and as much as 95% of milk marketing in Uganda.

³ *African Trade Notes, 2010*

SECTION THREE: THE DAIRY SECTOR VALUE CHAIN IN EAST AFRICA

3.1. Introduction

One of the requirements of this study was to develop industry baseline data to show the profile of the key players in the value chain in Tanzania in relation to other East African countries. Although the value chain in Tanzania was its main focus, the data from other East African countries are included for comparative purposes. This section describes the nature of the value chain in the dairy sector and presents data on milk production and productivity, milk yield, milk processing and other aspects of the value chain. The section presents a number of findings from the field, together with the information generated from the documents reviewed.

3.2. Nature of the Dairy Value Chain

The value chain in the dairy sector entails the actors and processes involved in the production, processing, marketing and consumption of milk⁴. It shows the route of milk from the producer to the final consumer. The milk flow in the value chain is shown in Figure 3.1. The key players in the marketing of milk are generally farmers/milk producers, traders, hawkers, milk collection centres and processors. These players can be grouped into those that are directly involved in production, processing and marketing (micro-level), associations, projects and NGOs at the macro level and those factors that create the enabling environment (laws, regulations and policies)⁵.

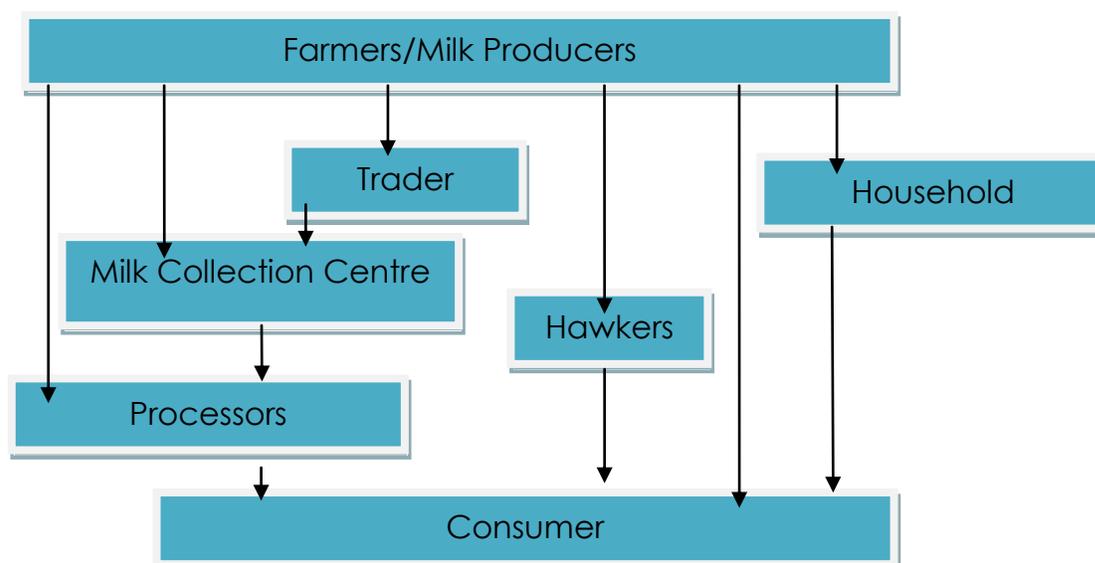
It is important to note that in less advanced systems, raw milk may be sold directly by farmers or small-scale traders to the final consumer without it going to a processing facility. On the other hand, in most systems processing dairy products, the raw milk is almost always collected from producers by one or more bulk buyers, who then divide it into commercially attractive quantities before selling it to a dairy processor. This is necessary to cover the high cost of transporting milk, but there is a major risk that when milk from different farmers is collected and mixed together hygiene standards are not followed, leading to the possible introduction of bacteria. In order to manage these risks effectively, a reliable system for testing the quality of milk and ensuring it is hygienically handled, as well as the timely delivery of the supply of raw milk to the dairy processor, is required.

From the value chain perspective, the additional logistics and costs involved in formalising the dairy sector could make it difficult for it to compete with the raw milk market. For instance, the milk might spoil if the system were to break down or the milk incorrectly handled, which would cause great loss. In addition, the cost of each stage would need to be kept to a minimum if the enterprise is to be competitive and financially viable. Working upstream from the final consumer price, the costs and profit margins at each stage in the value chain have a direct bearing on the price that can be paid to farmers and, thus, the overall competitiveness of dairy processing. However, success in the unpasteurized milk trade mainly depends on its quick delivery from the farm to the final consumer.

⁴ TAMPA, *Round Table Africa and SNV (2009)*

⁵ Dillmann & Ijumba (2011)

Figure 3.1: Milk Flow in the Value Chain



Source: TAMPA, Round Table Africa and SNV (2009)

In its analysis of the value chain, this study focused on the eighteen largest milk processors in Tanzania, which are key players. The main purpose was to show the key actors dealing with milk processors and the possible impact if processors are promoted. As indicated in Table 3.1, the 18 milk processors visited buy raw milk from 15,934 farmers, which they put in 123 collection centres. They sell their processed milk products to 109 distribution outlets across all regions of Tanzania. However, none of these processors export their products.

Table 3.1: Tanzania Dairy Value Chain in 2012

No	Processor	# of Farmers	# of Collection Centres	# of Distribution Outlets	# of Regions Covered	# of Export Markets
1	Mara Milk Ltd	3,600	6	7	5	-
2	Kilimanjaro Creameries		2	3	3	-
3	Musoma Dairy	1,000	5	15	9	-
4	Tanga Fresh Limited	6,500	42	2	6	-
5	Tan Dairies	1,355	15	2	1	-
6	Mountain Green Ltd	440	4	60	2	-
7	Arusha Dairy Company	94	7	1	2	-
8	ASAS Dairies Ltd	89	4	4	4	-
9	Dutch Orkonerei Social Investment	200	5	1	3	-
10	International Dairy Products Ltd	1,200	5	1	7	-

11	Profate Investment Ltd	18	1	-	1	-
12	Shambani Graduates	338	5	-	3	-
13	Baraki Sisters Dairy	50	1	3	1	-
14	Uvingo Dairy Group	250	5	1	4	-
15	Fukeni Mini Dairy	150	3	3	1	-
16	Kalali Women Dairy Cooperative	250	5	1	1	-
17	Nronga Women Dairy	200	4	3	2	-
18	Agape Women	200	4	2	3	-
Total		15,934	123	109	58	0

3.3. Milk Production

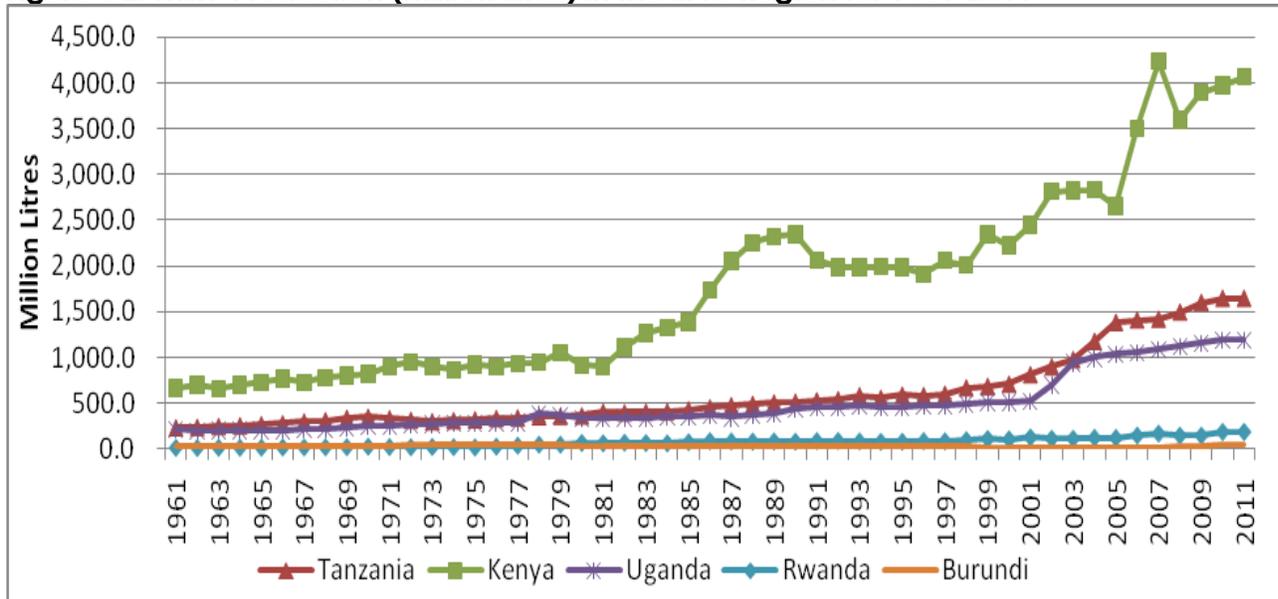
In East Africa, milk production is organised in two major systems; the traditional sector where milk is produced from indigenous cattle, and the commercial sector where milk is produced from cross-bred dairy cattle. In Tanzania, the traditional sector contributes about 70 percent of total milk production with the remaining 30 percent coming from dairy cattle⁶ (MLFD, 2010). Figure 3.2 shows that in 2011, Kenya led in terms of milk production, followed by Tanzania and Uganda, while Rwanda and Burundi lagged behind. Kenya produced 4,059 million litres of milk annually compared with Tanzania and Uganda that produced 1,650 and 1,190 million litres, respectively (FAOSTAT, 2013). Over the period 2000-2010, Burundi recorded the highest growth in milk production, followed by Uganda and Tanzania. Burundi had an annual growth rate of 17.6 percent, compared with Uganda's and Tanzania's growth rate of 12 percent, while Kenya and Rwanda recorded the lowest rate of 7 percent.

The statistics show that Kenya has consistently outperformed other EAC countries in terms of milk production, with Tanzania picking up slowly in recent years and Uganda doing so substantially. In terms of regional output, Kenya is by far the largest dairy producer, accounting for 56.8 percent of total output, followed by Tanzania with 23.1 percent and Uganda with 16.7 percent. Rwanda and Burundi produced 2.6 and 0.8 percent, respectively (FAOSTAT, 2013). Despite its low level of output, the Rwandan dairy sector is undergoing a great change due to an ongoing government programme aimed at providing every poor household with an improved dairy animal.

A study by RLDC, 2009 shows that ten districts in Tanzania (see Appendix 1) produce about 158.8 million litres of milk, which is around 9.9 percent of the milk produced in Tanzania. In Uganda, milk is produced in all regions, that is, South-Western, Mid-West, Central, Eastern and Northern regions, although the South-Western region has the highest milk production of around 36 percent of total production (UIA, 2009). The growth in milk production in Uganda was mainly the result of favourable weather and dairy development programmes implemented by the government and development partners. It was also due to improved breeds of dairy livestock that had higher yields.

⁶ Dairy cattle consist mainly of Friesian, Jersey, Ayrshire breeds and their crosses to the East African Zebu

Figure 3.2: Milk⁷ Production (million litres) in the EAC Region for 1961-2011

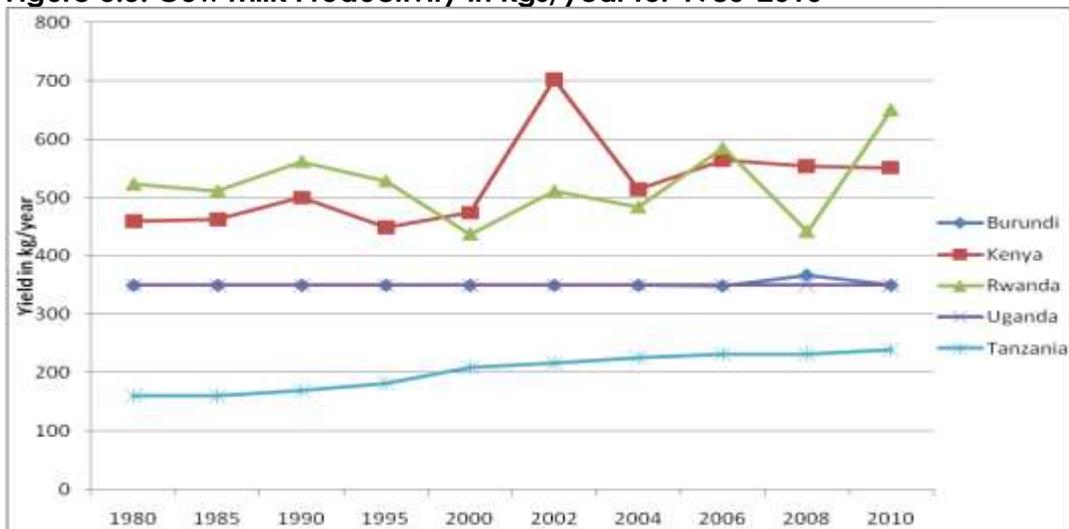


Source: FAOSTAT (2013)

3.4. Milk Yield and Productivity

The data available on herd size and productivity indicate that the increase in the amount of milk produced by both indigenous and dairy cattle is mainly due to an increase in herd size rather than the productivity of each milking cow. As shown in Figure 3.3, during the 1980-2010 thirty-year period, milk yield increased by 49.4 percent in Tanzania compared with 20 percent in Kenya and 24.5 percent in Rwanda, while the yield was stagnant in Uganda and Burundi (FAO, 2013). It is interesting to note that, in recent years, the growth in productivity in Rwanda has surpassed other East African countries.

Figure 3.3: Cow Milk Productivity in kgs/year for 1980-2010



Source: FAOSTAT (2013)

⁷ Whole fresh cow milk

The reason most cited for this low milk yield is the low genetic potential of the East African zebu. In Uganda, for example, over 80 percent of the milk produced comes from local cattle breeds that form over 95 percent of the national herd, while improved cattle breeds which make up less than 5 percent contribute less than 20 percent of total milk output⁸. Milk productivity is also strongly influenced by seasonal factors. For example, the Tanzanian zebu is estimated to produce around 0.5 litres a day during the dry season compared with 1.2 litres a day during the wet season, mainly due to the availability of pasture and water. Hence, 336 million litres are produced during the wet season compared with 179.7 million litres during the dry season⁹ (RLDC, 2009). This makes it harder for producers to have continuous sales during the wet season, and it means processors face a shortage of milk during the dry season. Studies on post-harvests show that there is a loss of 16.4 percent in the entire marketing chain in the dry season and 25 percent or more during the rainy season, showing the need to process raw milk into long-life dairy products, such as UHT milk, to address the perishability problem (RLDC, 2009).

