

# DAIRY DEVELOPMENT INSTITUTIONS IN EAST AFRICA

LESSONS LEARNED AND OPTIONS





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# Contents

<b>Acronyms</b>	<b>vi</b>
<b>Foreword</b>	<b>vii</b>
<b>Executive summary</b>	<b>viii</b>
<b>1. Introduction</b>	<b>1</b>
<b>2. Dairy policy and regulatory framework evolution in East Africa</b>	<b>3</b>
<b>2.1 The need for national dairy institutions and drivers for change</b>	<b>3</b>
A historical perspective on the pre- and post-independence era	3
Influence of structural adjustment and economic liberalization on evolution of dairy policies	5
Regulatory framework in a changing policy environment	9
<b>2.2 Evolution of national dairy institutions in a changing policy environment</b>	<b>12</b>
Dairy Development Authority (DDA) – Uganda	12
Kenya Dairy Board (KDB) complementary institutions	13
Tanzanian Dairy Board (TDB)	18
<b>3. Participatory process for reforming national dairy institutions</b>	<b>19</b>
<b>3.1 Participatory policy formulation</b>	<b>19</b>
<b>3.2 Where to start</b>	<b>20</b>
Defining what is needed and how to get there	20
Planning for stakeholder involvement and consultations	22
Consultation and dialogue	26
<b>3.3 Structure and functions of the dairy institutions</b>	<b>29</b>
Structure of TDB in Tanzania and stakeholder representation	29
Structure and functions of the Dairy Development Authority (DDA), Uganda	32
Structure and functions of KDB	34
<b>3.4 Resources needed to achieve dairy institutions' objectives, funding arrangements and options</b>	<b>34</b>
<b>3.5 The legal framework and enabling legislation</b>	<b>37</b>
<b>4. Achievements, opportunities and challenges</b>	<b>41</b>
<b>4.1 Achievements, opportunities and challenges of the East African dairy industry under economic reforms and globalization</b>	<b>41</b>
Achievements in milk production	41
Achievements in milk processing	43
Milk imports and exports	44
<b>4.2 Strength and opportunities</b>	<b>45</b>
Strengths	45
Weaknesses	46
Opportunities	46
Threats	47

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<b>4.3 Current challenges</b>	<b>47</b>
In-country challenges	47
Regional challenges	49
<b>5. Lessons learned and future prospects</b>	<b>51</b>
<b>5.1 Lessons learned</b>	<b>51</b>
Future prospects and options	52
Options for national dairy development institutions	53
<b>6. Conclusions and recommendations</b>	<b>55</b>
<b>References</b>	<b>57</b>
<b>Annexes</b>	
1. Generic template for formulating an action plan for stakeholder sensitization in a specific milkshed area	61
2. Comparative dairy industry structures	63
3a. Stakeholders and their roles in the dairy industry in Tanzania	65
3b. Stakeholders and their roles in the dairy industry in Uganda	69
4. Features of previous dairy boards in Tanzania (1961–1973), and the proposed new Tanzanian Dairy Board (TDB) (2000)	71
5. Proposed functions and structure of the TDB and the Annual Council of the Board	73
6a. Structure of the TDB	75
6b. Structure of the Ugandan Dairy Development Authority (DDA)	77
6c. Current structure of the Kenya Dairy Board (KDB)	79
6d. Organizational structure of the proposed KDB	81
7. Essential features of dairy regulations	83
8. Duties and powers of the board members, inspectors and analysts	87
9. Treatment and disposal of unfit milk or dairy products	89
10a. SWOT analysis of Tanzania’s dairy industry	91
10b. SWOT analysis of the Ugandan dairy industry (Muzira 2007)	93
10c. SWOT analysis of the KDB (Muriuki 2007)	95

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## List of tables

1. Basic economic indicators for East African Community (EAC) countries (2000)	1
2. Functions of dairy institutions in East Africa	35
3. Sources of funds for dairy institutions in East Africa	38
4. Population of milk-producing livestock in East Africa 2005–2006	41
5. Performance of milk processing sector in East Africa 2004–2006	43

## List of figures

1. Participatory institutional change cycle	19
2. Map of Tanzania showing cattle distribution and milkshed areas in the country	23
3. Map of Uganda showing different milkshed areas	25
4. Consultative process towards formulating and passing the dairy industry bill in Tanzania (1998–2004)	27
5. Institutional framework for the Tanzanian dairy industry	30
6. Milk production trend	42
7. Annual milk intake by the formal sector: 2002–2005	44
8. Milk and dairy products imports: Uganda (1999–2003 excluding milk powder)	44
9. Kenya's imports and exports in LME kg 2001–200	45

# Acronyms

CAIS	Central Artificial Insemination Station
CBO	community-based organization
CBPP	contagious bovine pleuropneumonia
CODAFA	Coastal Dairy Farmers' Association
COMESA	Common Market for Eastern and Southern Africa
DAFCO	Dairy Farming Company
DDA	Dairy Development Authority
DIIP	Dairy Industry Investment Plan
EAC	East African Community
EADRAC	East African Dairy Regulatory Authorities Council
ECAPAPA	East and Central African Programme for Agricultural Policy Analysis
EEC	European Economic Community
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
ILRI	International Livestock Research Institute
KDB	Kenya Dairy Board
KCC	Kenya Cooperative Creameries
KDPA	Kenyan Dairy Processors Association
KEBS	Kenyan Bureau of Statistics
LIDA	Livestock Development Authority
LME	liquid milk equivalent
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDGs	Millennium Development Goals
MoLFD	Ministry of Livestock and Fisheries Development
MMB	Milk Marketing Board
NDB	National Dairy Board
NFCC	National Food Control Commission
NGO	non-governmental organization
NRM	National Resistance Movement
RATES	Regional Agricultural Trade Expansion Support programme
SACAS	Savings and Credit Associations
SACCOS	Savings and Credit Cooperative Societies
SDSP	Smallholder Dairy Support Programme
SHDDP	Southern Highland Dairy Development Programme
SWOT	strengths, weaknesses, opportunities, threats
TAMPA	Tanzanian Milk Processors Association
TAMPRODA	Tanzanian Milk Producers Association
TDB	Tanzanian Dairy Board
TDCU	Tanga Dairy Cooperative Union
TDDP	Tanga Dairy Development Programme
TDL	Tanzanian Dairies Ltd.
TF	Task Force
TFDA	Tanzanian Food and Drug Agency
UNDP	United Nations Development Programme
WUDA	West Ugandan Dairy Association
WFP	World Food Programme
ZDB	Zonal Dairy Board

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# Foreword

Milk provides relatively quick returns for small-scale livestock keepers. It is a balanced, nutritious food that is important to household food security in many rural economies. Milk and dairy products play an important role in human nutrition and contribute to economic development. Smallholders produce the vast majority of milk in developing countries where by 2025, demand is expected to increase by 25 percent.

This publication is the first report on studies commissioned by FAO of three national dairy development institutions in East Africa. The evolution and diversity of dairy development institutions in Kenya, Uganda and Tanzania are reviewed, and drivers of change and improvement in national policies and strategies are identified. The composition, role, structure, shortcomings and future prospects of each national dairy institution are reviewed in order to provide readers with insights as to how to improve their performance and learn from their experiences.

The lessons learned are particularly valuable for dairy policy makers, for decision makers developing national dairy development strategies and for those planning national food security and human development programmes.

Regional trade has made significant progress in the dairy sector with harmonization of standards and increased investment in production, processing and marketing. Regional bodies such as the East African Community (EAC) and the African Union will be increasingly important in facilitating this development. These positive developments in regional cooperation will benefit millions of smallholder dairy farmers and their families as well as consumers in urban areas.

National governments and development partners can facilitate the sound development of the dairy sector by fostering the establishment of enabling policies and institutions, as a framework for ongoing private sector-led investment.

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# Executive summary

During the last 40 to 50 years, development in the dairy industry in the East African countries of Kenya, Tanzania and Uganda has been driven by changes in government socio-economic policy. In the 1960s, 1970s and early 1980s, these policies changed from private sector-led approaches to an emphasis on state-controlled enterprises. Subsequently, there has been liberalization followed by the free-market economic policies of the mid-1990s to the present. Industry development efforts have involved promotion, coordination, facilitation by governments and development partners, and direct regulation by government ministries or parastatal institutions.

The combined efforts of government and development partners over the last 30 years have resulted in the improved or cross-bred dairy herd expanding from fewer than 1 million head of improved cattle in the 1980s to about 4.5 million head by 2005, with Kenya alone accounting for more than 3.5 million. Improved animals produce about 25 percent of the estimated total 5 million tonnes of milk produced per year in the three EAC countries. The remaining 75 percent is produced by approximately 33 million head of indigenous cattle, more than 18 million of which are raised in Tanzania. Annual per capita consumption in both Tanzania and Uganda is about 40 litres, compared to 100 litres in Kenya. East Africa thus has enormous potential for dairy industry growth.