3.5. Milk Processing

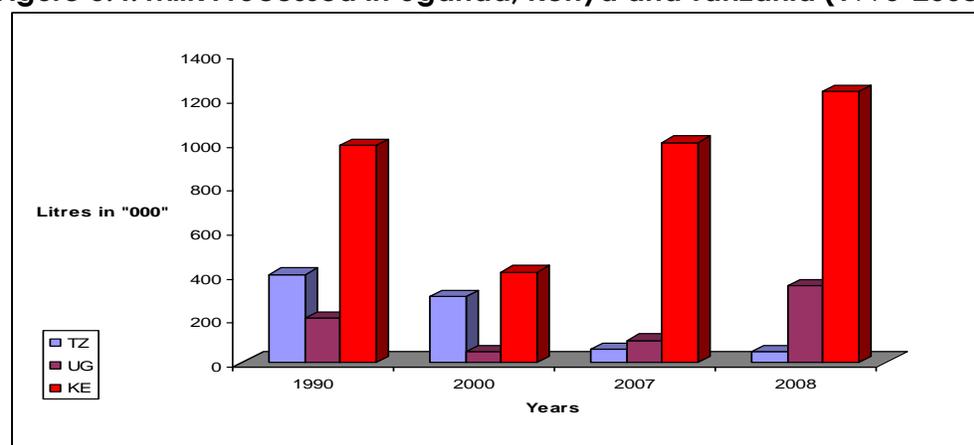
In Tanzania, formal milk processing has declined by more than 80 percent over the last 15 years with 13 dairy plants having closed their business (TAMPA, 2010). The 2009 data show that Tanzania produced 5 million litres per day, of which only 105,380 litres per day were processed (2.1 percent). By comparison, Kenya produced 9.5 million litres of milk per day, of which 2,484,000 litres were processed (26.1 percent), while Uganda processed 204,100 litres per day of the 3.2 million litres produced (6.4 percent). In Uganda, Sameer Agricultural Livestock Limited alone has the capacity to process 120,000 litres per day, and Rwanda is setting up a UHT plant capable of processing up to 431,100 litres per day. The data clearly indicate how other EA countries have overtaken Tanzania in terms of the actual amount of milk that is processed from all the milk produced.

As shown in Figure 3.4, Tanzania processes less milk than Uganda and Kenya. Milk processing in Tanzania has been declining, unlike Kenya where it has been increasing. Comparing Uganda and Tanzania, both countries have a similar pattern of dairy production in terms of farming systems and development interventions. Subsequent to liberalization of the dairy sector in the early 1990s, the state-owned Uganda Dairy Corporation and Tanzania Dairies Limited were privatized and investment incentives in Uganda are more favourable. As a result, 10-20 percent of all the milk produced in Uganda is processed, compared with only 2 percent in Tanzania. While 35 dairy plants in Tanzania processed some 59,000-80,000 litres per day in 2007, Sameer Agricultural Livestock Limited alone processed 65,000-80,000 litres per day in Uganda.

⁸ Elepu, (2007)

⁹ The average wet season lasts for 165 days and the dry season lasts for 200 days

Figure 3.4: Milk Processed in Uganda, Kenya and Tanzania (1990-2008)



Source: FAOSTAT (2009)

Table 3.2 shows that in 2011 Tanzania had 55 dairy plants, of which only 7 were large scale, compared with Kenya and Uganda that had 34 and 14 processing plants, respectively (see Appendices 2 to 5). Tanzania had a total processing capacity of 393,800 litres per day compared with 2.9 million litres per day for Kenya and 798,000 litres per day for Uganda. Utilisation of the capacity of Tanzania's processing plants averaged 32.4% compared with Kenya's and Uganda's average of 85.7 and 60.3 percent, respectively. Therefore, Tanzania processed 127,520 litres per day, compared with Kenya and Uganda that processed 2,484,000 and 481,400 litres per day, respectively (TDB, 2013; Agritera, 2012; KDB, 2013). Most processing facilities in Tanzania are located in Tanga, Iringa, Dar es Salaam and Mara regions, with ASAS, Tanga Fresh, Tan Dairies, International Dairies and Musoma and Mara Dairies taking the lead in processing and marketing (MLFD, 2010). The major reasons for this low level of processing are the inadequate supply of milk during the dry season, the limited supply of raw milk, the high cost of transporting milk collected from small-scale milk producers that are widely spread out in remote areas, the high cost of processing milk (equipment, machinery, packaging materials and utilities), poor infrastructure and storage facilities, the high cost of doing business and the low level of milk consumption.

Table 3.2: Milk Processing Summary for EAC Countries

Country	Year	No of Plants	Installed Capacity (litr/day)	Used Capacity (litr/day)	Idle Capacity (litr/day)	Capacity Utilisation (%)	Processed Products
Tanzania	2011	55	393,800	127,520	266,280	32.4	Fresh milk, pasteurised milk, cultured milk, yoghurt, cheese, cream, ghee, butter and UHT milk.
Kenya		32	2,900,000	2,484,000	416,000	85.7	Fresh milk, pasteurised milk, yoghurt, cheese, ghee, butter, UHT milk; and sour milk, ice cream, and powdered milk.
Uganda		14	798,000	481,400	316,600	60.3	Fresh milk, pasteurised milk, cultured milk, yoghurt, cheese, ghee, butter, UHT milk; and ice cream, and powdered milk.

Sources: Agriterra (2012), KDB (2013), TDB (2013)

A study by TAMPA shows that eighteen¹⁰ processors alone (see Appendix 2) with the capacity of 243,175 litres per day process about 83,919 litres. This means the capacity utilisation of these plants is 35%. Table 3.2 further suggests that there are fewer milk products in Tanzania than in Kenya and Uganda, which produce a wide variety of milk products such as sour milk and powdered milk. In Uganda, the production of pasteurised milk is the largest processing activity. In 2008, two firms in Uganda (Sameer Agricultural Livestock Limited and GBK) produced UHT milk with a combined annual installed capacity of 64,970 tons. About 80% of processed milk goes into the production of pasteurised milk as nine firms are involved in this (UIA, 2009).

In Rwanda, a new processing plant, Inyange Industries Ltd., was established in May 2012 with the capacity to process 100,000 litres of milk per day, but currently it utilises only 40% of its capacity, bringing the country's total installed processing capacity to around 188,000 litres per day (Rwanda Express, 2012). Despite considerable efforts by the government and donor-funded projects to develop new collection points for smallholders' milk, it appears that Rwanda will face a considerable challenge with regard to excess processing capacity for some time to come (Jensen and Keyser, 2010).

3.6. Milk Collection and Marketing Systems

In Tanzania, most milk produced is consumed locally with a significant amount left for calves. It is estimated that about 70 percent of the milk produced in Tanzania is consumed or lost at farm level. In the commercial sector, in which about 30 percent of milk is produced, the milk market share is apportioned as follows: neighbours (86.1 percent), local market (5.3 percent), traders at farm (4.6 percent) and processing factories (1.4 percent) (Njombe et al., 2011). Untapped milk is estimated to be 246,632,563 litres per year and is potentially available if major constraints were to be addressed so that it could be marketed through the formal market system (Ibid, 2011). A steady flow of milk from producers to processors/consumers could be achieved if the quantity of milk consumed on the farm could be reduced and that which is marketed informally could be marketed through the formal market system. This would also increase the capacity of the currently underutilised milk-processing units.

In Kenya, around 600,000 smallholders produce some 70 percent of the marketed milk, of which 56 percent is sold raw in the unregulated informal market, leading to public concern about hygiene and safety (EPZA, 2005). In Uganda, the 2008 figures indicate that of the 1.5 billion litres of milk produced per year, 30 percent (0.45 billion litres) is consumed on the farm and 70 per cent (1.05 billion litres) is marketed to consumers. Of the marketed milk, 90 percent is sold annually as raw or unprocessed milk through informal marketing channels, such as farmers selling it directly to consumers in their neighbourhood and the milk purchased by traders or their agents being sold to consumers without prior processing or packaging. The remaining 10 percent of the marketed milk is sold through the formal marketing channel as processed milk and value-added dairy products. Although the domestic market constitutes the major market for milk and dairy products, some of the processed milk and value-added dairy

¹⁰ These 18 processors with capacity of 243,175 constitute about 61.8 percent of the total dairy sector capacity, which is 393,800 litres per day.

products are exported to regional markets in East and Central Africa, the Middle East and beyond (UIA, 2009).

This study established that in 2012, about 27.8 million litres were collected by eleven processors from 123 collection centres. While some of the collection centres are owned by processors, some are run independently, and others are organised as cooperative societies. For example, Ilala Development Cooperative Society (IDACOS) and Tanga Dairy Cooperative Union (TDCU) are run as cooperatives. The relationship between processors and collection centres was found to be strong. For example, IDACOS and TDCU receive support from processors in the form of training in good dairy farming practices, loans for purchasing dairy cattle and inputs and extension services. However, collection centres face a number of critical hurdles, such as the shortage of pasture during the dry season and the over-production of milk that fetches a low price during the wet season. Other challenges include transport networks, power cuts, limited livestock feed, financing, cooling and storage facilities, the availability of water, meeting hygiene and quality standards, and municipal fees and charges.

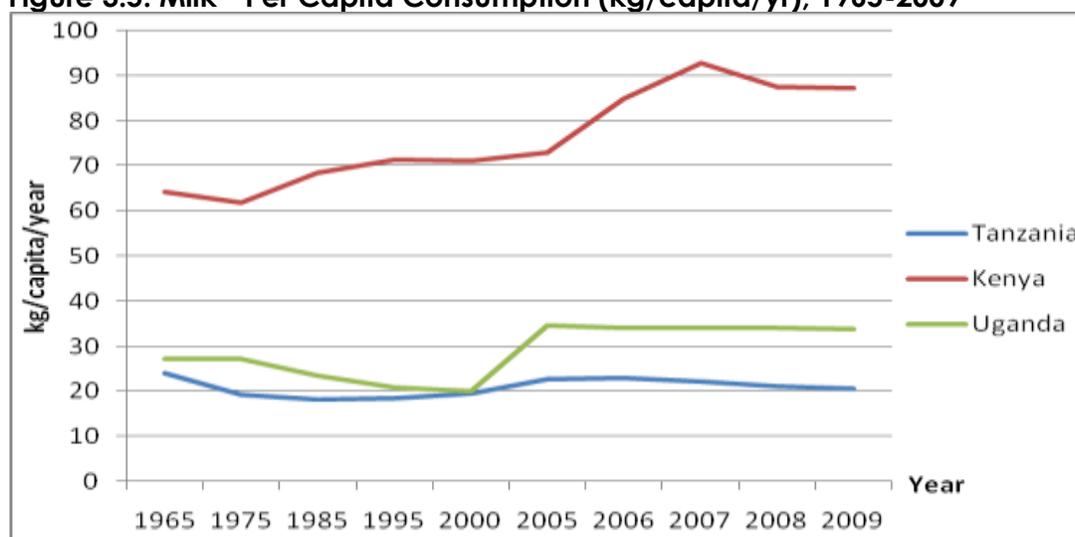
In Kenya, around 4 billion litres of milk were collected in 2012. The relationship between processors and collection centres is more or less the same as in Tanzania. While some collection centres are owned by processors, others are operated by private players, and some are organised as cooperative societies. An interesting feature is that where collection centres have a long-term contractual relationship with processors, bonuses, extension and credit services are provided by the processors. The major challenges faced by collection centres include the limited supply of milk during the dry season, quality and hygiene issues concerned with the produced milk, power cuts, transport networks, cooling and storage facilities, competition among processors for milk and access to capital.

3.7. Milk Per Capita Consumption Rates

In 2009, the per capita milk consumption rate (kg/person/year) in Kenya surpassed that in Tanzania and Uganda by more than four times. In 2009, Kenya recorded a per capita consumption rate of 87.2 kg/person/year compared with 20.5 kg/person/year for Tanzania and 33.8 kg/person/year for Uganda (FAOSTAT, 2013). However, in 2011, the per capita consumption rate in Tanzania was 40 kg/person/year compared with 100 in Kenya and 55 in Uganda. As indicated in Figure 3.5, the per capita consumption rate in Tanzania and Uganda has been stagnant, while in Kenya it was high up to 2007, after which it declined somewhat although it has since picked up again.

However, these per capita consumption levels are below the level recommended by FAO of 200 litres of milk per person per year. The rate is however higher in urban than rural areas. In Kenya, the high income group in urban areas consume a greater proportion of the milk that is marketed, indicating that the demand for milk will be higher as the population and per capita incomes increase. If the envisaged 4 percent growth in GDP for the next seven years in Kenya is achieved, there is the likelihood that the demand for milk may surpass that of production by the end of that period (Karanja, 2003).

Figure 3.5: Milk¹¹ Per Capita Consumption (kg/capita/yr), 1965-2009



Source: FAO Statistics Division (2013)

Numerous reasons have been given for such low levels of consumption, which include the low level of production, as well as cultural beliefs and traditional taboos that cause people to refrain from consuming milk. Therefore, continued efforts are needed to promote milk consumption through events such as the annual milk week (end of May in Tanzania) and the school milk programme, and more importantly through the public being continuously encouraged to consume local milk and policies targeting public institutions.

3.8. Milk and Milk Products Demand Trends

The research attempted to establish the trend in the demand for milk and milk products by inquiring into the nature of customers demanding these products, what products are in greatest demand and what factors determine the demand for milk and milk products. The consultants obtained feedback from importers of dairy products and owners of retail outlets. In terms of which type of customers mostly buy milk products in Tanzania, Table 3.3 shows that the greatest demand comes from middle-income customers, followed by low-income individuals, with high-income customers, those with families, students and children coming close behind. In the case of Kenya, middle-income customers and schools form the biggest chunk of demand, followed by those on a low income.

Table 3.3: Milk Products Demand by Consumer Groups in 2012

Consumers Group	Tanzania (%)	Kenya (%)
High-income individuals	13.3	4.8
Middle-income individuals	16.9	19.0
Low-income individuals	14.5	14.3

¹¹ Milk excluding butter

Companies	4.8	9.5
NGOs	2.4	9.5
Cooperatives	1.2	0.0
Government	2.4	9.5
Schools	4.8	19.0
Students	12.0	4.8
Children	12.0	4.8
Families	15.7	4.8
TOTAL	100.0	100.0
NB: Number of Respondents: Tanzania = 19, Kenya = 4		

Regarding the milk products preferred by customers, Table 3.4 indicates that customers in Tanzania mainly prefer fresh milk followed by powdered milk and cheese. Other products in great demand are ice cream and yoghurt. In Kenya, fresh milk, UHT milk and yoghurt are the most preferred products. Other products in great demand are butter and ghee.

Table 3.4: Milk Products Preference in 2012

Milk or Milk Product	Tanzania (%)	Kenya (%)
Fresh milk	17.7	16.7
Flavoured milk	11.4	4.2
UHT milk	8.9	16.7
Powdered milk	13.9	8.3
Ice cream	12.7	4.2
Yoghurt	12.7	16.7
Butter	5.1	12.5
Cheese	13.9	8.3
Ghee	3.8	12.5
TOTAL	100.0	100.0
NB: Number of Respondents: Tanzania = 19, Kenya = 4		

Table 3.5 shows that the price of dairy products, the income level of consumers and the level of awareness of the benefits of consuming milk (especially processed milk) play a significant role in the consumption of milk products in Tanzania. The availability and quality of imported milk products also play a significant role. In Kenya, the price of milk products and the income level of consumers have the greatest effect on demand, while the level of awareness of the benefits of consuming milk and milk products play a significant role.

Table 3.5: Determinants of the Demand for Milk and Milk Products in 2012

No	Factors Affecting Demand for Milk and Milk Products	Very Significant (%)		Significant (%)		Indifferent (%)		Insignificant (%)		Very Insignificant (%)	
		TZ	KE	TZ	KE	TZ	KE	TZ	KE	TZ	KE
1	Prices charged for your products	77	100	19	0	3	0	0	0	0	0
2	Quality of the milk and milk products offered by your company	39	0	29	50	32	25	0	0	0	25
3	Availability of imported milk products	35	0	45	0	19	25	0	0	0	75
4	Income level of consumers	65	75	29	25	3	0	3	0	0	0
5	Consumers' perception of high quality of imported milk products	32	0	39	0	19	50	3	0	6	50
6	Level of awareness of the benefits of consuming milk	58	50	32	50	6	0	3	0	0	0

NB: Number of Respondents: Tanzania = 32, Kenya = 4

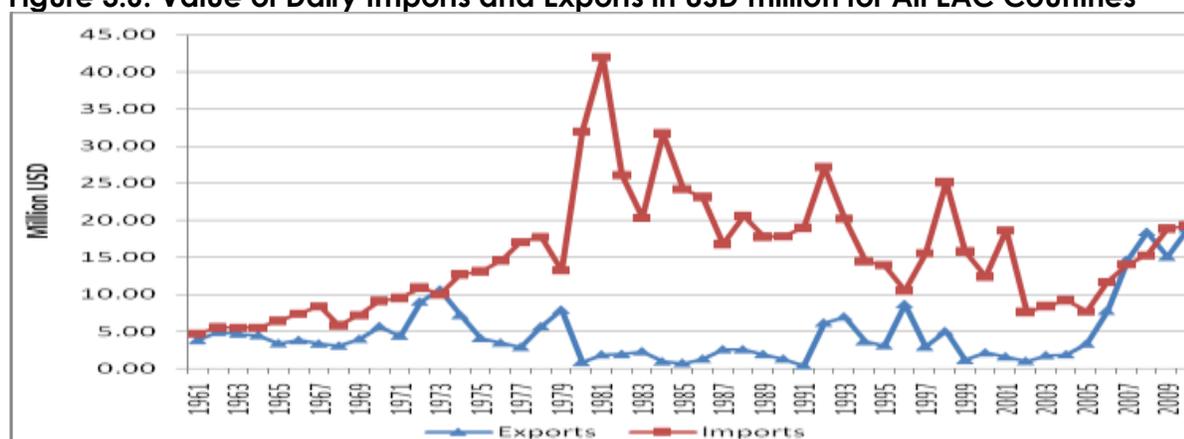
Consumers expressed the view that good packaging and attractive labelling as well as the taste and good quality of the products influence their decision to buy, with Kenya leading in these aspects, followed by Uganda and Tanzania. Most Tanzanians feel that imported products are affordable and are of a better quality. However, they observed that some companies, such as Tanga Fresh, have been able to compete with imported products. This shows that there is an urgent need to raise awareness of the benefits of consuming processed milk products, and to invest in promotional campaigns.

3.9. Milk Imports and Exports

The present East African Community (EAC) was established in 2000 by Kenya, Uganda, and Tanzania. Rwanda and Burundi joined in 2007. The EAC removed all tariffs on trade between the partner states of Kenya, Uganda, Tanzania, Burundi and Rwanda on 1st of January 2010 (Jensen and Keyser, 2010). In 2011, EAC countries produced around 7.2 billion litres of fresh cow milk, roughly equal to one-quarter of the total for all of Africa (FAOSTAT, 2013).

Figure 3.6 shows that the EAC region has been a net dairy importer, except for 2007 and 2008. Dairy exports grew strongly during most of the last decade and surpassed imports in 2007 and 2008. Drought in 2008 and 2009 and the post-election violence in Kenya in 2008 led to a reduction in exports and a corresponding rise in imports to satisfy demand. Nevertheless, with a return of favourable weather conditions (and continued political stability), the EAC region is likely to emerge as a strong dairy exporter to neighbouring African countries in the EAC and COMESA trade blocs and other markets further afield.

Figure 3.6: Value of Dairy Imports and Exports in USD million for All EAC Countries



Source: FAOSTAT (2013)

As shown in Table 3.6, Kenya is the only country in the region that has had a sizeable trade surplus in dairy products since 2005. However, Uganda has picked up in recent years having a trade surplus of \$420,000 in 2010. All other countries were solid net dairy importers. By value, the most important dairy imports into the EAC region are milk powder used for industrial processing, followed by butter, cheese and long-life liquid milk in that order. During 2001-10, Tanzania had the worst net imports position of USD 2,335,000 compared with Kenya's net exports position of USD 1,581,000. Uganda, Rwanda and Burundi had a net imports position of USD 1,559,000, 1,489,000 and USD 1,339,000, respectively. These figures suggest that Kenya had the best trade balance followed by Burundi, Rwanda, Uganda, and finally Tanzania, which had the worst trade balance of all the EAC countries.

Table 3.6: Dairy Trade Balance¹² of Individual EAC Countries (USD '000)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Burundi	(1,908)	(818)	(1,257)	(753)	(1,218)	(2,228)	(978)	(1,133)	(1,087)	(1,725)
Kenya	(7,921)	(1,973)	179	(1,498)	690	3,642	9,715	9,463	2,111	6,594
Rwanda	(3,530)	0	(1,056)	(1,463)	(551)	(652)	(1,435)	(1,262)	(2,293)	(3,171)
Uganda	(600)	(1,768)	(2,370)	(1,795)	(1,674)	(2,599)	(4,689)	(2,024)	398	420
Tanzania	(3,058)	(2,083)	(2,155)	(1,832)	(1,564)	(2,059)	(2,006)	(1,870)	(2,927)	(2,522)
TOTAL EAC	(17,017)	(6,642)	(6,659)	(7,341)	(4,317)	(3,896)	607	3,174	(3,798)	(404)

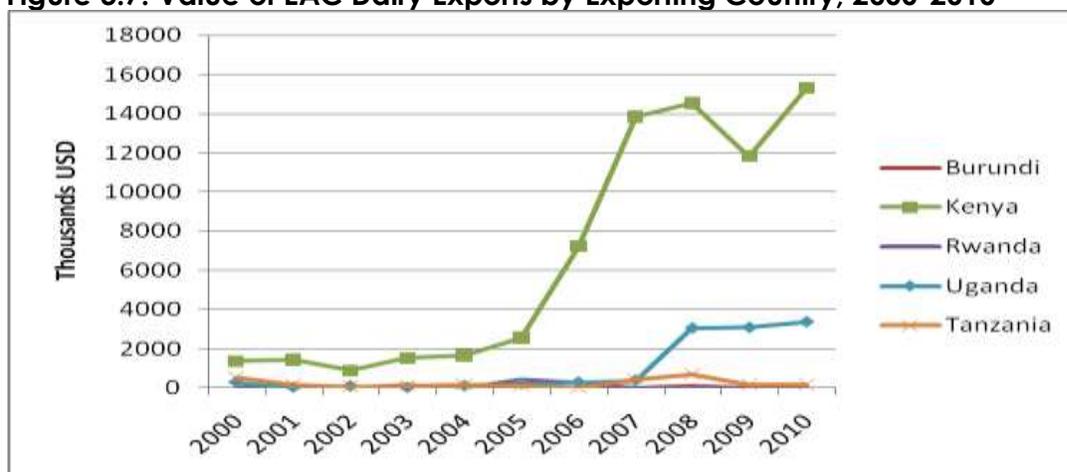
Source: FAOSTAT (2013)

As shown in Figure 3.7, export trade has been overwhelmingly dominated by Kenya as the region's largest dairy producer. New KCC and Sameer alone sell their products all over Kenya, and export to more than 15 countries. During the 2000-10 period, Kenya exported an accumulated total of USD 72.1 million of dairy products, equal to 83.1 percent of the EAC total, compared with Uganda, the EAC's second largest dairy producer, which exported just USD 11.0 million (12.7 percent of the EAC total). Over the

¹² Trade balance = total export value – total import value

same period, Tanzania exported¹³ USD 2.6 million of dairy products (3.0 percent of the EAC total), Rwanda exported USD 831,000 (0.9 percent), and Burundi exported USD 265,000 (0.3 percent) (FAOSTAT, 2013).

Figure 3.7: Value of EAC Dairy Exports by Exporting Country, 2000-2010



Source: FAOSTAT (2013)

In 2012, as Table 3.7 indicates, Tanzania imported dairy products with a total value of Tshs. 6.5 billion. The leading milk product imported was powdered milk, followed by UHT milk and cultured milk. A significant amount of ice cream was also imported. Most of these dairy products were imported from Ireland, with a large proportion also coming from Kenya and South Africa. In addition, a good amount was also imported from Uganda and France.

Table 3.7: FOB Value of Dairy Imports to Tanzania in 2012

No	Commodity	FOB Value (mn shs)	Percent	No	Origin	FOB Value (mn shs)	Percent
1	Butter	76.7	1.2	1	Argentina	30.1	0.5
2	Cheese	73.0	1.1	2	Denmark	2.8	0.0
3	Cream	6.7	0.1	3	France	193.6	3.0
4	Cultured Milk	650.3	10.0	4	Ireland	2731.6	42.2
5	Evaporated	30.5	0.5	5	Kenya	1558.9	24.1
6	Ghee	15.5	0.2	6	Netherland	10.2	0.2
7	Ice Cream	407.0	6.3	7	New Zealand	136.7	2.1
8	Pasteurized Milk	78.4	1.2	8	Saudi Arabia	30.4	0.5
9	Powdered Milk	2,829.6	43.7	9	South Africa	1531.2	23.6
10	UHT Milk	2,166.5	33.5	10	Uganda	212	3.3
11	Whey Powder	140.8	2.2	11	United Kingdom	6.7	0.1
				12	Uruguay	30.8	0.5

¹³ Most of the dairy products exported from Tanzania are not locally manufactured and basically are re-exports.

	Total	6,475.0	100.0		Total	6,475.0	100.0
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Source: Tanzania Dairy Board (2013)

3.10. Processing Costs and Selling Prices

As clearly indicated in Table 3.8, the cost of processing a litre of milk¹⁴ in Tanzania is higher than in Kenya by a significant margin of 68.8% (i.e. Tshs. 1,560 in Tanzania compared with Tshs. 924 in Kenya) with the cost of raw milk, water and electricity and packaging materials comprising 47%, 24% and 10%, respectively, of the unit cost in Tanzania, while in Kenya the cost of raw milk and packaging materials contributed 70% and 14%, respectively, to the unit cost. The difference in the unit cost is caused by the high cost of raw materials (fresh milk) in Tanzania due to the dominance of information marketing activities, milk production being less organised, the high cost of water, limited access to electricity for operating cooling centres and the cost of packaging materials.

Table 3.8: Cost Structure of Processing One Litre of Milk in 2012

Cost Item	Tanzanian Firm		Kenyan Firm			Variation (Tz – Ke)
	Tshs	%	Kshs	Tshs Eqv ¹⁵	%	
Cost of raw milk at farm	738	47	34.8	646	70	92
Labour costs	94	6	1.7	32	3	63
Rent	26	2	0.0	0	0	26
Water and Electricity	374	24	0.2	3	0	371
Administrative Costs	36	2	2.6	49	5	(12)
Packaging Materials	163	10	6.8	126	14	37
Distribution and Marketing Costs	129	8	3.7	69	7	60
Total Unit Cost	1,560	100	49.8	924	100	636

Table 3.8 indicates that it is more costly to process a litre of milk in Tanzania than in Kenya. The respondents were asked to rate the different forces that contribute to the increased cost of doing business. As Table 3.9 suggests, shortage of power, the cost of equipment and machinery, the lack of packaging materials and inadequate transport infrastructure were cited as the most significant factors. In addition, the cost of promotion, the cost of raw milk and the bureaucratic regulatory environment added to the cost of doing business. In Kenya, the limited supply and the cost of raw milk, especially during dry seasons, were the most significant hurdles, while other forces found in Tanzania did not hinder the dairy business in Kenya.

¹⁴ Unit cost was computed as a total cost of each item per total litres processed by the factory

¹⁵ Exchange rate of Tshs 18.57/Kshs was computed as a mid-rate for month end rates for 2012

Table 3.9: Factors Affecting Cost of Doing Business in 2012

No	Factors Affecting Cost of Doing Business	Very Significant (%)		Significant (%)		Indifferent (%)		Insignificant (%)		Very Insignificant (%)	
		TZ	KE	TZ	KE	TZ	KE	TZ	KE	TZ	KE
1	Limited supply of raw milk	33	75	25	25	25	0	4	0	13	0
2	Cost of raw milk	21	50	50	0	21	50	4	0	4	0
3	Cost of equipment and machinery	54	0	29	50	17	50	0	0	0	0
4	Cost of other raw materials	13	0	58	25	29	50	0	25	0	0
5	Cost of labour	13	0	42	0	38	50	8	25	0	25
6	Shortage of power	83	25	17	25	0	25	0	25	0	0
7	Inadequate transport infrastructure	46	0	25	25	21	50	8	0	0	25
8	Lack of packaging materials	54	0	21	0	25	25	0	50	0	25
9	Cost of promotion	25	0	58	50	13	25	4	25	0	0
10	Regulatory fees	8	0	42	0	29	0	17	50	0	50
11	Cost of rent	4	0	29	0	33	25	29	50	4	25
12	Cost of water	8	0	21	0	38	25	13	25	21	50
13	Bureaucratic regulatory environment	38	0	46	0	13	0	0	75	4	25

NB: Number of Respondents: Tanzania = 24, Kenya = 4

Owing to the fact that price elasticity of demand for dairy products is unitary (a decline in price leads to a proportionate increase in consumption) (RLDC, 2010), the price movements of selected products suggested by Figure 3.8 pose an obvious challenge, as the prices of these products have increased in the range of 15 to 30 percent in just three years.

Figure 3.8: Producers' Prices for Selected Milk Products in Tanzania (2010-12)

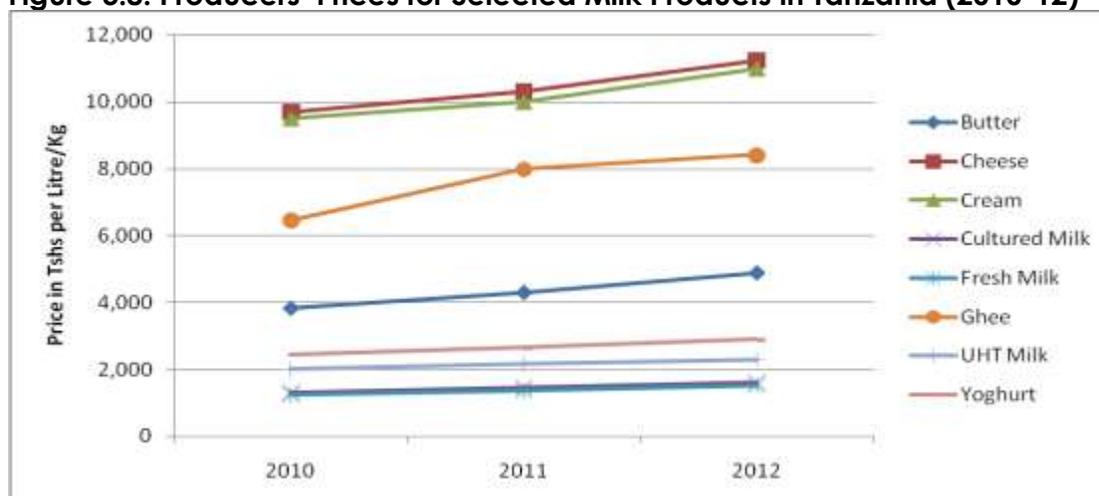


Table 3.10 suggests that a number of Tanzanian milk products were sold at a lower price than products coming from other countries. The reasons for the difference could be transport costs, the quality of the packaging and of the products themselves. This implies that customers are looking for better quality.