Milk is an important part of the diets of people in East Africa and makes a major contribution to national food security, income generation and rural development. Recognizing the importance and value of milk in the rural economy, Uganda, Kenya and Tanzania each set up their own national dairy development institution. Although each of these institutions has a different history and has developed through different means, they can be compared in terms of their basic functions and in what each has done to coordinate, promote and regulate the development of its country's dairy industry.

The detailed national studies from Kenya, Uganda and Tanzania, which this publication brings together for the first time, were commissioned by FAO in 2006/07. The three East African national dairy development institutions are analysed in terms of their objectives, basic functions and lessons learned, and this publication's concluding recommendations are developed from this analysis.

## **Lessons learned include the following:**

- In formulating policies as in setting up public institutions, it is important that stakeholders are widely consulted in order to generate a consensus.
- Attaining compromise among stakeholders becomes even more important when the institution is to be stakeholder financed.
- While the participatory policy-making process can be long and protracted, the resulting policies and legislation are more clearly understood and accepted by stakeholders, including government.
- Participatory policy-making processes in a liberalized economic and political environment tend to lag behind actual practice on the ground.
- Establishing a national dairy institution requires a private-public sector partnership in which government plays a role and the private sector enjoys a level playing field and an environment conducive to doing profitable business in dairy farming, processing or marketing.

## Options for national dairy development institutions

Government policy dictates the type of national institution or body to take on national dairy development. Such boards are useful and can play an important role in sustainable and remunerative dairy development. Based on the three national reviews, it was concluded that different stakeholders have varying roles to play, as outlined below.

### 1. Government/decision makers

- Organize thorough and comprehensive stakeholder consultations based on clear policy objectives in the process of developing relevant and representative dairy institutions.
- Clearly outline the respective responsibilities of dairy institutions and national food safety authorities.
- Avoid duplication of effort by providing regulatory authorities with clear operational boundaries along the dairy value chain. In Tanzania for example, it was agreed that the Tanzanian Dairy Board (TDB) would register and regulate milk production and marketing up to the factory gates while the Food and Drugs Authority would regulate milk processing and the quality of processed milk and dairy products. The TDB also plays an advisory role and provides technical support to the processing industry.
- Provide a supportive policy environment for private-sector participation and growth within the dairy industry and, where appropriate, provide support for public-private sector partnerships, such as in the provision of extension services.
- Provide room for open and genuine stakeholder participation in policy formulation and consultation on issues that affect the performance of various segments of the dairy industry.

### 2. Dairy industry groups

- Represent all dairy stakeholders including producers, processors, traders and consumers from the formal and informal sectors.
- Recognize the need for the continued role of formal and informal sectors, and seek opportunities for improved milk collection and marketing across these different sectors.
- Observe high standards for accountability and good governance (e.g. adhere to written constitutions, uphold sound financial accounting, promote accountability) in the interest of stakeholders.

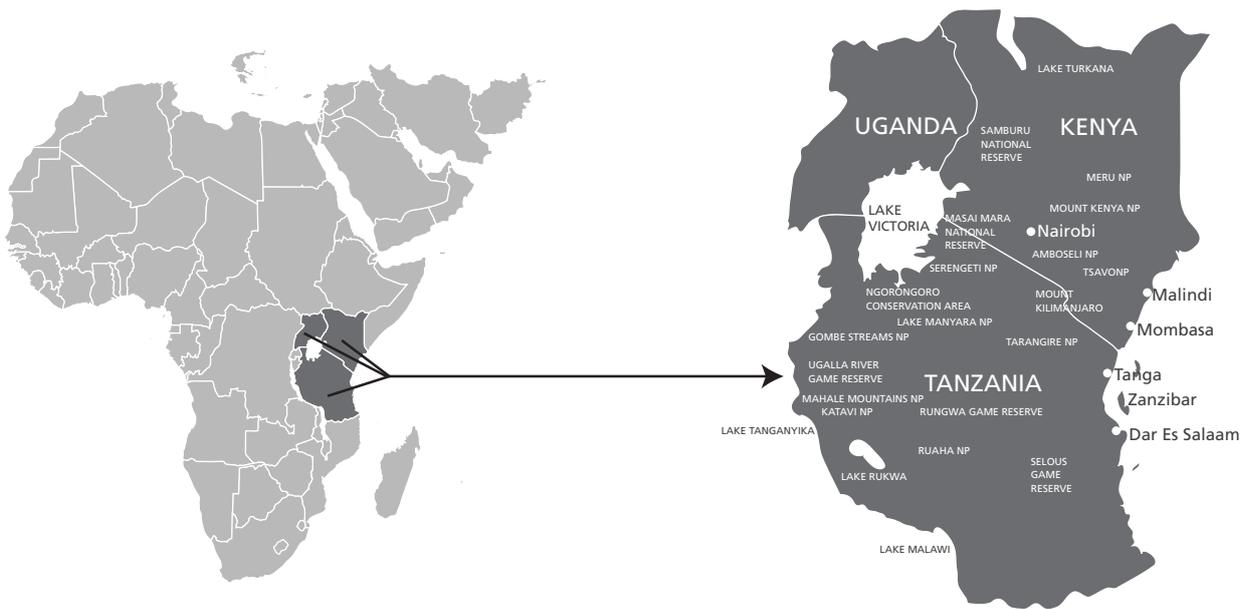
### 3. Development partners

Support the work of government and stakeholder organizations in promoting improved stakeholder involvement. Encourage and facilitate sharing of regional and international best practices in dairy institutional development. Based on the lessons learned and the roles of different stakeholders, the following options have been identified for consideration by dairy decision makers at the policy, regulatory and strategy levels in developing or improving national dairy development institutions.

- Governments need to make more time for stakeholder consultations in dairy policy formulation and for stakeholder representation in national dairy institutions. Governments also need to foster an environment conducive to private-sector participation and growth – including appropriate taxation regimes, rules and regulations – and support and strengthen grassroots stakeholder organizations.

- Stakeholder organizations need to be true agents of their members, observing good governance and accountability.
- International development partners can play a vital role in replicating best practices across national borders in the region. They can also support national and regional dairy institutions in promoting the growth of the dairy industry.

# Map of East Africa





# 1. Introduction

The three East African countries of Kenya, Tanzania and Uganda cover an area of 854 830 km<sup>2</sup> and have a combined population of 89.3 million, which is growing at an average of 2.9 percent per year. Together, they form the East African Community (EAC), an economic community re-established in November 1999 to foster integration of their economies, which have long historical ties. Although Rwanda and Burundi became members of the EAC in July 2007, only Kenya, Tanzania and Uganda are covered in this paper. Agriculture is the mainstay of the EAC economy, contributing between 45 percent and 50 percent of gross domestic product (GDP).

East Africa is endowed with considerable natural resources, including highlands whose moderate tropical climate makes them particularly suitable for dairying. Table 1 shows geographical, demographic and economic data for the three EAC countries. Their population is sufficiently large to attract investment in the infrastructure, technologies and services required to further develop the dairy industry. With good prospects for economic growth (Table 1), regional integration provides a practical way of expanding the consumer market.

To date, the dairy industry contributes three percent of Kenya's GDP, five percent of Tanzania's and eight percent of Uganda's. Milk production is estimated to be five million tonnes per year, 60 percent of which is produced in Kenya. More than 80 percent of the milk is traded informally as raw milk. Within sub-Saharan Africa, Eastern Africa has the highest concentration of traditional cattle and improved dairy cattle. Kenya, with over 2.7 million improved cattle, accounts for about 75 percent of improved dairy cattle in Eastern and Southern Africa, and about 20 percent of the estimated 17.9 million tonnes of milk produced in sub-Saharan Africa in 2003 (Muriuki and Thorpe 2001; FAOSTAT 2004). Smallholder dairying dominates in the region and Kenya is the major regional producer, processor and exporter of dairy products. The dairy industry is growing at six percent per year in Tanzania and is rapidly expanding in Uganda.

**Table 1. Basic economic indicators for East African Community (EAC) countries (2000)**

Parameter	Kenya	Tanzania	Uganda	Total/ Average
Area (km <sup>2</sup> )	569 140	883 590	197 100	1 649 830
Agricultural land (km <sup>2</sup> )	258 200 (45.4%)	399 500 (45.2%)	122 720 (62.3%)	780 420 (47.3%)
Land under pasture (km <sup>2</sup> )	213 000 (37.4%)	350 000 (39.6%)	51 120 (25.9%)	614 120 (37.2%)
Land suitable for irrigation (million ha)	0.540	29.0	0.400	29.94
Human population 2004 (million)	30.7	35.1	23.5	89.3
Human population growth rate 1990–2000 (%)	2.7	3.0	3.1	2.9
GDP (2004), US\$ million (real at 1999 prices)	9 876	6 419	7 728	24 023
GDP per capita	328	191	348	289
Average GDP growth rate 1999–2000 (%)	1.8	2.8	6.4	3.67
Average GDP per capita growth rate (%)	-0.7	0.1	3.3	0.9
Contribution of agriculture to GDP (US\$ million)	2 533	2 679	3 115	8 327
Contribution of livestock to GDP (US\$ million)	1 366	963	627	2 956
Contribution of dairy to GDP <sup>1</sup> (%)	3	1.8	7-9	

Source: <sup>1</sup>Kasirye 2003; Balikowa 2003; FAO 2003; FAO 2004.