Table 3.10: Comparative Unit Market Prices for Milk Products in 2012

Product	Country	Unit	Price
Butter	Kenya	Kg	15,000
Butter	Tanzania	Kg	5,000
Cadbury	Kenya	Kg	30,000
Cadbury	Uganda	Kg	37,500
Cadbury	UK	Kg	50,000
Cheese	New Zealand	Kg	31,500
Cheese	Tanzania	Kg	15,000
Cow Bell	Kenya	Kg	25,000
Cream Milk	Tanzania	Litre	11,000
Cream Milk	Turkey	Litre	30,000
Cultured Milk	Tanzania	Litre	1,800
Fresh Milk	Kenya	Litre	3,500
Fresh Milk	SA	Litre	2,600
Fresh Milk	Tanzania	Litre	2,000
Fresh Milk	Uganda	Litre	3,600
Ghee	Tanzania	Kg	8,500
Ice Cream	Kenya	Litre	6,800
Ice Cream	Tanzania	Litre	8,000
Keny Gold	Thailand	Kg	25,000
Lactogen	France	Kg	47,500
Lactogen	Kenya	Kg	45,000
NIDO	Kenya	Kg	21,000
UHT Milk	Tanzania	Litre	2,300
Yoghurt	Tanzania	Litre	6,000

3.11. General Challenges Constraining Growth of Dairy Business in Tanzania

The dairy sector in Tanzania is plagued by a multitude of problems. As Table 3.11 suggests, the high cost of doing business, limited skills and expertise, the high cost of processing equipment, low milk consumption, limited access to capital, unreliable power, failure to compete with prices of imported products, limited support provided by government policies, inadequate transport network, and challenges of meeting exporting standards were the most significant constraints to the growth of the sector.

Other factors such as the tax and government fees burden, the unreliable supply of raw milk during the dry season, and distribution and marketing challenges also played a significant role. As regards Kenya, only a few challenges were noted. The high cost of doing business and the unreliable supply of raw milk during the dry season were the most significant challenges constraining the growth of the dairy sector, while the tax burden and unreliable power supply played a significant role.

Table 3.11: General Challenges Constraining Growth of Business in 2012

No	General Challenges Constraining Growth of Dairy Sector	Very Significant (%)		Significant (%)		Indifferent (%)		Insignificant (%)		Very Insignificant (%)	
		TZ	KE	TZ	KE	TZ	KE	TZ	KE	TZ	KE
1	Cost burden of doing business	91	50	9	50	0	0	0	0	0	0
2	Burden of taxes	30	25	52	50	9	25	9	0	0	0
3	Burden of government fees	43	0	48	0	9	50	0	25	0	25
4	Unreliable supply of raw milk	48	50	22	50	17	0	0	0	13	0
5	Access to capital	70	25	17	25	13	25	0	25	0	0
6	Limited support given by government policies	52	25	39	25	0	25	4	0	4	25
	Limited skills and expertise in the dairy sector	91	25	4	0	0	0	4	25	0	50
7	Problems of transport infrastructure	52	0	43	25	0	50	4	0	0	25
8	Problems of availability of reliable power	70	25	30	50	0	25	0	0	0	0
9	Problems of distribution of milk products	43	0	30	25	26	25	0	25	0	25
10	Problems of selling and marketing milk products	30	0	43	25	17	25	9	0	0	50
11	Failure to compete in prices with imported dairy products	70	0	22	0	0	0	9	25	0	75
12	Challenges of meeting exporting standards and requirements	48	25	26	25	9	50	17	0	0	0
13	High cost of processing equipment	74	0	26	50	0	50	0	0	0	0
14	Poor culture of consuming milk and milk products	74	25	26	25	0	0	0	0	0	50

NB: Number of Respondents: Tanzania = 23, Kenya = 4

3.12. Summary and Key Observations

The study identified the major actors involved in the milk-processing value chain. From the actors identified, it is clear that value chain development interventions should use a holistic approach to promoting the development of the sector. This is due to the

interdependence of various players in the value chain and the complementary role each stakeholder plays. This implies that as the government implements tax reforms, it needs to address other challenges facing farmers, traders, milk collection centres, processors, etc. Overall, the main observation from the dairy sector in the region is that it has not yet been commercialised, as the traditional dairy system is still dominant and productivity is low. Therefore, putting special emphasis on addressing the challenges of milk processors is crucial for two major reasons. First, milk processors integrate a large number of other players into their value chain that has a significant multiplier effect on the sector. Second, milk processors play an important role in integrating the milk that goes through the informal market to formal channels, which adds value. This is likely to increase the contribution of the sector to the economy.

Another key observation is that, despite the great potential of the sector, Tanzania lags behind other East African countries in terms of key performance indicators of the sector. The country's performance in terms of milk production, productivity, milk processing and contribution to GDP is unfavourable. Despite the fact that Tanzania has the largest number of milk-processing plants, it has the lowest installed capacity and processes the smallest amount of milk. This is due to the fact that most milk processors are small and their capacity is limited by several business climate challenges.

In addition, the study shows that various milk and milk products are demanded by consumers. The demand for milk products emerges from a variety of consumer groups, showing the existence of a potentially large market. The study also shows that the price of processed milk is the most critical factor affecting the demand for milk. Therefore, a high tax rate is likely to increase the price of milk and lower the demand for it. Furthermore, it is surprising to see that the East African region is generally a net importer of milk and milk products given the number of cattle and the daily amount of milk produced. Because of this unfavourable trade balance, it is vital that the potential for marketing milk and milk products is realised. It is therefore important for Tanzania to take advantage of the existing market to expand the sector and develop it to the next level.

In terms of milk-processing costs, Tanzania exceeds Kenya by over 50%, showing that it is more costly to process milk in Tanzania than in Kenya. The highest cost components are the cost of buying raw milk, water and electricity. In addition, several other factors were seen to contribute to the high cost of doing dairy business in the country. This implies that, despite the actions taken by the government to address the issue of VAT, the industry cannot achieve optimal performance if other factors that add to the cost of doing business in the sector are not addressed. Besides the issue of cost and the challenges identified in Tables 3.9 and 3.11, interviews with various stakeholders indicate that the dairy value chain experiences several other challenges, including limited availability of supplies, support services and finance for the dairy sector, which arise from underdeveloped supply chains for feed, breeding equipment, inputs, finance, training, information and extension services. This supports the idea of adopting a holistic approach to developing the value chain to improve both the supply chain and marketing.

SECTION FOUR: VAT LAWS AND PRACTICES IN THE DAIRY INDUSTRY

4.1. Introduction

The main focus of this study is on VAT practices in East Africa and the VAT rate of zero percent in particular. In order to provide an understanding of the concept of a VAT rate of zero percent, its application and current practices in the region and the rationale for this tax, VAT laws are reviewed. From the VAT laws, the milk and milk products that are zero-rated in East Africa are identified. The VAT rate on milk and milk products before the introduction of the zero rate are presented and the challenges of paying taxes by milk processors are described. The section is concluded by reflecting on the implications of VAT for the competitiveness of the dairy industry.

4.2. Rationale for VAT

VAT is a form of indirect tax and is collected at the various production and distribution stages. It is simply a tax on the value added at each stage in the production-distribution chain. The value added is measured as the difference between the value of the output and the cost of inputs. If properly designed and implemented, the tax, at any stage, is effectively collected on the value added at that stage, and so VAT can be viewed as equivalent to the single retail sales tax but implemented in a different fashion. Many developing countries, including East African countries, have introduced VAT to replace the turnover tax or some type of the single sales tax, which were inherently troublesome in terms of either revenue leakage or economic inefficiency, or both. VAT is preferred for two reasons. First, VAT is generally more broad-based (it covers both goods and services). Second, it is less risky in terms of revenue leakage (the invoice-based credit mechanism for administering VAT facilitates collection and enforcement; even if revenue is missed at one stage, it is still collected at other stages). VAT has, therefore, greater revenue potential than its alternatives. Most countries started imposing VAT with the initial idea of reforming the existing sales tax system on a revenue-neutral basis but then realized that VAT is revenue-enhancing, largely due to improved compliance.

However, opponents of VAT usually argue that it is more complex to administer than other types of consumption taxes, which naturally leads to higher collection costs (defined as the tax authority's administrative costs and those relating to the compliance of taxpayers). There has been concern that with the introduction of VAT, a broad-based consumption tax, all businesses, including exempt firms, raise their prices at the rate of the tax, thereby triggering long-lasting inflation. However, in the long term, VAT could raise revenue and help the government pursue a tight monetary policy, which means that VAT may even exert a downward pressure on inflation. In this case, VAT is deflationary rather than inflationary. Despite the different views on the impact of VAT on prices, the effect of VAT on particular products or services is inflationary, though the long-term effect may be deflationary. The main issue is that in the case of dairy products, which provide one of the basic needs of people, VAT is likely to be more regressive and inflationary, which affects the competitiveness of the sector. In fact, VAT on basic needs without any exemptions or zero-rating is always regressive. Many countries (especially developing ones) therefore apply some form of exemption or zero-rating on basic products, such as food, to alleviate the burden on poor households and to promote growing enterprises.

4.3. The Value Added Tax (VAT) Rates in East Africa

The current VAT rates are 18 percent in Tanzania¹⁶, 16 percent in Kenya¹⁷, 18 percent in Uganda¹⁸, and 18 percent in Rwanda¹⁹. As Table 4.1 indicates, the VAT rate of 18 percent in Tanzania, Rwanda, Burundi and Uganda is far higher than that in Egypt and Botswana, and the African average of 14.4 percent.

Table 4.1: Valued Added Tax (VAT) Rates Trend for 2006-2013

Country	2006	2007	2008	2009	2010	2011	2012	2013
Botswana	10	10	10	10	10	12	12	12
Egypt	10	10	10	10	10	10	10	10
Kenya							16	16
Mozambique	17	17	17	17	17	17	17	17
South Africa	14	14	14	14	14	14	14	14
Tanzania	20	20	20	20	18	18	18	18
Uganda							18	18
Africa Average	13.7	13.9	14.0	14.1	13.9	14.2	14.6	14.4

Source: KPMG Global (www.kpmg.co) as of 21st June 2013

4.4. Zero Rated²⁰ and VAT Exempted²¹ Products

To obtain a clear understanding of the VAT system it is important to define VAT exemption and VAT zero rating. When a firm is VAT-exempted, the VAT is completely eliminated from its production-distribution chain. An exempt firm is not required to collect VAT on its output sold to its consumers, but it is not entitled to put in a claim for the tax it has already paid when purchasing its inputs. On the other hand, a zero-rated firm charges the rate of zero percent on its sales and claims a refund for the VAT paid when purchasing its inputs. In essence, zero rating does not break the link in the whole production-distribution chain of eligible products.

The VAT situation in East Africa before the introduction of zero-rating on milk and milk products in Tanzania is shown in Table 4.2. Except for Kenya, all the VAT rates in East Africa are similar. However, in terms of zero-rated milk products there is a variation between East African countries. The VAT law in Tanzania only exempts unprocessed dairy products from cow and goat milk. Kenyan VAT law provided a zero rate for all dairy products from 1990 to 2004. Rwanda exempts all dairy products processed in local industries. However, the VAT law in Tanzania was ambiguous in defining the term “unprocessed” to mean ‘a product that has undergone **only simple processes of preparation or preservation** such as freezing, chilling, drying, salting, smoking, stripping or polishing’ but failed to provide an exact degree or level of processing beyond which a product is not exempted. The law provided more restrictions, in that none of these

¹⁶ S. 8(1) of the Valued Added Tax Act, Cap. 148 of 1997 (RE 2006)

¹⁷ Part I of the first schedule of the Value Added Tax Act, Cap. 476 (RE 2004 and 2009)

¹⁸ The Valued Added Tax, Order No. 51 of 2005.

¹⁹ Article 34 of the Code of Value Added Tax, No. 6 of 2001.

²⁰ A **VAT Zero-Rated Product** is the one where a VAT rate is 0% on selling price, but is registered for VAT, and is counted as taxable supplies, for which VAT on inputs purchased can be reclaimed.

²¹ A **VAT Exempted Product** is the one in which no VAT is charged on selling price, and no registration is required for VAT thus one cannot reclaim any VAT on inputs and expenses.

unprocessed milk products was exempted when supplied for catering in a restaurant, cafeteria, canteen, or similar establishment.

On the contrary, the VAT law in Uganda specifically mentions the degree of processing whereby a product is regarded as unprocessed, that is “unprocessed” includes ‘low value-added activity such as sorting, drying, salting, filleting, deboning, freezing, chilling, or bulk packaging, where, except in the case of packaging, the value added does not exceed 5% of the total value of the supply’.

Table 4.2: Key VAT Information for Dairy Products in East African Countries in 2012

Country	VAT (%)	Zero-Rated Products	Tax Exempt Product
Tanzania	18	None	Unprocessed dairy products (cow or goat milk)
Kenya	16%	Milk and cream, not concentrated nor containing added sugar or other sweetening matter, of a fat content, by weight, not exceeding 1%	
		Milk and cream, not concentrated nor containing added sugar or other sweetening matter, of a fat content, by weight, exceeding 1% but not exceeding 6%	
		Milk and cream, not concentrated or containing added sugar or other sweetening matter, of a fat content, by weight, exceeding 6%.	
		Milk and cream, concentrated or containing added sugar or other sweetening matter in powder, granules or other solid forms, of a fat content, by weight, not exceeding 1.5%	
		Milk and cream in powder, granules or other solid forms of a fat content by weight exceeding 1.5%, not containing added sugar or other sweetening matter specially prepared for infants.	
		Other milk and cream, not containing added sugar or other sweetening matter in powder, granules or other solid forms, of fat content, by weight, exceeding 1.5%	
		Other milk and cream concentrated or containing added sugar specially for infants	
		Other milk and cream containing added sugar or other sweetening matter in powder granules or other solid forms, of fat content, by weight, exceeding 1.5%	
		Milk, specially prepared for infants.	
Uganda	18%	Supply of milk, including milk treated in any way to preserve it.	Supply of unprocessed foodstuff, agricultural products and livestock;
Rwanda	18%	Unprocessed agricultural and livestock products	
		Milk which is processed in local industries	
Notes:			

1) VAT law in Tanzania defines the term "unprocessed" to mean a product that has undergone 'only simple processes of preparation or preservation' such as freezing, chilling, drying, salting, smoking, stripping or polishing. It further provides that none of these can be exempted when they are supplied in the course of catering a restaurant, cafeteria, and canteen or like establishment.
 2) VAT law in Uganda defines the term "unprocessed" to include low value added activity such as sorting, drying, salting, filleting, deboning, freezing, chilling, or bulk packaging, where, except in the case of packaging, the value added does not exceed 5% of the total value of the supply.

Source: East African VAT Tax Laws

Tanzania was placed at a greater disadvantaged than Kenya, owing to the fact that Kenya has zero-rated all dairy products for VAT since 1990-2004, which has enabled the dairy sector to be so vibrant. As a result of this and other initiatives to promote the sector, Kenya has emerged as the leading dairy exporting country, with a share of about 83.1 percent of all regional trade. In Kenya, the dairy sector lobbied for the reintroduction of VAT zero rating on all value-added dairy products on the grounds of the stagnant consumption of value-added products, which remained at a low of 10% of all the milk marketed. Products proposed for zero rating included flavoured long-life or pasteurized milk, curdled milk and cream, fermented or acidified milk and cream, and butter and dairy spreads (KEPSA, 2011).

4.5. VAT Burden for Selected Firms in Tanzania

Prior to the amendment to the Finance Act 2012, Tanzanian milk processors were disadvantaged in terms of the VAT charged on milk and milk products. Table 4.3 shows that VAT placed a heavier burden on businesses than other taxes and fees. Using the case of the four selected companies, in 2012 other taxes and fees placed a burden of 1.3 percent on average, while VAT placed a burden of 3.7 percent, almost three times that of other taxes and fees.