These achievements are a result of development efforts and policy reforms undertaken in Kenya, Tanzania and Uganda in the last 30 to 40 years (as described by Kurwijila 2007, Muzira 2007 and Muriuki 2007). Evolving policy has been driven by changes in national, regional and global socio-economic and political environments, and by market reforms. In the 1960s, 1970s and early 1980s, national economic policy was built around state-controlled enterprises. Liberalization followed, and then the free-market economic policies of the mid-1990s to the present. Efforts to develop the dairy industry have involved promotion, coordination, facilitation of production and marketing. In addition, government institutions have been created to regulate and coordinate the growth of the dairy industry in order to meet specific government policy and stakeholder objectives.

The evolution in East Africa of dairy institutions and policies over the last 30 to 40 years provides valuable lessons and insights on how to create an environment conducive to exploiting the dairying potential that may exist in other parts of Africa and the developing world. This document summarizes the findings and recommendations of three case studies carried out in Tanzania, Kenya and Uganda between January and September 2007. The synthesis is in the form of a comparative description of how policies, strategies, institutional frameworks and drivers of change evolved over time. Lessons learned provide guidance on which challenges and opportunities need to be addressed in order to create institutions that can become drivers of, and participants in, positive dairy development in Africa.

The report is divided into six chapters. Chapter 1 provides an introduction to the landscape of the East African dairy industry. Chapter 2 describes the evolution of the dairy policy and regulatory framework in East Africa over the past 45 years. Chapter 3 describes the processes countries followed to form or reform their national dairy institutions over the past 10 to 25 years, while Chapter 4 looks at current achievements, opportunities and challenges for the East African dairy industry. Chapter 5 examines lessons learned and future options, and Chapter 6 outlines conclusions and recommendations for public and private stakeholders. Structural and organizational charts of dairy institutions and generic outlines of basic dairy regulations, which may be useful for other developing countries, are given in the annexes.

## 2. Dairy policy and regulatory framework evolution in East Africa

### 2.1 THE NEED FOR NATIONAL DAIRY INSTITUTIONS AND DRIVERS FOR CHANGE

#### A historical perspective on the pre- and post-independence era

Tanzania was the first of the three East African countries to gain independence in December 1961, followed by Uganda in 1962 and Kenya in 1963. Although these countries shared a common colonial past, European settler dairy farmers were more established in Kenya than in Uganda and Tanzania. Commercial dairy production was introduced into Kenya by European settlers at the beginning of the twentieth century. Introducing exotic breeds into the country, the new settlers and the government initiated various measures to develop the expanding export-oriented dairy industry. In 1903, the Veterinary Research Laboratories at Kabete and the Animal Husbandry Research Station at Naivasha were established to assist in disease control and research. Kenya Cooperative Creameries (KCC) was founded in 1925 to process and market dairy products (mainly butter, ghee and cheese). In 1946, the Central Artificial Insemination Station (CAIS) was set up to control reproductive diseases and improve the genotype of dairy cattle. In the same year, the Dairy Industry Act came into force, establishing the Kenya Dairy Board (KDB) as the regulator of the dairy industry, particularly the marketing of milk and dairy products. These initiatives were geared towards creating a favourable dairy production and marketing environment.

In contrast, in what was then Tanganyika, the colonial government started dairying in the country by establishing Temeke Dairy Farm in 1921, located at the present Central Veterinary Laboratory, five km from the centre of Dar es Salaam; Kingolwira was set up in 1949 on the outskirts of Morogoro about 200 km west of Dar es Salaam. The government assumed a regulatory role after handing over Temeke milk deliveries to the private Express Dairy. By 1952, the Dar es Salaam municipality had a system for registering dairy farms (Sumberg 1997).

After gaining independence, Tanzania and Uganda took the first steps in forming institutions to spearhead the development of their dairy industries, while Kenya promoted the participation of indigenous Kenyans in the national economy through their engagement in commercial agriculture, including smallholder dairying. Between 1961 and 1965, the dairy industry in Tanzania was governed by the 1961 Dairy Industry Ordinance No. 61 Cap. 456 of the Laws of Tanganyika. Under this law, Zonal Dairy Boards (ZDB) were established in “areas which produced sufficient amounts of milk to warrant establishment of a dairy plant” (Boki 1998). ZDBs’ functions included:

- opening and running dairy farms and milk processing plants;
- collecting, cooling and marketing milk and milk products from farmers;
- strengthening the links between farmers, milk processors and distributors;
- conducting market research and education relevant to specialized groups within the dairy industry; and
- providing essential services to dairy farmers and processors (registration, licensing, veterinary services, livestock inputs and testing and grading of milk).

The 1963 Dairy Industry Regulations provided for the licensing of all commercial dairies (Sumberg 1997). ZDBs were allowed to charge fees for registration, licensing and other services, and to appoint inspectors. Farmers (who were mainly settlers) owned between 15 percent and 40 percent of the share capital in the processing plants.

The first and second five-year development plans (1964–1969 and 1969–1974) revealed the growing gap between domestic milk production and national milk demand. This prompted the scrapping of Dairy Industry Ordinance No. 61 Cap. 456 and the ZDBs in 1968. In their place, under the 1965 Dairy Industry Act No. 32 Cap. 590 of the Laws of Tanzania, a government-controlled National Dairy Board (NDB) was established. Seven of the NDB's eleven members were representatives of the industry. The NDB was charged with:

- advising the government on all matters affecting the dairy sector;
- promoting, organizing, regulating and developing the production, processing, marketing and distribution of milk and milk products;
- establishing and running dairy farms and milk processing plants;
- registering and licensing all dairy industry players (including importers, distributors, processors and retailers);
- fixing milk prices;
- making by-laws for safeguarding the dairy sector;
- promoting market research in relation to milk and milk products; and
- improving the quality of milk and milk products.

In 1969, a market order came into force for all milk within Dar es Salaam and the surrounding districts of Kisarawe, Bagamoyo and Mzizima that was to be sold to Coastal Dairy Industries Limited, in order to regulate milk production and marketing in the area (Sumberg 1997). The period from 1965 to 1970 was marked by the nationalization of large-scale (European settler) dairy farms and processing plants. Farmers thus lost the 15 to 40 percent shares they held in the milk processing plants, and the plants lost their partnerships with farmers.

The NDB became moribund in 1973 when, upon expiry of their tenure, the Minister of Agriculture did not appoint new board members. Instead, in 1974 the Livestock Development Authority (LIDA) was formed as part of the third five-year development plan (1975–1980) to oversee two subsidiary companies – the Dairy Farming Company (DAFCO) and Tanzanian Dairies Ltd (TDL), both established in 1975. DAFCO was responsible for milk production and TDL for processing and marketing. The performance of these dairy parastatal organizations was disappointing because of poor governance, mismanagement, foreign currency shortages and the unavailability of suitable dairy cattle to increase milk production.

Formal dairy development and organized milk marketing in Uganda started with the 1967 Dairy Industry Act; the Uganda Dairy Corporation was created under this law. The post-independence period of 1962 to 1971 was characterized by rapid economic growth, and by 1971 the infrastructure and services in Uganda were among the best in Africa. However, during the next decade and a half from 1971 to 1986, most of these achievements were reversed. The country's economic infrastructure was destroyed through a combination of civil war, economic mismanagement, expulsion of the Asian community in 1971 and the break up of the EAC in 1977. Professionals fled the country, disease-control systems collapsed and Uganda's dairy industry rapidly declined.

A number of projects were initiated by development partners in the dairy sector. The FAO/United Nations Development Programme (UNDP) dairy industry development project from 1982 to 1992 successfully kick-started development in the subsector. The dairy development committee and the

World Food Programme (WFP) provided US\$26.6 million in skimmed milk powder and butter oil for recombination from 1981 to 1988. The Danida Dairy Industry Rehabilitation Programme was carried out to rehabilitate the Dairy Corporation in Kampala and the Mbarara Milk Collection Centres. Extension and farmer training was conducted for 1 200 farmers with sponsorship by Heifer International and another 200 farmers benefited from training provided by Send-A-Cow in the United Kingdom, while 145 benefited from dairy animals provided by FAO and UNDP.