Table 4.3: VAT and Other Tax Burdens for Selected Processors 2011-12

Processor	Tax and Other Fees Burden		VAT Burden	
	2011	2012	2011	2012
ASAS Dairies Ltd	1.6	1.7	9.8	9.4
Mara Milk Ltd	0.3	0.2	2.3	2.2
Tan Dairies	0.7	0.6	0.6	0.6
Tanga Fresh Limited	1.9	2.9	2.5	2.5
Average	1.2	1.3	3.8	3.7

Out of the fifteen processors visited, eight were VAT registered (53 percent) while all dairy importers and retail outlets and supermarkets were VAT registered. In Kenya, all companies are VAT registered. A number of products in Tanzania attracted VAT, including flavours, sugar, milk powder, starch, solvents and chemicals, shrink film packaging materials, culture, fuel, electricity, colours, cream separator, water, refrigerators, yoghurt stabilizer, refrigerant gas, soap and detergents and spare parts. In both Tanzania and Kenya, prior to the change in VAT, milk products that underwent value addition attracted VAT. These include powdered milk, butter, cheese, yoghurt, ice cream, chocolates, cream, ghee, UHT and flavoured milk. In Tanzania, it remained unclear whether milk that underwent simple value addition, such as fresh milk, should be charged VAT. In Kenya, white milk, fresh milk and UHT milk did not attract VAT.

It has been noted that milk processors used to shift the VAT burden on production inputs on to the price of milk and milk products in order for the business to remain profitable. In Tanzania, up to 44% of the VAT on inputs was added to consumer prices, while in Kenya, all VAT costs (100 percent) were added to the price of dairy products. Table 4.4 suggests that VAT adds significantly to the cost of doing business and especially to production inputs, and that it greatly contributes to increased product prices. In addition, it causes significant cash flow problems and restricts value addition, since products that undergo value addition are charged VAT, which increases their price, thus discouraging consumption of these products.

Table 4.4: Challenges of Paying VAT in 2012

No	Challenges of Paying VAT	Very Significant (%)	Significant (%)	Indifferent (%)	Insignificant (%)	Very Insignificant (%)
1	Cost of VAT	75	13	13	0	0
2	Paying VAT at the specific time of tax returns	22	39	22	17	0
3	Penalties resulting from late payment of VAT	31	25	19	13	13
4	Cash flow problems caused by VAT	33	33	33	0	0
5	Increased product price due to VAT	69	19	0	6	6
6	VAT costs restrict processing capacity	38	31	25	6	0
7	Increased cost of exporting resulting from VAT	44	13	25	13	6
8	Limited value addition due to VAT	38	38	25	0	0

NB: Number of Respondents: 16

4.6. Reflection on Key Issues

The study findings indicate that most countries, including Tanzania, introduced VAT as a strategy to increase government revenue and make tax collection efficient. The main challenge though lies in the complexity of collecting VAT, its regressive impact on the poor and the effect it can have on the competitiveness of economic sectors. When compared with other African countries, Tanzania has been charging a high VAT rate with limited exemptions. While this is generally preferred for generating revenue, it can affect some strategic sectors, such as agriculture and the dairy sector in particular. In view of this, all East African countries have at some point applied tax exemption or zero-rating for some selected sectors in order to boost the growth of those sectors. As noted from the findings, Tanzania was lagging behind in terms zero-rating milk and milk products until 2012, when the Finance Bill was amended. It is now expected that the move will reduce the cost that VAT added to milk and milk products, which will make the industry more competitive.

Looking at the companies studied, it is clear that the VAT burden on their businesses was greater than other fees. The burden is generally shifted to consumers as processors try to maintain the profitability of their companies. As a result, milk and milk products become expensive and consumers fail to buy them. This is one of the factors contributing to low milk consumption in the country. Therefore it is expected that milk consumption will increase given the stability of the price. It is important though to note

that this will work if other factors contributing to the high cost of doing business are managed. It raises the policy issue of making more efforts to address other challenges in the milk value chain.

SECTION FIVE: CURRENT STATUS OF THE VAT ISSUE

5.1. Introduction

The government of Tanzania introduced the VAT rate of zero percent on milk and milk products produced by local milk processors using local raw materials²². With these changes, all categories of milk and milk products would not attract VAT. The changes made were in line with what TAMPA intended to achieve and this is considered a success for the dairy sector. However, for the change to have a positive impact on the sector, it is important to assess the current status of implementation of the change and ongoing practices. In this study, the consultants analyzed the situation and the findings are presented in this section.

5.2. Implementation Status of Zero-Rated VAT

During the field research, twelve out of eighteen processors (67 percent), five major importers, and seven of the owners of ten retail outlets (70 percent) were aware of the VAT change made by the government. Further, 62 percent of the processors and 60 percent of the retail outlets had started implementing the change, that is, not charging customers VAT. The effect of the change on prices and sales remains inconclusive. A few processors showed the intention of reducing the price of their milk products by at least ten percent. This hesitation was due to the fact that consumers may deem that lower-priced milk products are of poorer quality. Only 33 percent of the dairy importers and retail outlet owners reported to have seen any effect on prices of the change in VAT.

In terms of how the processors were prepared take advantage of the tax change and the strategies they had to gain the benefits of it, they had thought of several ways in which to address other challenges of the dairy value chain, from collecting milk to processing, and marketing it. The processors intended to use the tax advantage to increase the price of raw milk, procure more storage tanks and open new collection channels in order to increase the amount of raw milk collected from farmers. In addition, processing firms intended to use the tax savings to buy more inputs and processing equipment to increase processing capacity and to buy more distribution vehicles for selling their products in more markets. For the purpose of competing with imported products, the firms intended to invest heavily in raising awareness of and promoting milk products. Finally, the processors were looking forward to producing a greater variety of quality products that can compete with imported dairy products.

Despite the above strategies, a number of challenges with regard to tax compliance still need to be addressed if the change introduced by the government is to have the intended benefits. The processors were concerned about consistency in filling in tax returns, which had unclear tax computations that require them to be trained to enable them to fill in the returns correctly and claim the VAT paid on inputs. In addition, the processors felt that being reimbursed for the tax paid on inputs after six months while payment was made at each time of purchase means that it takes a long time to recover the costs of production. It appears that a number of stakeholders were still

²² The Finance Bill, 2012

unaware of this tax change, including regional and district offices, and even some tax collectors. Lastly, milk and milk products were still being sold at a higher price.

5.3. Analysis of Benefits Accrued from VAT Zero Rating Strategy

The success of the dairy sector in Tanzania is built on strategic interventions such as regulatory reform, policy changes and tax incentives, zero-rating on all milk and milk products, etc. If the dairy sector is promoted to grow through regulatory and tax incentives, a significant number of jobs could be created. Farmers who form the biggest component of the dairy value chain will generate a reliable stream of income. The interview with milk processors indicated that they have started to realise the benefits of zero-rated VAT on milk and milk products. For example, Tanga Fresh Limited, the largest milk processor in the country, has been able to save TZS 200 million since the bill was amended. The amount saved has enabled it to increase the amount paid to farmers and stabilize the prices of its products. Statistics from Tanga Fresh indicate that it collected 13.03 million litres of milk from farmers in 2011 compared with 360,000 litres in 1997, which is a 3,520 percent increase. The company paid TZS 7.08 billion to farmers in 2011 compared with TZS 67 million in 1997 (10,470 percent increase). The company's turnover was TZS 15.15 billion in 2011 compared with 100 million in 1997 (15,050 percent increase). The levies and cess paid by the company are close to TZS 60 million. This clearly shows that reducing the tax burden on a company like Tanga Fresh is likely to enhance the competitiveness of the company and of the sector in general.

The respondents' views indicate that the VAT zero rate will help processors in a number of ways. Table 5.1 shows that since the processors will be able to claim the VAT they paid on inputs, this tax change will reduce the costs of production quite significantly. In addition, processors and other players feel that the price of milk and milk products will fall significantly. Further, the tax change will enhance the growth of the dairy sector, enabling processors to export their products, making them more competitive, and farmers' income will be increased significantly. Other significant advantages of the VAT zero rate include growth in processing capacity, the creation of more jobs, increased sales and greater profitability.

Table 5.1: Benefits of Zero-Rated VAT

No	Benefits of VAT Zero-Rate	Very Significant (%)	Significant (%)	Indifferent (%)	Insignificant (%)	Very Insignificant (%)
1	Reduces Costs of Production	78	17	4	0	0
2	Reduces Selling Price of Milk and Milk Products	48	48	4	0	0
3	Enhances the growth of the dairy sector	52	17	30	0	0
4	Enables processors to export milk and milk products	52	22	22	4	0
5	Aids the growth of processing capacity	35	61	4	0	0
6	Creates more employment in processing firms	26	65	4	4	0
7	Increases income of farmers	52	35	9	0	4
8	Increases sales of processing firms	35	57	9	0	0
9	Increases profitability of processing firms	22	70	9	0	0
10	Increases milk consumption	35	30	17	17	0

NB: Number of Respondents: 23

5.4. Cost-Benefit Analysis of the VAT Rate of Zero percent

In addition to the benefits of zero rating stated by the respondents, the consultants attempted to estimate the costs and benefits of the amendment. Although this amendment has already been made it is important for the government and other stakeholders to understand how the industry will benefit from the introduction of the VAT rate of zero percent despite the revenue that is likely to be lost. The consultants used the data and model developed by Tanga Fresh and TDCU in 2008 that projected the development and contribution of the dairy sector for the next ten years from 2008 to 2018. Based on strategic interventions in the dairy sector, such as regulatory reform, policy support, tax incentives, and addressing the challenges in the dairy value chain, the sector has the potential to process up to one million litres per day by 2018 (See Appendix 6). This is expected to create a significant number of jobs in the dairy value chain. The cost-benefit analysis suggests that the government will be able to collect a total of Tshs. 95.8 billion in corporate tax due to the significant growth in profitability, which is almost 40 times the total amount of VAT of Tshs. 1.487 billion collected from 2005 to 2011 (See Table 5.2). In addition, average earnings per day per farmer will grow to \$2.35 which is above the absolute poverty line. This analysis shows that even though the government will lose some revenue in the short run, the long-term benefits are substantial. Therefore this is a strong justification for not only providing for the VAT rate of zero percent, but also for addressing other challenges of the sector.

Table 5.2: VAT Amount Paid by Processors in TZS million

Processor	2005	2006	2007	2008	2009	2010	2011	Total
Tanga Fresh (30%)	61.25	52.60	69.98	99.65	102.61	74.47	83.64*	544.20
International Dairy Products (5%)	17.20	26.25	40.21	62.25	67.74	127.27	13.94*	354.86
Tan Dairies (5%)	11.21*	11.26*	15.74*	23.13*	24.34*	13.46	13.94	113.08
Other Processors (60%)	89.66*	90.11*	125.93*	185.03*	194.69*	215.20*	111.52*	1,012.14
Total (100%)	224.14*	225.29*	314.83*	462.57*	486.71*	538.00*	278.80*	2,530.34

* Estimated values based on the average percentage of VAT paid by processors based on assumption that Tanga Fresh, International Dairy Products and Tan Dairies pay 30%, 5% and 5% respectively of the VAT amount.

SECTION SIX: LESSONS FROM THE DAIRY SECTOR IN KENYA

6.1. Introduction

Even though Tanzania leads in East Africa in terms of cattle population, Kenya is far ahead in a number of parameters, ranging from milk production, processing and milk per capita consumption, to external trade performance, unit costs and lower VAT rate. It was therefore important to draw some lessons from the dairy sector in Kenya to inform this study. In line with this, this section provides a brief history of the dairy sector in Kenya while describing the drivers and challenges of the dairy sector. It reviews the current VAT situation on milk and milk products in Kenya. Finally, it presents the key lessons from the experience gained in Kenya.

6.2. History of the Dairy Sector in Kenya

The dairy sector in Kenya is the second largest in Africa. Before 1925, only Europeans were allowed to keep dairy animals. In 1925, the first formal processing came with the introduction of Kenya Cooperative Creameries (KCC). In 1958, the first dairy board was formed to regulate the dairy industry, and in 1964 Africans were allowed to keep dairy animals. At this time, KCC was the only operator and the dairy industry was centralized. At the end of 1980s, the sector was liberalized to allow other private players to come in. In the late 1990s, particularly 1997-98, KCC did not perform well, and in 1998, it closed. One of the reasons most cited was government interference. The industry almost collapsed. In 2003, the same government came in, and established the New KCC to stabilise farmers' income through the regular collection of milk, as they had been paid very poorly before. Currently, the sector has 44 licensed processors, of which 32 are active. The industry has seen many developments during the last eight years.

In the last 8 years, the dairy sector has developed greatly and has attracted the increased interest of policy makers. The government of Kenya has strengthened the Kenya Dairy Board (KDB) so that it can play its role of developing, promoting and regulating the dairy industry in the country. As a result, the sector has seen an expansion of the producer base and milk-processing activities. The interview with KDB revealed that the major factor that has contributed to the development of the industry is the deliberate effort to formalize it. Formalization of milk processors has enabled the industry to register significant growth, both in terms of milk production and value addition, with milk production increasing from 2.8 billion litres in 2003 annually to 5.2 billion litres in 2011. The amount of milk processed increased from 193.2 million litres to 550 million litres over the same period.

6.3. Dairy Value Chain Drivers and Challenges

At the grassroots, the sector is organized into smallholder farmers (only 2 percent is large scale), who take their milk to processing plants, collection centres and traders. These farmers are organized into cooperatives and farmer groups. The markets of most dairy products are in big towns (80 percent).

The success of the dairy sector in Kenya, as seen today, has been fuelled by good organization of the sector. Farmers are strongly organized into smallholder schemes, cooperative societies and farmer groups. Some of these groups are organized into

companies that are licensed by the Social Services ministry, which ensures a stable supply of milk to processing plants, this being one of the critical obstacles to development of the dairy sector in Tanzania. Secondly, the government has been very supportive, especially since 2002. The government together with the help of development partners has substantially increased funding for management of the sector. Government policies, the tax structure and a conducive business environment have been instrumental in this regard. Finally, there is the great prospect of increased future demand for dairy products due to a strongly growing middle class, urbanization and a population increase of 3.5 percent per year.

Despite the role the success drivers play, the dairy sector in Kenya faces a number of challenges. In the first place, the dominance of informal hawkers compromises the hygiene, quality and good standard of milk and milk products, and hinders its stable supply. In addition, of the 3.5 million dairy cattle, most have low genetic potential, which limits their milk productivity. The electricity supply is unreliable, especially for the cooling and storage facilities needed because of the perishable nature of milk. Finally, the dairy sector in Kenya is still unorganised and fragmented in small set-ups that do not enjoy economies of scale, and it is dominated by processor infighting. This is contrary to South Africa, where milk producers and processors are organized into one association in the name of "Milk South Africa".

6.4. The Value Added Tax Regimes in Kenya

Kenya provided for a VAT rate of zero percent on all milk and milk products for the 1990-2004 period. This, among other interventions, enabled the sector to grow rapidly. However, stakeholders point out that the growth of the sector is not necessarily due to the zero rate per se, but it has also largely been driven by the high demand for milk that comes from the inbuilt culture of consuming milk that was grounded in the 1970s and early 1980s. During that time, free milk was supplied in primary schools (Nyayo Milk), which created a future generation of milk consumers. In addition, the government played an active role in reforming KCC in 2003. Therefore, it can generally be argued that a generally favourable environment, good policies and tax structures, including a VAT rate of zero percent, contributed to the success of the sector as a whole.