During the same period in Kenya, the population of dairy cattle in large-scale farms (dominated by settlers) rapidly declined from an estimated 400 000 head as the dairy animal population in smallholdings increased. In a deliberate move to increase participation and develop the indigenous (mostly smallholder) dairy subsector, the government introduced highly subsidized production and marketing services such as artificial insemination, dipping and other veterinary disease-control services. Contract and quota systems of milk delivery to KCC, which were not favourable to smallholder dairying, were abolished.

The government developed smallholder dairying in Kenya by deliberate efforts and strategic intervention, including the provision of highly subsidized production and marketing services. The price of an artificial insemination service was reduced from Ksh40 to Ksh1 in the early 1970s. In addition, KCC was obliged to receive all good milk delivered to its factory gate, and dipping, clinical and other veterinary services were provided at very low cost. Another initiative aimed at overcoming the disadvantages of small-scale dairying was the promotion of collective action among smallholders through membership in cooperative societies. The development of the smallholder dairy in Kenya therefore owes much of its success to the deliberate interventions (albeit through different strategies) of the colonial and post-independence governments to promote dairy development. In post-independence Kenya, the government used KCC, cooperative societies and its own veterinary and livestock production departments to facilitate the growth of the smallholder dairy subsector.

The contribution of the Kenya Dairy Board (KDB) to the development of dairying, particularly in the smallholder subsector, has generated much discussion. The 1958 Dairy Industry Act, Cap. 336, which established KDB, stated that it was “An Act of Parliament to provide for the improvement and control of the dairy industry and its products.” However, until recently KDB was better known for its policing of the industry than for any development or improvement. The government has contributed to KDB’s poor performance through intermittent interference (Muriuki 2007). In 1972, the Minister in charge of livestock dissolved the KDB board, leaving the secretariat to be managed by the Ministry until 2000, when a full KDB board was reconstituted. The KDB has since improved its performance and image with support from FAO’s Technical Cooperation Programme. It now has a Technical Services Division, regional offices and has embraced the informal sector in supplying raw milk for processing.

### **Influence of structural adjustment and economic liberalization on evolution of dairy policies**

In East Africa as in most of the developing world, the mid-1980s were characterized by economic difficulties and the failure of state-run economic enterprises. East African governments were faced with budgetary constraints and pressure from donors and development partners (particularly the World Bank and IMF) to undertake structural adjustments leading to economic liberalization. Governments were encouraged to divest themselves of agricultural commitments and the private sector was expected to take over, particularly in terms of providing services and input supplies.

#### *Kenya*

In the dairy sector, major reforms in Kenya included:

- the introduction of cost sharing for veterinary drugs (1988);
- price liberalization for animal feeds, and transferring management of cattle dips to community groups (1989);
- privatization of artificial insemination services (1991);
- deregulation of milk prices and liberalization of the dairy sector (1992); and
- privatization of veterinary clinical services (1994).

Between 1986 and 1993, the government deregulated the prices of inputs for dairy production including artificial insemination, dipping, clinical and veterinary services, and all pricing of milk and dairy products. The deregulation of prices was considered to be the beginning of industry liberalization. New market participants, including processors and informal milk traders, rapidly entered the dairy market.

In order to keep pace with new developments in the dairy industry under a liberalized market, the Kenyan Government published its first comprehensive dairy policy in 1993. Its main objective was to provide the roadmap for a liberalized industry. Under the theme “A strategy towards the development of a self-sustaining dairy sector”, specific objectives included:

- phasing out government interventions;
- maintaining self-sufficiency in milk and dairy products;
- allowing for smooth transition from government interventionism to a free market; and
- creating a conducive environment for milk production and marketing.

The new policy focused on restructuring, reforming and revitalizing traditional dairy institutions such as KCC and KDB, and assumed they would continue to be major players in a liberalized dairy industry.

The policy objectives contained in the 1993 document had been attained by 2005; however, KCC – which was to be revitalized – was heading towards collapse and KDB was ineffective in the new and dynamic dairy industry. The government revisited the policies developed in 1993 and initiated a review and revision of the 1993 policy as well as the Dairy Industry Act in order to bring them in line with the liberalized environment.

The process of reviewing and revising dairy and other agricultural policies has been ongoing for some time. Revision of the Dairy Industry Act began in 1996. While it has been technically completed and revised many times since, it is yet to be enacted because of a complex approval process. Stakeholders have reviewed the Act, but the process will not be complete until the government, Cabinet, Attorney General, and Parliament, approve it. Although the main challenge to agricultural development is an unfavourable policy environment and despite the failure to complete the policy review and revision, Kenyan dairy policy is generally liberal. With more conducive macroeconomic policies since 2003, the industry has grown by over 25 percent per year from 144 million litres in 2002 to 360 million litres in 2006 (Muriuki 2007).

In line with the Millennium Development Goals (MDGs), the draft dairy policy (Sessional Paper 2006) has the goal of improving the livelihoods of dairy farmers. The policy aims at improving the standard of living in Kenya by ensuring food security, higher incomes and greater productivity. Its objectives include:

- improving the productivity and competitiveness of Kenya’s dairy industry and its products;
- contributing to the livelihoods of milk-producing households;
- increasing domestic consumption of milk and milk products;
- contributing to national food and nutrition security;

- transforming the dairy industry into a net exporter of dairy animals and their products;
- maximizing dairy exports in regional and global markets; and
- reorienting milk processing towards long-life dairy products.

### *Uganda*

In Uganda, the National Resistance Movement (NRM) Government adopted the Economic Recovery Programme (ERP) in 1987, bringing in economic reforms that motivated farmers and manufacturers to increase production. Liberalization and exchange-rate adjustments were the main features of these reforms. Liberalization included abolishing the monopoly of state-owned parastatal entities in domestic trade and export, and removing government price controls. Following market liberalization, termination of parastatal monopolies and introduction of free-market competition, the Ugandan Government adopted a new policy to reduce its direct participation in commercial activities. The 1986 National Rehabilitation and Development Plan aimed at regaining self-sufficiency in milk and milk products, with a focus on restoring production on dairy farms, improving milk collection and marketing, strengthening extension services, encouraging private-sector participation in dairy development and allowing an informal milk-marketing system to develop alongside the formal system.

In September 1989, the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) issued a document entitled, “Livestock and fisheries policy and development programmes towards the year 2000”. Its overall aim was “to increase productivity of the livestock resource on a sustainable yield basis within the framework of sound environmental limits”. The general strategy was to provide incentives and remove bottlenecks by controlling animal diseases, promoting incentive pricing, developing infrastructure and marketing channels, preserving natural resources and developing productive capacity.

Following a March 1991 Cabinet decision, which initiated the 1993 Dairy Sector Development Policy, the role of government in the dairy sector was gradually reduced. The policy required government to withdraw from direct participation in milk production, commercial processing and trade by divesting itself of the Dairy Corporation and concentrate its scarce resources on developing an enabling environment for private-sector growth. The government was required to become a facilitator, providing support services and promoting free-market competition within the dairy industry; the government stopped engaging in price controls.

Beyond the Ministry of Agriculture, there were other policies influencing developments in the dairy sector. These included the Public Expenditure and Tax Revenue Reforms, which were aimed at increasing government revenue to finance rehabilitation investments and improvement in services. The reforms also aimed to phase out unproductive activities and increase recurrent budget allocation for health, education and agriculture. The Public Enterprises Reforms and Divesture Act was adopted to reduce direct government participation in commercial activities and to divest its interests. The strategy to reform all public enterprises included clustering enterprises as follows:

- Class 1: to be 100 percent government owned
- Class 2: government to retain majority share
- Class 3: government to retain minority share
- Class 4: to be fully privatized
- Class 5: to be prepared for liquidation and sale of assets

The Dairy Corporation was originally placed in Class 2, but the government could accept a minority share if serious investors were identified. The establishment of the investment code and the Uganda Investment Authority provided attractive conditions for attracting investors to agriculture. Economic fundamentals

were restored, the exiled business community was invited back and state commercial misadventures were corrected through privatization.

Although the economic policy reforms were made in 1993, the 1967 Dairy Industry Act was only repealed in 1998. The new Dairy Industry Act of 1998 provided for the establishment of the Dairy Development Authority (DDA) in 2000. In the meantime, dairy development policy was being promoted by non-governmental development agencies and faith-based organizations in some parts of the country, while the regulatory function had practically disappeared.

The policy change between 1993 and 1998 left a gap in regulation and coordination of dairy development activities, and the new dairy authority came only in 2000. This proved fertile ground for informal milk traders, including those involved in milk collection, transportation and in the unregulated urban milk markets. Some processors also entered into competition with the intention of challenging the informal players; the demise of milk processors in the first decade of liberalization was high. Out of ten processing companies established, five collapsed: Ra-milk Ltd., Western Highlands Creameries Ltd., Dairy Bell, Country Taste Ltd. and Sunshine Dairies Ltd. Most cited unfair competition (in the form of informal milk marketing) as the main cause of their collapse. Overcapacity in planning and facilities could also have been a contributing factor.

The delay in establishing a regulator favoured the informal traders and was clearly a disadvantage for the processing sector. In order to maintain commercial viability, two processors diversified into bulk milk vending, processing and dispensing pasteurized milk in bulk coolers in some areas of Kampala, the main market. This innovation was criticized by many experts as it did not prevent recontamination and adulteration of milk.

After considering the dairy master plan recommendations on setting up a government-owned statutory body under the 1998 Dairy Industry Act, the DDA was formed under MAAIF coordinate the development of the Ugandan dairy industry. The Government of Denmark had agreed to support the dairy development master plan in 1993.

These achievements helped to restore investor and donor confidence, and established Uganda as a country of relative stability in the region. The many positive developments since 1991 have been rewarded with a significant revival of domestic and foreign investment in the subsector. The government instituted an investment policy to ensure that this revival was sustained and that Uganda realized its potential to attract more direct foreign investment. Similar measures were also undertaken in Tanzania with the creation of the Tanzania Investment Centre and a host of other incentives to attract direct foreign investment.

### *Tanzania*

In Tanzania, the government changed its socialist policies and adopted economic liberalization policies in 1985, whereby it started to divest its direct involvement in most agricultural production and marketing activities. Milk prices were deregulated in 1988 and by the mid-1990s, privatization of all milk-processing plants and some dairy farms was underway. This policy paradigm shift left a vacuum in the coordination and regulation of the dairy industry.

In light of these policies and strategies, smallholder dairying has become the bedrock of the dairy industry in Tanzania and Uganda as well as Kenya, where over 70 percent of the 3.5 million head of dairy cattle are raised by smallholders who contribute over 80 percent of marketed milk (Muriuki 2007). National ministries have disengaged from direct production and marketing, and retain only regulatory functions pertaining to protection of animal and human health, and quality of milk and dairy products. Dairy farmers have been encouraged to form cooperatives for marketing milk and milk products. While

extension services were to be provided on a cost-recovery basis in all three countries, this form of support remains tenuous to date, and there have been varying levels of success in collecting milk ‘cess’<sup>1</sup> to finance dairy development – with KDB ahead of the pack.

### **Regulatory framework in a changing policy environment**

In Uganda, the dairy industry’s current legal framework is based on the 1998 Dairy Industry Act, the 1962 Public Health Act and the 1991 Cooperative Society Statute. The first form of regulation ever to deal with milk-related matters was enshrined in the 1962 Public Health Act under the Ministry of Health. Milk is identified as a potential vehicle of diseases, and this law requires that only licensed persons handle milk and that no animals for milking be kept in urban areas. The Public Health Act also prescribes the technical regulations for premises and vessels for carrying milk. Although the 1962 Act contains quality assurance provisions for ensuring hygienic standards in marketed milk, its enforcement is very weak, jeopardizing consumers’ health.

Organized dairy development and marketing was formalized through the 1967 Dairy Industry Act. Under the mandate of the Dairy Corporation, the government became involved in production, collection and processing. The government started stock farms for milk production and breeding dairy animals, provided training and installed farm coolers and milk-cooling centres. Under the Act, the government was granted power to control and regulate the dairy sector, but private producers, processors and traders enjoyed only limited legal protection.

The roles of the DC were primarily developmental and regulatory, and included:

- advising government on all matters affecting the dairy industry;
- coordinating the efforts of producers, cooperatives, distributors and manufacturers;
- promoting, organizing, regulating, controlling and developing the production, marketing, processing, supply and distribution of milk and milk products;
- manufacturing, buying or selling any equipment required in the dairy industry; and
- promoting and developing market research in relation to milk and milk products.

While the Dairy Corporation was intended to operate as a profit-making entity, it was not required to operate on commercial principles. Section 9 of the 1967 Dairy Industry Act provided that funds of “the Corporation shall consist of grants from the Government charged upon consolidated fund”.

The 1991 Cooperative Societies Statute provides for the need to develop sustainable and independent farmers’ cooperatives, including:

- registration of societies and members;
- rights and liabilities of members (qualification for membership);
- duties of the registered societies;
- duties of the boards and privileges of registered societies;
- supervision and inspection of affairs;
- dissolution of a registered society;
- surcharge and attachment; and
- settlement of disputes.

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<sup>1</sup> Cess refers to a small tax or fee normally paid per litre of product.

In the exercise of powers conferred upon the Minister by section 78 of the 1991 Cooperative Societies Statute, provisions for registration, application for registration and refusal to register a society were made on 3 November 1992. The by-laws allow for suspension and removal of members of the committee, and officers of the society, and the powers and duties of the committee and officers of the society.

Uganda's 1998 Dairy Industry Act was oriented towards development with an emphasis on public-private involvement. The Act marked a significant change in government policy, establishing the DDA with regulatory and development functions while vesting the private sector with a commercial role. DDA falls within the portfolio of MAAIF.

In Kenya, 13 of the 100 or more pieces of legislation governing the agricultural sector concern livestock development and veterinary services. Some of these are obsolete, and only one is specific dairy legislation (Dairy Industry Act Cap. 336). However, several laws impact on dairy production and marketing. These include the Public Health Act Cap. 242, the Food, Drugs and Chemical Substance Act Cap. 254, the Pharmacy Poisons Act Cap. 244, the Standards Act Cap. 456, the Agricultural Act Cap. 318, the Animal Diseases Act Cap. 364 and the Cooperative Societies Act Cap. 490. In addition, many institutions have either been created or recognized by acts of Parliament as implementing agencies to oversee the enforcement of these and other laws. For example, the Dairy Industry Act (Cap. 336) established KDB.

Although the policy environment has in practice evolved in the last 15 years towards fewer government interventions in the market, some aspects of regulation have lagged behind. Enforcement is hindered by the inconsistency of regulations and lack of capacity in enforcing agencies. The weaknesses of the current agricultural policies and legislation, including dairy legislation, arise from their having been formulated during the colonial era when commercial agriculture was exclusively the domain of large-scale settler farmers. The legislation discriminated against indigenous agricultural production systems and did not envisage the participation of indigenous smallholder producers in market-oriented farming.

Efforts have been made to revise these policies since 1996. One suggestion has been to repeal the current Dairy Industry Act and replace it with a revised version. However, the draft bill of the revised Act reveals has only managed to increase KDB's regulation activities rather than facilitate liberalization or free-market policy. The Dairy Industry Act is in addition to and not a derogation from other pieces of legislation such as the Public Health Act, the Agriculture Act, the Food, Drugs and Chemical Substances Act, the Standards Act and the Animal Disease Act, particularly if there is any conflict in the interpretation of any of its provisions.

In Tanzania, government played a major role in steering dairy development by its direct involvement in production, processing and marketing, and through its policies, laws and regulations. During the colonial period, there were only a few large-scale farms. After independence, most large dairy farms were nationalized and operated by parastatal entities in line with the socialism (*ujamaa*) and self-reliance policies of that time. The policy goal was to increase milk production in order to cope with the demands of the rapidly increasing urban population and to reduce dependency on milk and milk-product imports.

For a long time, livestock policies put forward by the government aimed at supplying milk to urban centres – especially Dar es Salaam – as cheaply as possible (Sumberg 1997). The most definitive policy on livestock development since independence was formulated in 1983 (MLD 1983). However, a number of development efforts and strategies to increase domestic milk production were undertaken prior to that time. Between 1961 and 1965, the Tanzanian dairy industry was governed by the 1961 Dairy Industry Ordinance No. 61 Cap. 456 of the Laws of Tanganyika. Under this law, Zonal Dairy Boards (ZDB) were established in “areas which produced sufficient amounts of milk to warrant establishment of a dairy plant” (Boki, 1998). The functions of ZDBs included:

- opening and running dairy farms and milk-processing plants;
- collecting, cooling and marketing milk and milk products from farmers;
- strengthening the links between farmers, milk processors and distributors;
- conducting market research and education relevant to specialized groups within the dairy industry; and
- providing essential services to dairy farmers and processors (registration, licensing, veterinary services, livestock inputs and testing and grading of milk).

ZDBs were allowed to charge fees for registration, licensing and other services, and appoint inspectors. Farmers – mostly settlers – owned between 15 percent and 40 percent of the share capital in the processing plants.

The first and second five-year development plans (1964–1969 and 1969–1974) revealed the growing gap between domestic milk production and national milk demand. This prompted the scrapping of the Dairy Industry Ordinance No. 61 Cap. 456 and the ZDBs. In their place, the government-controlled NDB was established in 1965 under Dairy Industry Act No. 32 Cap. 590 of the Laws of Tanzania. The NDB was charged with:

- advising the government on all matters affecting the dairy sector;
- promoting, organizing, regulating and developing the production, processing, marketing and distribution of milk and milk products;
- establishing and running dairy farms and milk processing plants;
- registering and licensing all dairy industry players (including importers, distributors, processors and retailers);
- fixing milk prices;
- making by-laws for safeguarding the dairy sector;
- promoting market research in relation to milk and milk products; and
- improving the quality of milk and milk products.