Recently, the Kenyan Private Sector Alliance (KEPSA) lobbied for the reintroduction of a VAT rate of zero percent on all value-added dairy products on the grounds of stagnant consumption of milk, which remained at a low of 10% of all the milk marketed. The bill on zero rating these products was tabled by the Cabinet in March 2012. However, this move has not been successful and so lobbying efforts by different stakeholders are still going on. Up to now, only fresh milk, white milk, and UHT milk are VAT zero rated. All other value-added products attract a VAT rate of 16 percent. The reason given by the government is that these value-added products are consumed by a very small proportion of Kenyans. Fresh milk, white milk and UHT milk that are consumed by a significant proportion of Kenyans (90 percent), especially the poor, are already zero-rated. However, stakeholders feel that it is important to zero-rate all milk products. Milk and milk products are not a luxury, but a basic necessity with high nutritional content, owing to the fact that 65-70% of the Kenyans are suffering from malnutrition. Milk and milk products are strategic for food security. VAT, by pushing up the price of value-added products, restricts their consumption (demand is very elastic), thus killing value

addition. This will in turn inhibit growth of the dairy sector and add to the extent of informality. Finally, price increases have a devastating effect on the demand for milk products, and so the dairy sector being a future economic driver has to be VAT zero-rated.

6.5. Proposed Amendments

The current VAT Act levies VAT at the standard rate of 16% on all value-added milk products, such as ghee, butter, cream, yoghurt and cheese. This discourages most processors from producing these products, and consumers from buying them. The draft VAT Bill proposes to charge 16% on all dairy inputs, dairy machinery, milk and milk products. This will have adverse effects in that it will reduce the amount of milk produced by farmers as their inputs will be more expensive. The milk consumers will have to bear an additional cost of 16% to protect the processors' profits. One of the most serious impacts is that it will hinder the KDB from bringing small-scale farmers into the formal sector and it will increase government costs resulting from the consumption of unhygienic milk. Based on the above issues, KDB is proposing the following amendments;

- Amending the VAT law to zero percent on farm inputs, dairy machinery, processing equipment and other such dairy equipment supplied to farmers, processors and traders registered with KDB.
- Amending the VAT law to zero percent on milk and milk products for human consumption.

The rationale for the proposed amendments is that they will enable the industry to advance towards formalization and quality standards. This will increase government revenue as more enterprises will formalize and become taxpayers.

6.6. Key Lessons

A number of lessons can be drawn from the experience of Kenya, most of which are expected to inform policy makers in Tanzania. Overall, the Kenyan dairy industry has been growing and increasing its contribution to the economy. The growth of the industry has resulted from a number of factors, as follows;

- (i) Kenya made deliberate efforts to strengthen the KDB so that it could play its role of promoting the sector more effectively. This clearly indicates that for Tanzania to be able to promote the sector, the Tanzania Dairy Board (TDB) should be strengthened, not only to regulate the sector but also to promote it.
- (ii) Formalisation of milk-processing activities has enabled Kenya to expand both milk production and milk processing, resulting in a greater contribution to GDP. The most important lesson that can be drawn from this is that the Tanzania dairy sector will perform better if, and only if, deliberate efforts are made to encourage the formalisation of small milk processors.
- (iii) Formalisation and growth of the milk-processing sector have contributed to the development of other players in the value chain, such as milk producers, cooperatives, milk collection centres, etc. This shows that if formal milk processing is promoted, the multiplier effect is likely to be huge. In addition, effective organisation of the players involved at various stages has played an instrumental role in the development of the industry.

- (iv) The dairy industry has gone through almost the same transition as the Tanzanian dairy sector from public to private ownership. Even with this transition and the recorded performance, the sector is still facing some business environment challenges that are similar to the challenges experienced in Tanzania. There is still a high number of informal milk sellers, the power supply is unreliable and in some places the organization of farmer groups is still weak.
- (v) The campaign to promote the culture of drinking milk has created a huge demand for milk and contributed to a growth in the market for processed milk. This implies that even with efforts to promote the industry there is a need to promote the habit of consuming milk so as to create greater demand.
- (vi) Kenya has taken advantage of other East African countries (especially Tanzania) by exporting to them. The main lesson is that the region is still a potential market for milk and milk products.

In terms of VAT, a number of lessons can be learnt from the experience of Kenya, some of which are as follows;

- (i) The VAT rate of zero percent is not a permanent phenomenon, as it was introduced in 1990 and then reduced in 2004. When the government zero-rates products, it loses a substantial amount of revenue. It therefore has to find a way of recovering the lost tax revenue in the form of, for example, higher corporate taxes, or on the premise that the sector can deliver in terms of contributing to employment and GDP. This is a liability for all dairy stakeholders.
- (ii) The VAT rate of zero percent is not the sole driver of the growth of the dairy sector. It works together with a number of interventions that address the value chain challenges holistically, in addition to a favourable business environment, good policies and government support in terms of good infrastructure and access to capital.
- (iii) The demand for milk and milk products is very sensitive to price and the income level of consumers. VAT is a form of consumer tax; it therefore has a devastating impact on consumption levels. For this reason, the VAT rate of zero percent in Kenya played a key role.
- (iv) Introducing VAT on value-added products kills value addition, and adds to informality of the dairy sector. This creates serious problems in terms of hygiene and the quality of unprocessed milk and milk products, thereby posing critical health risks.

SECTION SEVEN: CONCLUSIONS AND POLICY RECOMMENDATIONS

7.1. Key Findings

This study has covered a number of issues on contribution and performance of the dairy sector in East Africa and the VAT tax systems in the region. For the purpose of providing baseline data, the study looked at the situation before the amendment of the Finance Act, 2012 and the current status of implementing the VAT rate of zero percent. This section summarises the key findings and the conclusions that can be drawn from the study. The main aim from the summary provided is to present the baseline data that will be used to assess the impact of the VAT rate of zero percent in future. However, for the purpose of informing policy reforms and more interventions in the dairy sector a number of policy recommendations are provided.

The major findings of the study are as follows;

- (i) Despite having the largest cattle herd amongst East African countries, Tanzania lags behind in terms of performance of the dairy sector measured on the basis of its contribution to GDP, milk production, milk yield, processing capacity and its utilisation, per capita milk consumption, export share and unit cost of processing milk.
- (ii) Before the amendment of the Finance Bill, 2012, only unprocessed dairy products from cow and goat milk, and other unprocessed milk products that underwent simple preparation or preservation processes were exempt from VAT in Tanzania. Other East African countries had enjoyed the advantage of the VAT rate of zero percent on milk and milk products.
- (iii) In 2012, VAT placed a greater cost burden (3.7 percent) on milk processors than that of other taxes and fees (1.3 percent). Therefore, VAT added significantly to the cost of doing business (tax on inputs), increased product prices, caused cash flow problems, discouraged the consumption of value-added products and thus restricted value addition.
- (iv) Until 2012, over 50% of the processors visited were VAT registered, while all dairy importers and retail outlets were registered. In view of this, a substantial number of inputs used by milk processors (flavours, sugar, milk powder, starch, solvents and chemicals, shrink film packaging materials, culture, electricity, colours, cream separator, water, refrigerators, yoghurt stabilizer, refrigerant gas, soap and detergents, and spare parts) attracted VAT.
- (v) All milk products that underwent value addition attracted VAT. These include powdered milk, butter, cheese, yoghurt, ice cream, chocolates, cream milk, ghee, UHT and flavoured milk.
- (vi) Up to 44 percent of the VAT imposed on inputs was shifted by processors to consumers in the form of higher product prices.
- (vii) With effect from July 2012, all categories of milk and milk products will not attract VAT following amendment of the Finance Act, 2012.
- (viii) In Kenya, all value-added dairy products, with the exception of fresh milk, white milk and UHT, currently attract a VAT rate of 16 percent. However, the dairy sector is strongly lobbying for the reintroduction of a VAT rate of zero percent on

- all value-added dairy products on the grounds of the benefits this change is likely to bring to the economy.
- (ix) The products proposed for zero-rating in Kenya include flavoured long-life or pasteurized milk, curdled milk and cream, fermented or acidified milk and cream, butter and dairy spreads.
 - (x) The strengthening of the Dairy Board, formalisation of milk-processing activities and promotion of milk consumption have all played a crucial role in the growth of the dairy industry in both Kenya and Uganda.
 - (xi) The majority of milk processors in Tanzania, retail outlet owners and all dairy importers were aware of the change in the VAT rate, and have started implementing it by not charging customers VAT.
 - (xii) Although the impact of the VAT rate of zero percent on businesses has not been computed, a small number of milk processors showed the intention of reducing the price of their milk products by at least ten percent. Most processors hesitated to reduce their prices due to the increasing cost of processing milk and the fear of giving the impression that the quality of their products might have been lowered.
 - (xiii) About one-third of the retail outlets had seen a positive impact of the change in VAT on the price and sales of their products. Similarly, a small number of milk processors had seen the impact on sales and savings in their companies.
 - (xiv) The milk processors who participated in the study intended to use the advantage of the VAT rate of zero percent to increase the amount paid to farmers for their raw milk, to procure more storage tanks, open new collection channels to increase the amount of raw milk collected from farmers and to buy in bulk. In addition, processing firms intend to use the tax savings to buy more inputs and processing equipment to increase processing capacity and to buy more distribution vehicles to enable them to sell their products in more markets. The firms also intend to invest heavily in producing a variety of quality products, raising awareness and promoting milk products.
 - (xv) Besides the benefits of VAT, the milk processors in Tanzania were aware of the need to use a holistic approach to address the challenges of the entire dairy value chain from production and processing to the marketing of processed milk and milk products.
 - (xvi) The majority of milk processors feel that the introduction of the VAT zero-rate will enable them to reduce the costs of production if, and only if, other cost drivers in the sector are controlled. The key benefits of the change, as stated by respondents, include a decline in the price of milk and milk products, growth of the dairy sector, increased exports of dairy products, an increase in farmers' income, expansion of milk-processing capacity, the creation of more jobs, as well as increased sales and profitability of the processors.
 - (xvii) If the challenges facing the dairy sector are adequately addressed, it has the potential to process up to 1 million litres per day by 2018. If this is achieved the government will be able to collect over a ten-year period a total of Tshs. 95.8 billion in corporate tax due to a significant growth in profitability, which is almost 40 times the total amount of VAT of Tshs. 1.487 billion collected from 2005 to 2011. This change will also increase the daily average earnings per farmer to \$2.35.
 - (xviii) Despite the amendment made in the Finance Act, 2012, there are many other challenges constraining the sector, such as the high cost of doing business,

limited skills and expertise, the high cost of processing equipment, the poor culture of consuming milk products, the limited access to capital and reliable power, failure to compete with higher quality imports, limited support given by government policies, inadequate transport infrastructure and the challenge of meeting exporting standards. The lack of a reliable supply of raw milk during dry seasons and the challenges concerning the distribution and marketing of milk are among the main hindrances.

(xix) The study finally learnt about a number of challenges facing processors, importers and retail outlets in the process of complying with the tax amendment in the Finance Bill, 2012. These are as follows:

- About 33 percent of processors and 30 percent of retail outlet owners are still unaware of the change in VAT introduced by the government. This is also true of regional and district offices, and even the tax collectors themselves.
- Furthermore, 38 percent of the processors and 40 percent of the retail outlets have not yet started implementing the change, and still charge customers VAT.
- Many processors have not shown the intention of reducing the price of their milk and milk products, believing that this will send a message to customers that their products are of poor quality.
- Processors showed concern over consistency in filling in tax returns that have unclear computational approaches, which require them to be trained in filling in the returns correctly and enabled to reclaim the VAT paid after six months.
- Processors felt that being reimbursed for the tax paid on inputs after six months, while payment was made each time inputs were purchased, meant that it took a long time to recover the costs of production.

Regarding the baseline data that will be used to measure the impact of VAT in the future, the study gathered a number of useful indicators, which are shown in Table 7.1 for the current period (base year). The indicators considered useful are cattle population, contribution of the sector to GDP, milk yield, milk production and processing data, per capita consumption, dairy exports, job creation, processing unit costs, VAT rate, tax burden and price of fresh milk. Space has been created in which to insert the data that will be collected and when the impact will be measured (year XXXX). On the basis of this, the study meets one of its major objectives of providing baseline data for measuring the impact of the VAT rate of zero percent on the dairy sector in Tanzania.

Table 7.1: Baseline Data for Measuring the Impact of the VAT Rate of Zero percent on milk and milk products

Variable	Country	Year	Magnitude	Year	Magnitude
Cattle Population (million heads)	Tanzania	2010	21.3	XXXX	
	Kenya		18.0		
	Uganda		8.1		
Contribution of Livestock sub-sector to GDP (%)	Tanzania	2009	4.0	XXXX	
	Kenya		4.4		
	Uganda		9.0		
Contribution of Dairy sub-sector to GDP (%)	Tanzania	2009	1.2	XXXX	
	Kenya		1.5		
	Uganda		4.1		

Milk Yield (litres/head/year) and Growth ²³ (%)	Tanzania	2010	239 (49.4%)	XXXX	
	Kenya		552 (20%)		
	Uganda		350 (24.5%)		
	Rwanda		651 (0%)		
	Burundi		350 (0%)		
Contribution to total Regional Output (%)	Tanzania	2011	23.1	XXXX	
	Kenya		56.8		
	Uganda		16.7		
	Rwanda		2.6		
	Burundi		0.8		
Percent of milk filtering to processing plants	Tanzania	2009	3.0	XXXX	
	Kenya		30.0		
	Uganda		7.0		
Milk Processed per Day and Capacity Utilization (%)	Tanzania	2011	127,520 (32.4%)	XXXX	
	Kenya		2,484,000 (85.7%)		
	Uganda		316,600 (60.3%)		
Per Capita Milk Consumption (kg/person/year)	Tanzania	2010	40	XXXX	
	Kenya		100		
	Uganda		55		
Dairy exports (\$ million) and contribution to EAC exports and re-exports (percent)	Tanzania	2000 to 2010	2.6 (3.0%)	XXXX	
	Kenya		72.1 (83.1%)		
	Uganda		11.0 (12.7%)		
	Rwanda		0.83 (0.9%)		
	Burundi		0.27 (0.3%)		
Number of Jobs created by 17 processors ²⁴	Tanzania	2012	15,637	XXXX	
Unit cost in Tshs per processed litre	Tanzania	2012	1,560	XXXX	
	Kenya		924		
VAT rates (percent)	Tanzania	2012	18	XXXX	
	Kenya		16		
	Uganda		18		
	Rwanda		18		
	Burundi		18		
Percent of VAT-registered processors	Tanzania	2012	53	XXXX	
VAT, other taxes and fees burden (% of cost)	Tanzania	2012	5.0	XXXX	
Total corporate tax collection in bn Tshs	Tanzania	2008-2018	95.8	XXXX	
Total VAT collection in bn Tshs	Tanzania	2005-2011	1.6	XXXX	
Price in Tshs per litre of fresh milk	Tanzania	2012	2,000	XXXX	
	Kenya		3,500		
	Uganda		3,600		
Price of a litre of raw milk in Tshs.	Tanzania	2012	700	XXXX	
Number of collection centres	Tanzania	2012	123	XXXX	

²³ Average growth rate over 30-years period (1980-2010)

²⁴ Jobs created in processing plants, collection centres, and farmers supplying milk.

In addition, this study examined the strategies processors intend to put in place in order to reap the advantages of the VAT zero-rate introduced by the government. In the light of this, qualitative baseline data are presented in Table 7.2, which will be used in the future to measure whether such intentions have been put into practice.

Table 7.2: Baseline Qualitative Data for Measuring the Implementation of Intended Strategies

Intended Actions by Processors	Situation in 2012	Situation in XXX
To reduce the price of milk products by at least ten percent	A third of retail outlets had started seeing impact of VAT on prices and sales in terms of price stabilisation	
To increase the price of raw milk	Average price of raw milk per litre is currently Tshs. 700/=	
To procure more storage tanks and distribution trucks and open new collection centres	123 collection centres among 17 processors	
To buy more inputs and processing equipment to increase processing capacity	At present, inputs and equipment support the processing of 127,520 litres per day	
To produce a greater variety of milk products	Fresh milk, pasteurized milk, cultured milk, yoghurt, cheese, ghee, butter, and UHT milk.	
To raise awareness and promote the consumption of milk products	School milk drinking programme and annual milk week are in place	
To export milk products	Currently, no milk products are exported	

7.2. Policy Recommendations

For the tax change introduced by the government of Tanzania to have the envisaged benefits, it is important to address a number of hurdles that affect the entire dairy value chain (milk production, collection, processing, distribution and marketing). These require action to be taken by various dairy stakeholders, that is, the government, ministry of livestock and fisheries, TDB, producers' and processors' associations, processors, distributors and dairy importers. For a consistent flow, the policy recommendations are grouped into those which relate to the dairy value chain, and those that are directly related to the VAT rate of zero percent.

7.3. Recommended policy actions to holistically improve the dairy value chain

The dairy sector will benefit from the tax policy change made by the government if the sector is vibrant enough to take advantage of the opportunities created. This requires the development of the entire value chain and implementation of policies that will address the challenges currently facing the sector. Despite the fact that the study was mainly about the impact of the VAT rate of zero percent, the recommended general actions are necessary to ensure that the benefits of the policy change bring about the intended results. The policy actions are based on the following implications of the study;

(i) Since over 90 percent of livestock are the indigenous type with low genetic potential and the traditional sector dominates milk production, there is a need for the government, milk processors and other stakeholders to facilitate dairy farmers to

receive training in good dairy farming practices, adequate inputs and improved breeds, and to provide finance so that they can keep high-bred dairy cattle that produce more milk as well as extension services.

- (ii) Seasonality of the weather greatly affects the availability of water and pasture, and thus the production of milk. To address this challenge, dairy farmers should be assisted in developing pasture farms through technical support, it should be made easy for them to access finance and support should be provided for the production of cattle feed that increases the productivity of milk.
- (iii) The government in collaboration with the private sector (milk processors) should help dairy farmers to organise themselves in cooperative societies through which they can access loans to buy inputs, dairy cattle, benefit from extension services and invest in joint facilities (cooling and storage facilities, and milk transport trucks, etc.).
- (iv) Milk processors should strive to produce a greater variety of high quality dairy products, with attractive packaging and labelling, and explore export markets, especially within EAC, SADC and COMESA.
- (v) There is a need to promote the consumption of milk through raising awareness of the benefits of consuming processed milk and other value-added dairy products, mostly Tanzanian products. This could be done by milk processors, the government, TDB, TAMPA, etc., through events such as the annual milk week and the school milk programme, which are highly commendable.
- (vi) The government should improve the business climate and ease of doing business by reducing the regulatory burdens and overlaps found in the dairy sector.
- (vii) The government should enforce laws that require the consumption of only safe, hygienic and processed milk products in order to formalise the dairy sector. It should create an environment that encourages milk processors to formalise their businesses.
- (viii) The TDB, which was established by the law to develop, promote and regulate the dairy sector, needs to be strengthened and endowed with enough resources to undertake its role.

In view of the above, the following policy actions are recommended:

i) Adopt a holistic approach to developing the dairy sector value chain by effectively engaging stakeholders (both public and private) involved in the production, processing and marketing of milk and milk products to participate in the development of the value chain. This could be achieved through;

- Strengthening dairy farmer cooperative societies and farmers' groups and improving milk procurement by milk processors.
- Establishing a public-private partnership (PPP) between the public sector (the Ministry responsible for livestock development and TDB) and the private sector (TAMPA, TAMPRODA, processors, farmers, input suppliers, etc.) to initiate projects designed to promote development of the value chain and good practices for developing livestock.
- Milk processors working with producers' associations (e.g. TAMPRODA, TDCU) to jointly improve milk production and the supply of raw milk to the milk-processing plants through collaborative procurement and transport of milk, training in good dairy farming practices, the procurement of inputs and services, and the screening of milk in collection centres, etc.

- *Creating a link between milk producers, milk processors and traders to ensure that milk flows smoothly from producers to the market. This could be done through a PPP.*
- *Incorporating informal traders and hawkers into the value chain by training them in hygiene standards, and engaging them to collect and distribute milk for processors.*

ii) Facilitate formalisation of the dairy sector through enforcing the laws that promote formalisation and enhancing the ease of doing business in the dairy sector. *This could be done in a number of ways, including:*

- *Enforcing laws and regulations, and sensitizing and educating consumers to consume safe and processed milk, using, for example, district health officers.*
- *Forcing informal traders and hawkers that form over 97 percent of the dairy business to comply with laws and regulations on safety and hygiene.*
- *Harmonising regulations that add costs to formal milk processors so as to encourage formalisation.*
- *Simplifying the requirements for formalising milk-processing activities by reducing the bureaucracy and costs involved.*

iii) Strengthen the TDB so that it plays its part in promoting the industry. *This could be done through:*

- *Allocating more staff on a competitive and commercial basis to TDB to build its capacity to carry out both its regulatory and promotion functions.*
- *Allocating sufficient funds to TDB to carry out the role of promoting the growth of the sector.*
- *Facilitating training, institutional development and the development of infrastructure for TDB to function more effectively.*

iv) Promoting the Dairy Industry in Tanzania, *that requires:*

- *Advertising and promoting dairy products using billboards, TV and radio programmes and social networks.*
- *Using the Social and Behavioural Change Communication (SBCC) strategy to educate the public on the importance of consuming safe and processed milk.*
- *TAMPA to develop a newsletter and other appropriate channels to promote the sector.*
- *The government to use the school milk programme as a strategy for addressing malnutrition among children and cultivate culture of drinking milk.*
- *The government to aggressively use non-tariff barriers to restrict the imports of dairy products in order to protect its infant industries.*

7.31 Recommended Policy Actions to take advantage of the VAT rate of zero percent

With regard to the VAT rate of zero percent introduced by the government, a number of implications arise from the study that inform the policy actions recommended:

- (i) Milk processors need to be made aware of the VAT rate of zero percent for the dairy sector and its associated benefits and of their need to register for VAT and to comply with the requirements.
- (ii) The study shows that a good number of milk processors are still not VAT registered. However, to be able to claim the VAT they paid on inputs, milk processors are required to be VAT registered, implying that all processors who have reached the VAT threshold need to be registered with immediate effect.

- (iii) The zero-rating advantage will not be enjoyed if the dairy sector is not formalised. As most milk producers in Tanzania are operating informally they are not visible in the tax system. This calls for serious measures to promote the formalisation of milk producers and processors as well as simplifying the tax compliance process.
- (iv) Promote compliance with the amended Finance Act, 2012 as some milk processors and retail outlets are still charging VAT on milk and milk products, despite the fact that they benefit from zero-rated VAT. This implies that there is a need to enforce the amended act if the country is to realise the intended benefits of the VAT rate of zero percent on milk and milk products.
- (v) There is a need to train milk processors in how to file tax returns properly, to compute the VAT, in how they can be refunded after the introduction of the zero rate and the strategies that will legally enable them to reduce the tax burden. This requires being made aware of the VAT change and being given training in how to effectively take advantage of the amendment.
- (vi) The milk processors need to be sensitised to take advantage of the cost savings made from zero-rated VAT by investing in purchasing equipment, machinery, refrigerated trucks, packaging materials and utilities to enhance their processing capacity and utilisation.
- (vii) There are still some challenges as regards complying with VAT requirements that need to be addressed by government authorities. These include the delay in reimbursing the VAT claimed from the Tanzania Revenue Authority (TRA), and the limited awareness of regional and district offices and some tax collectors of the amendment to the Finance Act, 2012 that milk and milk products are currently zero-rated.
- (viii) Since zero-rating is not a permanent situation, there is a need to undertake a follow-up study after three to five years to document the benefits of the amendment and inform policy makers on how best to utilise the intended benefits. This is required if the government is to sustain the change and ensure that the sector and the economy at large benefit.

Based on the implications highlighted above, the following policy actions are recommended;

- i) Facilitate the formalisation of milk processors and their registration for VAT by enforcing the Dairy Industry Act, 2004 and the amendment to the Finance Act, 2012.** This requires;
 - *Creating awareness of the requirements of the Dairy Act, 2004 that insist on the use of safe and processed milk.*
 - *Simplifying the process of tax returns and creating awareness of the procedures and the benefits of operating formally.*
 - *Rationalising regulations in the dairy sector and improving the business registration process.*
- ii) Make milk processors, tax collectors and regulators aware of the VAT rate of zero percent and its benefits, the process of registration and compliance and procedures for filing claims.** This requires:
 - *TAMPA and TDB to embark on education and awareness programmes across the country with the support of the government, milk processors and development partners to create awareness of the amendment to the Finance*

Act, 2012.

- TRA and government authorities to inform their staff about the amendment to the Finance Act and ensure that it is enforced.

iii) Conduct follow-up surveys to monitor the implementation of the VAT law and the improvements needed so that the public and private sector, milk processors and other stakeholders benefit from the VAT rate of zero percent. This requires that:

- TAMPAs use the baseline data generated by this study to measure the impact of the amendment to the Finance Act.
- Make the impact assessment study as comprehensive as possible to ensure that other factors that increase the cost of doing business in the dairy sector are captured.

iv) Increase Investment in the Dairy Sector through the following ways:

- Formalise and register with the Tanzania Investment Centre (TIC) to access relief from tax, investment and other start-up costs.
- Invite both local and foreign investors to invest in the Tanzanian dairy sector.
- Processors to franchise with reputable local or foreign brands to aid initial market penetration.
- TAMPAs and TIC to organize and coordinate platforms where processors and other dairy stakeholders will be informed and educated on investment relief and the opportunities available at TIC, such as SAGCOT and agribusiness catalytic funds.
- Encourage banks and other financial institutions to invest in the dairy sector.
- Encourage investment in support industries, such as packaging, tools, equipment and other dairy technologies.

v) Strategise Lobbying Efforts to Enhance Sustainability of the VAT rate of zero percent through:

- Influencing the government to keep implementing the VAT zero rate until 2018 or until the sector is able to process up to 1 million litres per day.

Although several policy actions are recommended, some of the actions require further follow-up and advocacy. One of the major issues arising from this study is the need to **formalise milk processors**. Formalisation of the dairy industry will benefit both the public and private sector in terms of increasing the amount of milk processed, creating employment, tax contribution and economic growth. However, for formalisation to happen, industry stakeholders need to advocate for the **simplification of regulations governing the industry and an improvement in the ease of doing business for milk processors**. This complements an ongoing project and it stands a chance of reducing the cost of doing business, thereby encouraging formalisation. The proposed policy actions are likely to have a remarkable impact on the economy of Tanzania given the potential that exists in the sector.

To effectively implement the proposed policy actions shown in Table 7.3, a number of key actors to be involved are identified. Nevertheless, the list does not limit the actors to the ones mentioned but it provides key stakeholders who could work with other actors.

Table 7.3: Recommended Policy Actions for Implementation

General Policy Action	Specific Policy Activities	Actors
Develop the dairy value chain holistically	Strengthen dairy farmer cooperative societies and groups	TDB, TAMPRODA, MLFD, Cooperative Societies, Groups, Development Partners
	Strengthen public-private partnership to promote value chain development	MLFD, TDB, TAMPA, TAMPRODA, Milk Processors, Groups, Development partners
	Joint procurement and transport of inputs and milk	Milk Processors, Cooperative Societies, TAMPRODA
Facilitate formalisation of the dairy sector	Enforce Dairy Industry Act, 2004 requiring consumption of safe and processed milk	MLFD, TFDA, TDB, TBS and TFDA
	Harmonise and rationalise regulations to reduce cost of doing business	MLFD, PMO, Regulators (TDB, TFDA, TBS etc.) TAMPA , Development Partners
	Sensitize consumers to consume safe and processed milk	TDB, TAMPA, Milk Processors, Development Partners
	Simplify requirements for formalising milk-processing activities and raise awareness of its benefits	MLFD, PMO, TAMPA, Regulators (BRELA, TFDA, TDB, TBS etc.)
	Simplify process of filling in tax returns	TRA, Milk Processors, TAMPA
Strengthen the TDB	Allocate more staff to TDB to enable the Board to build its capacity to carry out both its regulatory and promotion functions	MLFD, TDB
	Allocate sufficient money to TDB to carry out the role of promoting the growth of the sector.	MLFD, TDB
	Provide training for TDB, and improve the infrastructure so that it functions more effectively.	MLFD, TDB, Development Partners
Create awareness on the VAT rate of zero percent introduced	Raise awareness of the benefits, process of registration and tax compliance	TDB, TAMPA, TRA
	Conduct follow-up surveys to monitor implementation of VAT law and improvements needed	TDB, TAMPA, TRA, Development Partners
	Measure the impact of the VAT rate of zero percent using the baseline data developed by this study	TDB, TAMPA, Development Partners
	Assess the impact of the VAT rate of zero percent by capturing other	TDB, TAMPA, Development Partners

	factors that increase the cost of doing business	
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APPENDICES

Appendix 1: Ranking of Marketable Milk Production by District

No	District	Litres per Year	Litres per Day
1	Babati	30,465,650	83,467
2	Mbulu	24,692,120	67,650
3	Nzega	19,108,452	52,352
4	Igunga	17,295,584	47,385
5	Hanang	15,358,810	42,079
6	Kondoa	13,503,138	36,995
7	Meatu	11,900,475	32,604
8	Chamwino	9,944,748	27,246
9	Singida Rural	8,967,468	24,568
10	Uyui	7,562,058	20,718
	Total	158,798,503	435,064

Source: RLDC Milk Production Study for Central Tanzania (2009)

Appendix 2: Process Capacity Utilization in 2012 for Selected Processors

No	Processor	Region	Installed Capacity (Litres per Day)	Utilized Capacity (Litres per Day)	Utilization Rate (Percent)
1	Mara Milk Ltd	Mara	30,000	15,000	50
2	Kilimanjaro Creameries	Kilimanjaro	10,000	2,000	20
3	Musoma Dairy	Mara	120,000	13,452	11
4	Tanga Fresh Limited	Tanga	50,000	35,712	71
5	Tan Dairies	Dar	10,000	4,500	45
6	Mountain Green Ltd	Arusha	600	250	42
7	Arusha Dairy Company	Arusha	2,500	800	32
8	ASAS Dairies Ltd	Iringa	4500	3450	77
9	Dutch Orkonerei Social Investment	Arusha	1,000	475	48
10	International Dairy Products Ltd	Arusha	5,000	3,000	60
11	Profate Investment Ltd	Dar	2000	350	18
12	Shambani Graduates	Morogoro	1,500	880	59
13	Baraki Sisters Dairy	Mara	2,100	1,000	48
14	Uvingo Dairy Group	Arusha	750	425	57
15	Fukeni Mini Dairy	Kilimanjaro	1,250	650	52
16	Kalali Women Dairy	Kilimanjaro	750	750	100