The period from 1965 to 1970 was marked by the nationalization of large-scale dairy farms and processing plants. Farmers thus lost the 15 to 40 percent shares they held in the milk-processing plants and the plants lost their partnerships with farmers. The NDB was dissolved in 1973 when the Minister of Agriculture did not appoint new board members upon expiry of their tenures. Instead, as part of the third five-year Development Plan (1975–1980), the Livestock Development Authority (LIDA) was formed in 1974 to oversee the functioning of two subsidiary companies established in 1975: DAFCO, which was responsible for milk production and processing; and TDL, which was responsible for marketing. The performance of these dairy parastatal entities was disappointing owing to management problems, foreign currency shortages and the unavailability of suitable dairy cattle to increase milk production.

In 1985, the government changed its socialist policies and liberalized its economy; during this transition, it started to divest itself of direct involvement in most production and agricultural marketing activities. Milk prices were liberalized in 1988 and by the mid-1990s, privatization of all milk-processing plants and some dairy farms was underway. This policy change left a vacuum in the coordination and regulation of the dairy industry.

Dairy development policy from the early 1980s promoted smallholder dairy development. By the mid-1990s, significant milkshed areas had emerged in the Arusha/Kilimanjaro highlands, the lake zone (Kagera, Mwanza, Mara), the southern highland regions of Iringa and Mbeya, the coastal regions of Tanga and around Dar es Salaam. By this time, few medium- or large-scale commercial dairy farmers

remained. But despite the liberalization and privatization that had taken place, by 1998 it became clear to stakeholders that the industry was experiencing unprecedented problems in milk production, marketing and processing. Milk collection infrastructure was minimal and, contrary to government policy and regulations, marketing of raw milk dominated in urban centres, even where milk-processing plants existed. Farmers were experiencing problems disposing of surplus milk during the flush season, while processors scrambled for scarce milk during the dry season when demand is higher. During the 1998 dairy development conference, stakeholders expressed the need for a new regulatory body to guide development of the industry.

## **2.2 EVOLUTION OF NATIONAL DAIRY INSTITUTIONS IN A CHANGING POLICY ENVIRONMENT**

### **Dairy Development Authority (DDA) – Uganda**

The Dairy Industry Act of May 1967 granted power to the Dairy Corporation to control and regulate the dairy sector but gave only limited legal protection to producers, processors and traders. Liberalization policies and the subsequent privatization of the Dairy Corporation resulted in the need for an independent institution to guide development and regulate the dairy industry. To this end, the 1998 Dairy Industry Act provided for the formation of the DDA.

The new act reflected the reformed organizational and policy framework for the dairy sector, and mandated the DDA to:

- formulate and review dairy policy;
- provide guidance to the Executive Director and staff;
- approve the appointment of technical and professional staff on the advice of the Executive Director;
- monitor and evaluate the performance of the organization against budgets and plans;
- establish and approve rules and procedures for the appointment, discipline, termination and other terms and conditions of staff service; and
- perform any other duties assigned to the Board by the Act.

The DDA's principal objective is to facilitate the promotion and control of the production, processing and marketing of milk and dairy products, and to spearhead the dairy industry's overall development. In this endeavour, the DDA is responsible for coordinating and implementing all government policies designed to achieve Uganda's self-sufficiency in milk and dairy products. A number of issues drove the policy and institutional changes that led to the DDA's creation. Apart from the changes in macroeconomic policies of the mid-1980s, significant issues included public health concerns regarding the dairy industry's practices, the need to adapt to technological changes and a changing regional economic landscape characterized by economic integration and harmonization of standards.

The DDA is governed by a board of directors consisting of a Chair and ten other members representing various stakeholders in the dairy industry. They include:

- the Chair of the board of directors – appointed by the Minister;
- three members from dairy cooperatives, associations and cattle keepers' groups;
- one medium- or large-scale dairy farmer;
- one member from the Ministry responsible for planning and economic development;
- one representative of MAAIF;

- one member from the Ugandan Veterinary Association;
- one dairy trader;
- one member from a dairy processing company; and
- the Executive Director of the DDA who, according to Section 11 of the Act, is appointed by the board.

### *Public health concerns*

Consumer safety was a major driver in establishing a national dairy institution charged with establishing regulations to ensure public and environmental health, and curb dishonest trading. Heat treatment is still the main means of preventing the transfer of zoonotic diseases and assuring milk safety for consumers. Improvements in milk-testing methods and technologies have improved quality. For example, a cryoscope measuring device is being used to enforce a regulation that outlaws adding water to milk, helping to curb the practice of adulteration.

### *Need for technological innovation*

The need to innovate and use approved systems for milk handling and processing has become an important driver of change in the dairy industry. Technological upgrading, in the form of introducing new machinery and improving technological capabilities, provides the industry with a means to be successful in competition. In the process of introducing better technologies, new lower-cost methods have become available, allowing the dairy industry to increase productivity, quality and food safety.

However, modern technology requires substantial financial input that is not accessible to small-scale operators. In the absence of a regulator in Uganda to promote technology, the use of improved methods for adding value in milk handling, processing, marketing and production was limited or resisted entirely. For the government, creating a dairy institution to advise on technology choices for the industry became an urgent matter.

### *Harmonization of regional dairy policies and standards*

The East African Community (EAC) began its revival in 1993, which stimulated many activities including the establishment of the East African Customs Union. The Customs Union works on free market principles – with harmonized policies and standards, and no tariffs – to facilitate trade among member countries. The EAC Heads of State have signed an agreement that requires all goods traded within the region to have harmonized standards. All three national standards bureaus are represented on a technical committee for standards at EAC headquarters in Arusha. The national dairy authorities participate directly on the committee by invitation and through their representation on the national standards bureaus. Regional trade challenges are discussed in section 4.1.

### **Kenya Dairy Board (KDB) complementary institutions**

Of the many public and private institutions relevant to the Kenyan dairy industry, only a few have any bearing on dairy regulations. The list includes the Department of Livestock Production and the Department of Veterinary Services (departments of the Ministry of Livestock and Fisheries Development [MoLFD]), KDB, the Kenyan Bureau of Standards (KEBS), the Kenyan Police, the Weights and Measures

Section of the Ministry of Trade, the Public Health Division of the Ministry of Health, the Veterinary Vaccine Production Centre of the Kenyan Agricultural Research Institute, dairy processors and milk traders, dairy input suppliers and dairy farmers organizations.

The most important institutions for dairy industry regulation are the two departments of MoLFD, KDB, KEBS, the Public Health Division of the Ministry of Health, the Weights and Measures Section of the Ministry of Trade, the Kenyan Police and local government councils. Of these, KDB, KEBS and the Public Health Division are central to the regulatory framework of the dairy industry.

KEBS formulates, revises and implements dairy standards for products, equipment and handling in collaboration with other bodies, particularly KDB. The Department of Livestock Production is responsible for formulating and overseeing dairy industry policy and its legal framework. Backed by legislation such as the Animal Diseases Act and the Cattle Cleansing Act, the Department of Veterinary Services is responsible for the control of livestock diseases, disease vectors and pests. The Public Health Division of the Ministry of Health enforces the Public Health Act (Cap. 242) and the Food, Drugs and Chemical Substances Act (Cap. 254) regulating the handling of food and other substances intended for human consumption. The Weights and Measures Section of the Ministry of Trade prescribes and calibrates the officially recognized weights and measures for various goods, commodities and products.

### *Reforming KDB*

Since the late 1950s, KDB has been a category-E state corporation, which means that it is only partially funded by the state and has to raise its own funds for a defined percentage of its mandated activities. It was established by the Dairy Industry Act (Cap. 336) and came into operation on 19 August 1958. The Act states in section 4(1) that, "There is hereby established a Board to be known as the Kenyan Dairy Board, which shall be a body corporate with perpetual succession and a common seal, with power to sue and be sued and to purchase, hold, manage and dispose of land and other property, and to enter into such contracts as it may consider necessary or expedient." There are 12 board members appointed by the Minister.

Under Cap. 336, KDB's functions are to:

- organize, regulate and develop the efficient production, marketing, distribution and supply of dairy produce required by different classes of consumers;
- improve the quality of dairy produce;
- secure reasonable and stable prices for dairy producers;
- promote market research in relation to dairy produce;
- permit the greatest degree of private enterprise in the production, processing and sale of dairy produce, consistent with the efficiency of the producer and the interests of other producers and consumers; and
- ensure the adoption of measures and practices designed to promote greater efficiency in the dairy industry.