	Cooperative	o			
17	Nronga Women Dairy	Kilimanjar o	800	800	100
18	Agape Women	Arusha	425	425	100
	Total		243,175	83,919	35.0
	Dairy Sector Total		393,800	127,520	32.4
	Percent of the 18 Processors		61.8%	65.8%	

Appendix 3: Milk Processing Plants and Their Capacities in Tanzania in 2011

Region	District	# of Processing Plants	Processing Capacity (Lts/Day)	Processed Lts/Day	Capacity Utilization (%)
Arusha	Arusha (U)	3	55,000	8,800	
	Arumeru	6	3,900	1,750	
	Longido	1	1,000	500	
Sub Total		10	59,900	11,050	18.4
Coast	Kibaha	1	1,000	500	
	Rufiji	1	2,500	350	
Sub Total		2	3,500	850	24.3
Dar es Salaam	Ilala	2	5,000	2,700	
	Kinondoni	3	17,000	6,800	
Sub Total		5	22,000	9,500	43.2
Iringa	Iringa (U)	1	12,000	6,000	50.0
Kagera	Karagwe	1	500	150	
	Misenyi	3	2,150	520	
Sub Total		4	2,650	670	25.3
Dodoma	Dodoma (U)	1	600	200	33.3
Kilimanjaro	Hai	5	7,500	1,650	
	Moshi (R)	2	4,200	2,400	
	Same	1	500	300	
	Siha	2	6,000	2,800	
Sub Total		10	18,200	7,150	39.3
Lindi	Lindi (R)	1	500	200	40.0
Mara	Musoma	4	184,000	39,500	
	Serengeti	1	3,000	2,100	
Sub Total		5	187,000	41,600	22.3
Manyara	Karatu	1	1,500	400	
	Simanjiro	3	2,000	1,100	
Sub Total		4	3,500	1,500	42.9
Mbeya	Mbeya (U)	1	1,000	500	

	Mbozi	1	900	600	
Sub Total		2	1,900	1,100	58.0
Morogoro	Morogoro (U)	2	7,000	1,200	17.1
Mwanza	Magu	1	3,000	500	
	Sengerema	1	500	200	
Sub Total		2	3,500	700	20.0
Njombe	Njombe	1	6,000	3,800	63.0
Tanga	Lushoto	2	2,000	800	
	Tanga (U)	2	52,000	41,000	
Sub Total		4	54,000	41,800	77.4
Singida	Singida (U)	1	500	200	40.0
GRAND TOTAL		55	393,800	127,520	32.4

Source: Tanzania Dairy Board, TDB (2013)

Appendix 4: Status of Milk Processing in Kenya in 2007 (in litres)

No	Town	Processor	Daily Production (Ltrs)²⁵
1	Eldoret	Doinyo Lessos Ltd	20,000
2	Githunguri	Githunguri Dairy Cooperative	100,000
3	Kericho	Farmers Milk Processors Ltd	20,000
	Kericho	Kablanga Dairy Ltd	140,000
4	Kilifi	Kilifi Plantations	35,000
5	Limuru	Limuru Milk Processors	50,000
6	Meru	Meru Central F.C.U. Ltd	50,000
7	Molo	Molo Milk Ltd	50,000
8	Mombasa	Miyanji Dairy Farm	2,000
9	Mwatate	Teita Estates Ltd	10,000
10	Nairobi	New KCC	800,000
	Nairobi	Spin Knit Dairy Ltd	350,000
	Nairobi	Adarsh Developers	20,000
	Nairobi	Afrodane Food Industries	40,000
	Nairobi	Greenland Dairy Ltd	20,000
	Nairobi	Bio-Food Dairy Ltd	5,000
	Nairobi	Sunpower Products	3,000
	Nairobi	Stanley & Sons Ltd	10,000
	Nairobi	Eldoville Farm Ltd	8,000
11	Naivasha	Delamare Estate	10,000

²⁵ Total installed capacity is about 2.9 million litres per day, capacity utilization is 85.7%.

12	Nakuru	Happy Cow Ltd	5,000
13	Njoro	Egerton University (GDI)	6,000
14	Ruiru	Brookside Dairy Ltd	700,000
15	Uplands	Lari Dairy	30,000
	Total		2,484,000

Source: Valk (2008)

Appendix 5: Status of Milk Processing in Uganda in 2011 (in litres per day)

No	Name of a Company	Location	Capacity (litres/day)	Production (litres/day)	Capacity Utilization (%)
1	Sameer Agricultural Livestock Limited	Kampala	550,000	375,000	68.2
2	Jesa Farm Dairy	Busunju	40,000	30,000	75.0
3	White Nile Dairy	Jinja	6,000	3,000	50.0
4	GBK Products Uganda Limited	Mbarara	96,000	20,000	20.8
5	Birunga Dairy Industry	Kisoro	15,000	8,000	53.3
6	Maddo Dairies Ltd	Masaka	4,000	2,500	62.5
7	Paramount Dairies Ltd	Mbarara	3,000	2,500	83.3
8	NIRMA Food & Dairy Industries	Entebbe	5,000	2,200	44.0
9	Hillside Dairy & Agriculture Ltd	Mbarara	40,000	3,000	7.5
10	Maama Omulungi Dairy	Kisoro	15,000	8,000	53.3
11	Toro Dairy Cooperative Society Ltd	Fort Portal	4,000	2,000	50.0
12	Family Choice	Mbarara	2,000	1,200	60.0
13	Seasons Dairy	Kayunga	5,000	4,000	80.0
14	Raibow Industries	Mukono	20,000	20,000	100.0
	Total		805,000	481,400	59.8

Source: Agriterra (2012)

Appendix 6: Dairy Development Projection in Tanzania Based on 2008 Tanga Fresh and TDCU Milk Collection Model

a) Methodological Assumptions:

- Projection base year is 2008.
- The current (2008) average processed litres per day is **30,000**.
- The projections for the 10th year end are to process an average of **1,000,000** litres per day.
- The profit margin of **25%** and corporate tax rate of **30%**.

- The average price of raw milk from farmers is **TZS 425** per litre and the average selling price of processed milk is **TZS 1,000** per litre.
- Each collection centre's capacity is **4,000** litres per day; each farmer can sell **2** litres per day, thus **2,000** farmers per collection centre.
- Each collection centre employs **3** workers.

b)Tanga Fresh/TDCU Dairy Development Projection in Tanzania

Particular	2008	2010	2012	2014	2016	2018	Total
A: Projected Corporate Tax Collected by the Government (Figures in thousands)							
a) Percent of the target		50%	60%	70%	80%	90%	
b) Processed milk per day [(a)x1,000]		500	600	700	800	900	
c) Purchase Cost per Year [(b)x425x365]		77,562,500	93,075,000	108,587,500	124,100,000	139,612,500	542,937,500
d) Sales Revenue per Year [(b)x1000x365]		182,500,000	219,000,000	255,500,000	292,000,000	328,500,000	1,277,500,000
e) Profit before Tax [(d)x25%]		45,625,000	54,750,000	63,875,000	73,000,000	82,125,000	319,375,000
f) Corporate Tax [(e)x30%]		13,687,500	16,425,000	19,162,500	21,900,000	24,637,500	95,812,500
g) Net Profit [(e) – (f)]		31,937,500	38,325,000	44,712,500	51,100,000	57,487,500	223,562,500
B: Projected Income Generation to Farmers and Poverty Reduction (Figures in thousands)							
h) # of Collection Centres [(b)÷4]		125	150	175	200	225	
i) Workers Employed [(h) x 3]		375	450	525	600	675	
j) Litres Collected per Farmer [(h)x2]		250	300	350	400	450	
k) Farmers Income per Day [(j)x425]		212,500	255,000	297,500	340,000	382,500	1,487,500
l) Average Litres per Day per Farmer*		5	5	5	5	5	
m) Average Income/Farmer/Day [(l)x425]**		2.125	2.338	2.571	2.828	3.111	7.467
n) Poverty Margin/Day/USD [(m)/1325]***		1.60	1.76	1.94	2.13	2.35	
* One farmer with dairy breed sells 5 litres per day.							
** Assuming growth of an industry and prices of 10% per each two years.							
*** Assuming a base exchange rate of 1325 TZS/USD							
C: Current Processing Capacity and Future Projections (Thousands Litres per Day)							
Seven Biggest Processors:	2008	2010	2012	2014	2016	2018	
40	40	60	96	163.2	293.76	310.08	
10	10	15	24	40.8	73.44	139.536	
5	5	7.5	12	20.4	36.72	69.768	
5	5	7.5	12	20.4	36.72	69.768	
4.5	4.5	6.75	10.8	18.36	33.048	62.791	
4	4	6	9.6	16.32	29.376	55.814	
4	4	6	9.6	16.32	29.376	55.814	
28 Small Processors (@1,000	28	42	67.2	114.24	205.632	390.701	

minimum							
Total	100.5	150.75	241.2	410.04	738.072	1,154.273	

Appendix 7: Stakeholders' Ideas

The following findings were picked from the stakeholders who attended the stakeholders' workshop that was moderated by the consultants.

1. The Tanzanian dairy sector is generally in **good shape**, despite the collapse of TDL, DAFCO, and other processors. Even though its performance figures do not look impressive compared with Kenya and Uganda, Tanzania went through socialism unlike Kenya.
2. The government should spearhead **formalisation** of the dairy sector in Tanzania, and the MLFD should be active in **commercialising** the sector. This is pertinent owing to the fact that:
 - Only 2.5 percent of the 5 million litres produced daily gets processed and only 3 percent of all produced milk filters to the processing plants.
 - Milk sold in informal channels raises serious hygiene and standard problems. For example, most milk sold in Arusha is sold in cans and bottles.
 - Enforcing consumption of processed milk is impractical as more than 97 percent of milk is unprocessed, especially in rural areas.
 - A value chain solution is needed for this problem.
 - However, using health officers in district authorities can raise awareness of the importance of consuming safe and processed milk and milk products.
 - PPP could help to accelerate the formalisation process.
3. The government needs to **restrict the imports of dairy products** through non-tariff barriers to protect its processing industries and local producers, most of whom are at the nascent stage. For example, most mtindi consumed in Arusha is imported from Kenya.
4. The government, through the MLFD, should **strengthen the TDB** through budgetary support, more staff and better infrastructure. TDB staff should be employed on a competitive and commercial basis. The Board should be given more authority to develop, promote and regulate the dairy sector in Tanzania. The MLFD has been giving more priority to the meat and Fish sub-sectors, and allocates more OC (other charges in the budget) to the meat than the dairy sector. Currently the Board has ten members, only two of whom are active (Assistant Registrar, and Technical Assistant). The good news is that the Board has currently employed 110 milk inspectors, and it is on the way to employing two extra technical staff. The Board should however do its best to visit processors, especially small ones, to understand their problems and work out solutions with them.
5. The government through the MLFD, processors, cooperative societies and farmer groups need to help and work with farmers to **keep improved breeds of dairy cattle**. Over 90 percent of the dairy cattle are indigenous known for their low genetic potential. A sure market, however, will encourage farmers to keep more quality breeds, rather than the current culture of raising cattle for prestige purposes. If farmers are organized in cooperative societies, it will be easy for them to access finance.
6. **Zero-Rate VAT is not a permanent situation**. The government implements it on a cost-benefit analysis. In doing so, the government loses billions of VAT revenue. However, the government will have a reason to retain it because of the promise of the growth of the sector in terms of increased corporate and PAYE income taxes, more jobs and greater contribution to GDP, increased multiplier effect and exports, and the ability of the sector to process up to one million litres per day as promised. However,

lobbying should continue to ensure that the rate will be maintained for the 2012-18 period, or until the sector is able to process one million litres per day.

7. The current project of **harmonising dairy sector regulations** is very important. The laws and regulations should ease the formalisation process. Currently, when businesses formalise, they are subjected to taxes, inspections, standard requirements, and more regulations than informal players. As a result, processors have hesitated to formalise. Informal players and hawkers, who form more than 97 percent of the market, should also be forced to comply with the regulations. It is encouraging that, from July 29th or 30th, milk inspection regulations will be completed, and a seminar on them will be held in August. However, stakeholders feel that hawkers should not be addressed from the regulatory angle alone, but also from the value chain perspective. They need training and education on hygiene and standards, down to municipal, rural and village level, since hawkers have a strong relationship with farmers.
8. We need to invest in **developing skills and expertise**, especially for processing value-added dairy products such as cheese, butter, ghee, cream, ice cream, etc. For example, FARAJA in Rungwe had purchased cooling tanks but were installed a year later. Various stakeholders could play their part. The government could take the initiative to train dairy experts through its institutions such as SUA, and other institutions. Processors could provide on-the-job training, and support its staff to acquire these skills. TAMPA and TDB could organize seminars and workshops on various dairy value chain subjects. In addition, investors could be invited to invest in producing packaging materials. SIDO should play an active role in developing and maintaining equipment and tools for the dairy industry. Since more than 80 percent of the cattle are indigenous and their milk has up to 3 percent butter content, we have the potential to process butter. Finally, processors should be educated in product quality, and study visits to countries like Kenya, and India need to be organized.
9. Stakeholders were concerned about the **filing of tax returns and the change in tax introduced by the government**, computing tax charges, and reclaiming tax refunds. Awareness needs to be raised, especially in rural areas, and among small-scale processors. In addition, claiming tax refunds after six months while costs are incurred immediately means processors are in deficit. They are however advised that they do not need a full-time accountant to prepare accounts and file returns. They can employ part-timers, as there are a good number of CPA accountants, who can do the job for reasonable pay. Workshops should be organized on the process of computing and filing tax returns, and TRA, through its Taxpayers' Education Department should play its role.
10. The dairy sector challenges need to be **approached holistically in the entire value chain** (milk production, collection, processing, and marketing). VAT is not the only issue that is pertinent for the growth of the dairy sector. This requires the cooperation of all dairy stakeholders. More importantly, hawkers need to be helped to form part of the value chain, by purchasing milk from farmers and selling it to the collection centres, and for those in town to collect milk from processors and sell it to consumers. Collection centres for their part should have milk screening machines to check the quality of the milk. More education is required on the distribution of milk and milk products.

11. It is a high time that the **sector is promoted and well advertised** through all channels, including the use of billboards. Processors should also invest in advertising themselves, and pack, label and brand their products attractively. Also stakeholders should share pertinent information, for example, where to inputs, equipment and other accessories. The SBCC strategy should be used as part of communication and public education on the importance of consuming milk products. Also, the government should support the school milk programme as a way of addressing malnutrition among children. TAMPA should come up with a newsletter to disseminate information to the public about the Tanzanian dairy sector.
12. Processors and other dairy investors should **register with the TIC** to access relief from tax and investment and tax refunds in order to minimize start-up and investment costs. It appears that the demand for dairy products has surpassed supply, and processing capacity utilisation is at 27 percent. Most milk-processing plants are small scale. The sector needs both local and foreign investors. Also processors can franchise with reputable local or foreign brands in order to penetrate markets. In this regard, processors need not wait for the government. TIC and TAMPA could organise a platform where processors could be educated on the incentives available at TIC such as SAGCOT and agribusiness catalytic funds. Banks and other financial institutions need to be involved in this investment process. However, to take advantage of these incentives, processors need to formalise.
13. Members requested that a forum **be found to present these research findings to key dairy stakeholders and policy makers** from the government. These include MLFD, TDB, TRA, TFDA, OSHA, TBS, TIC, banks and financial institutions, etc.
14. Finally, processors should all be VAT registered and complete the formalisation process in the dairy sector.