Although KDB's functions indicate a very liberal legal environment, it is better known for its regulatory activities. The Minister responsible for livestock development is empowered by the Act to establish regulations, on KDB's advice, for carrying out the Act's purpose and provisions. These wide-ranging powers conferred upon the Minister to regulate the activities of the dairy industry have been the source of many of the industry's problems.

KDB's functions, as spelled out in Cap. 336, have not been repealed or amended, but there have been attempts to redefine KDB's functions and roles in order to fit with changes that have occurred.<sup>2</sup> In its corporate strategic plan (2005–2009), the stated mandate of KDB has been “to efficiently and in a sustainable way, develop, promote and regulate the dairy industry in Kenya”. These objectives have been categorized into five areas:

### **1. Development and regulatory objectives**

- Promote quality standards in the production, handling and distribution of dairy produce as per the Dairy Industry Code of Practice. In addition, promote the adoption of internationally recognized quality certifications and accreditations such as HACCP and ISO.
- Provide efficient and fair regulatory services that will create a conducive environment for a prosperous dairy industry.
- Encourage and support links between organizations with the potential to impact positively on the industry.
- Collect, analyse and disseminate reliable and timely information to meet the needs of stakeholders in the dairy industry.

### **2. Marketing objectives**

- Promote Kenyan dairy products in local and export markets.
- Reposition KDB as a service-delivery organization.

### **3. Human resource development**

- Build the capacity of staff for high-quality and consistent organizational performance.
- Recruit and retain professional staff.

### **4. Corporate objectives**

- Strengthen KDB's capacity and promote corporate governance to meet stakeholders' expectations.
- Enhance corporate responsibility through transparency and accountability, in consultation with other stakeholders.

### **5. Financial objective**

- Broaden the revenue base and build KDB's financial sustainability.

Efforts to review and revise the 1993 dairy policy and the Dairy Industry Act (1984 edition) have been ongoing since 1996 (it was necessary to revise the two instruments together). The initial drafts of the two documents were approved in 1998 and were ready for presentation to the Cabinet. Since then, there have been many attempts to finalize these documents, but to date they have not been discussed by the Cabinet or Parliament; the latest ready-for-Cabinet editions are dated December 2006. Successful completion of the revision process will culminate in the repeal of the current Act and its substitution with the revised version – and a new KDB. The revised functions of KDB under the new Act will not be different from those of its predecessor, but the new Act provides more precise details of its activities.

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<sup>2</sup> Supported by FAO's Technical Cooperation Programme, under which the strategic plan was developed.

This review and revision of the dairy policy and the Act was necessary following the liberalization of the dairy industry in the late 1990s. Liberalization brought about changes in procurement, handling and marketing of milk and dairy products, including the admittance of new players into a dairy market previously controlled by KCC, a quasi-governmental milk processor. Although not expressly approved, the number of traders – better known as hawkers – of raw (unprocessed) milk increased dramatically. In addition, more than 40 new milk processors entered into the formal milk market. As a result, the old policy and legislative framework that overtly supported KCC's dominance in the milk market, to the exclusion of other potential market players, became irrelevant.

The prevailing policy and legal framework was formulated during the colonial era with the express aim of promoting and protecting the large-scale (settler) milk producers who at that time were the only formal commercial players in the industry. When reviewing, revising and reformulating dairy policy and legislation for a modern market now dominated by smallholder farmers and small traders, it was necessary to involve as many dairy industry stakeholders as possible. It was also necessary to consider prevailing national and global issues of equity, gender and environment, to factor in the roles of different stakeholders in the new policy and legislation, and to align these with practice.

For these same reasons, it was also necessary to revisit KDB. As already mentioned, KDB was a creation of the Act, and its structure is therefore related to the functions and activities elaborated in Cap. 336. Formulation of a new policy and legal framework therefore requires reformulation of the KDB's structure and functions.

### *The role of KDB in the Kenyan dairy industry*

Currently, there are many organizations involved in dairy industry development in Kenya, some of which are involved in regulation. Most of the existing institutions were not established as a result of stakeholder initiatives but by the initiative of state and development agencies. Only certain dairy industry institutions have been set up by stakeholders, such as associations of farmers, traders and processors. However these stakeholder-initiated institutions tend to be weak, and tend to segment into interest groups such as processors, traders, smallholders and large-scale dairy farmers in order to serve their members. They do not have a national outlook or mandate, and tend to be clubs of elitist groups within interest groupings (Muriuki 2007).

The main institutions covering dairy industry regulation include KDB, MoLFD, the Public Health Division of the Ministry of Health, KEBS (which sets milk standards) and to some extent the police, who are empowered as dairy inspectors. Together, these institutions implement and enforce what can be classified as food laws, including the Public Health Act, the Dairy Industry Act, the Animal Disease Act, the Cattle Cleansing Act, the Food, Drugs and Chemical Substances Act and the Standard Act. This legislation has been developed to ensure public health and safety by safeguarding food quality (particularly microbiological quality), setting standards for weights measures, and presentation, and guarding against adulteration, chemical hazards, and possible deceptions as milk moves through the production chain.

A major complaint about the dairy industry's regulatory environment is that its institutional and regulatory framework is crowded with a multiplicity of bodies holding multiple roles. Strengthening the most relevant institution, KDB, as the ultimate authority on all matters of dairy industry regulation would help to harmonize the regulatory bodies rather than relegating them to oblivion. KDB could become a one-stop institution handling all dairy-regulatory issues, on the understanding that these regulations are in addition to and not in derogation of the provisions of other public health laws. KDB should act as an advisory institute on dairy regulations, but should not replace other bodies such as the Public Health Division of the Ministry of Health, KEBS and the Weights and Measures Section of the Ministry of Trade. It should be able to give guidance and respond to dairy industry stakeholders' needs without replacing other institutions that have broader responsibilities concerning food safety and quality.

As the statutory definition of its functions indicates, KDB has both regulatory and developmental roles. Current thinking, captured in the draft policy of 2006, is that these roles need to be separated – creating two institutions from the KDB. One offshoot organization would regulate the industry through a parastatal or other government institution while the other, controlled by stakeholders, would solely undertake promotional and developmental activities. Industry-wide dairy promotion and development activities would be beneficial to many players in the industry. Since an individual, corporation or firm may not have the incentive to undertake these activities alone, it is important that a national institution such as KDB undertake such activities on behalf of the industry. National institutions for promotion, development and regulation are particularly important for a developing industry, providing guidelines, market information, a level playing field and acting as a medium to obtain public support for the industry.

Although KDB's activities are public in nature, it is not necessary to fund these activities from the public purse. Dairy industry players and beneficiaries should, through a participatory and consultative process, arrange to finance these activities themselves. At present, producers contribute 70 percent of KDB running costs through cess but have very little representation at the management level.

To summarize, a national dairy institution such as KDB is important to:

- provide industry stakeholders with a forum for collective action and self-regulation;
- benefit the industry as an engine for change driving collective and individual action;
- provide a forum for discussing industry issues, and developing solutions;
- communicate with and advise government on changes required in policy and legal frameworks;
- carry out and support market and other research;
- act as an information resource through documentation, library and electronic media, including a dairy web site;
- research, collate and distribute information on new information for the advancement of the industry; and
- introduce and lobby for necessary changes for the improved functioning of the dairy industry.

In the proposed bill, the functions for the restructured KDB include:

- promoting, planning and organizing dairy industry development, including – through cost-sharing – providing assistance for efficient production, marketing and supply of milk and milk products;
- regulating the supply of milk and milk products with regard to quality only;
- providing a level playing field for all industry stakeholders;
- permitting the greatest possible enterprise, including processing cooperatives for milk producers;
- collecting, collating and making available information on the dairy industry;
- assessing dairy industry requirements in terms of skills and technical services for the purpose of increasing industry efficiency;
- promoting market research on dairy production, product development and transfer of dairy technology;
- keeping an inventory of dairy professionals and other useful information such as dairy equipment;
- developing and providing training and other manpower development services for the dairy industry through cost-sharing;
- advising the government on dairy industry policy;
- performing social functions such as 'buyer of last resort' on behalf of the government and maintaining strategic reserves as needed on a cost-recovery basis; and

- providing an international liaison to facilitate the exchange of information, personnel and foreign dairy market intelligence.

Regulatory functions will remain the mandate of the restructured KDB only until a new institution for that purpose is established.

An added advantage of a national body for dairy stakeholders is the collective marketing of milk and dairy products. Most existing dairy boards began with the major objective of helping dairy producers to market their milk.

### **Tanzanian Dairy Board (TDB)**

In Tanzania, things have moved at a somewhat slower pace. The 1965 Dairy Industry Act No. 32 Cap. 590 has never been repealed and continues to exist on Tanzania's statute books even though the national dairy board has been moribund since 1973. Since there was no legal body to implement regulations stipulated under the 1965 Act, dairy quality control issues came under the 1978 Regulation of Food: Control of Quality Act, which established the National Food Control Commission (NFCC) with powers to license and register all food manufacturing, marketing and retailing businesses in the country.

By 1998 it had become clear to stakeholders that the industry was experiencing unprecedented problems in milk production, marketing and processing. Milk collection infrastructure was minimal and, contrary to government policy, marketing of raw milk prevailed in urban centres, even where milk-processing plants existed. Farmers were experiencing problems in disposing of surplus milk during the flush season while processors scrambled for scarce milk during the dry season, when demand for milk is usually higher.

In an environment in which the government had divested itself of the responsibility for running economic enterprises such as dairy farming, milk-processing and marketing, the industry's problems were being exacerbated by the lack of a national body to coordinate its development.

The private sector, which had been expected to become the main driver of dairy development, consisted of thousands of smallholder dairy farmers each owning several dairy animals, and traditional cattle keepers scattered in different regions of the country. Most donor-funded projects, which provided most of the required support services, were in their final phases. It was feared that if no national-level institution assumed some of the responsibilities for coordinating the various development activities of the dairy industry, gains recorded in the last 30 years of sustained smallholder dairy development would be lost in the near future.

Participants in the second dairy development conference, held in Arusha in 1998, considered a proposal from the Ministry of Livestock Development to set up a national dairy board (Boki 1998). They resolved to appoint a task force that would work towards establishing a "stakeholder-based, autonomous dairy development board." The resulting 2004 Dairy Industry Act No. 8 established the new Tanzanian Dairy Board (TDB). In the meantime, the 2002 Food and Drugs Act had come into force, under which the Tanzanian Food and Drug Agency (TFDA) was established, replacing the NFCC. The regulatory functions of the TDB and TFDA overlap somewhat, and efforts are underway to demarcate their responsibilities through appropriate regulations.

In the next chapter, the process leading to the TDB's establishment is described in detail, highlighting issues encountered in shaping the 2004 Dairy Industry Act No. 8 and the new TDB. The processes involved in the creation of the Ugandan Dairy Development Authority and the reform of KDB are also presented.

## 3. Participatory process for reforming national dairy institutions

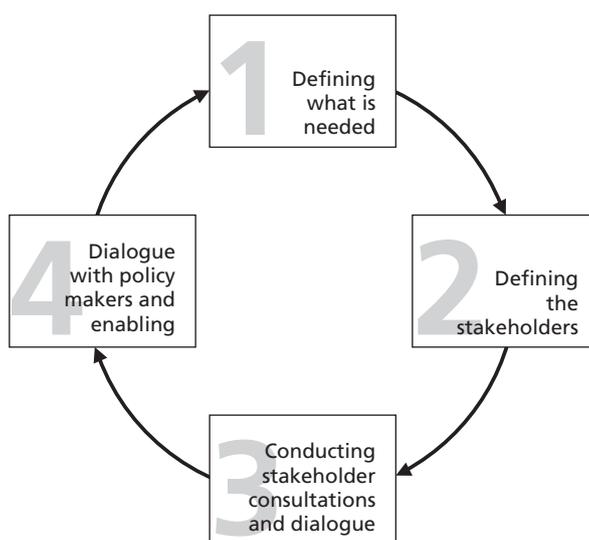
### 3.1 PARTICIPATORY POLICY FORMULATION

In formulating a national policy document – a broad mandate conferred by the country’s governing authority to create laws and regulations that achieve some desired objective – there are certain steps that generally lead to good policy. These include a participatory process, the determination of clear goals, agreement on how to set priorities and implement them, clear delineation of tasks and a monitoring mechanism for activities designed to improve services and information.

In recent years, public participation has become an accepted principle in formulating national policies, strategies and programmes in Kenya, Tanzania and Uganda. The participatory stakeholder consultation process encourages devolution of decision-making powers to where potential contributions for sustainability are greatest. Current practice contrasts with the imposed policies of the past, when policy formulation was carried out exclusively by the government, stakeholder participation was limited and the resulting policies tended to meet with resistance and therefore did not work.

While policy formulation is a traditional preserve of governments, the Ministries responsible for the livestock in each country have striven to formulate dairy policies with the assistance of industry professionals through a participatory approach. This has included frequent dialogue with stakeholders, experts, NGOs and the private sector. In order to achieve policy coherency and alignment with broader microeconomic government initiatives, and to ease the consultation process, ministries have tended to propose policy broadly in line with the prevailing socio-economic, political and market environments.

Figure 1. Participatory institutional change cycle



Wide-ranging discussions and stakeholder consultations with those at different levels of the dairy industry have yielded valuable inputs for suggested modifications to the organization, design and mandate of draft policy proposals.

### **3.2 WHERE TO START**

Forming or reforming sustainable dairy institutions in a participatory way must be in line with the prevailing national policy environment. For example, the processes involved in forming DDA and TDB were influenced by the liberalization and privatization policies of the 1990s. The first step in the process is defining what is needed, and identifying the main stakeholders with whom to conduct consultations and dialogue (Figure 1).

This dialogue was promoted by engaging national experts with dairy technology experience to represent the needs of dairy industry stakeholders. A template for formulating an action plan for stakeholder sensitization in a specific milkshed area is included as Annex 1.

#### **Defining what is needed and how to get there**

In Tanzania, the first step taken during the 1998 national conference was to state clearly what stakeholders needed in light of existing economic policy. In an environment of economic liberalization, and with the withdrawal of government from direct participation in economic activities, it was agreed that the country needed “an autonomous, democratic dairy board or platform/association, independent from government, funded and controlled by industry/stakeholders.” Conference delegates agreed to work towards this objective through a small task force (TF) representative of the various industry stakeholders, drawing on those knowledgeable and active in the dairy industry. The proposed TF was composed of representatives from:

- the ministry responsible for livestock development (Assistant Director-level, responsible for dairy industry);
- the agricultural university (senior dairy scientist);
- donor-funded dairy development programmes (technical advisor to one of the ongoing dairy development programmes);
- private milk processors (owner of dairy processing plant); and
- smallholder farmers.

Once they were nominated by the dairy conference participants, the TF members met and elected the university representative to be the Chair, and the dairy development technical advisor to be Secretary of the TF.

The first task for a team charged with establishing any national institution is to have a clear understanding of the terms of reference: What type of institution is required, and for what purpose is the institution being established? Taking as their terms of reference the conference resolution that the industry required, “an autonomous, democratic dairy board or platform/association, independent from government, funded and controlled by industry/stakeholders,” the 1998 Dairy Development Conference TF discussed the implications of this broad objective at its first meeting. Some of the ideals expressed, such as “independence from government”, were considered to conflict with some functions of regulation and coordination, while being “funded and controlled by the stakeholders” would have financial implications that only a strong dairy industry could shoulder. Nevertheless, it was considered a good starting point upon which consensus could be built.

In order to proceed with the task ahead, the TF's second step was to break down the broad objective into specific activities that could contribute towards reaching the desired outcome: These specific activities included:

- reviewing existing dairy industry laws and regulations, including policy;
- sensitizing stakeholders to the need for grassroots-based stakeholder organizations nationwide, and the need for a national dairy platform;
- working towards the establishment of an autonomous, democratic dairy platform or association that was independent from government and funded by industry stakeholders; and
- initiating a dairy master plan or Dairy Industry Investment Plan (DIIP).

The third step was to raise the financial resources required to meet the cost of these activities. The TF wrote a concept note and presented it to several development partners that were involved in promoting dairy development in the country. The Swiss Development Cooperation (SDC) agreed to support the TF by allocating the staff time of the expatriate Technical Advisor of the Southern Highlands Dairy Development Programme and by offering material support such as documentation and report preparation. The Austrian Government, through the AustroProject Association, agreed to fund the cost of all TF activities as presented in a detailed project proposal that included a logframe. Further financial and material support came from the Dutch Government during the 2002–2005 exit phase of its support to the Tanzanian dairy industry through the Smallholder Dairy Support Programme (SDSP), which had been ongoing since the mid-1980s.

The TF agreed on a consultative process to define the dairy policy and draft an industry bill involving as many stakeholders as possible. Two TF members each drafted detailed dairy industry policies that would define the future role of various stakeholders in a liberalized and private sector-led dairy industry; these two documents would form the basis of the consultative process. The other three TF members were responsible for sensitizing stakeholders to the need for grassroots-based stakeholder organizations and a national dairy platform. Two stakeholders with extensive experience in the dairy industry were assigned the task of conducting a feasibility study for a DIIP on a consultancy basis.

In Uganda, the 1998 Dairy Industry Act came into force with the aim of removing all provisions in the repealed 1967 Dairy Industry Act now considered inappropriate for the new situation. The 1967 Act had become obsolete and stood in the way of prevailing government policy and the organizational framework of the future. In 1994, MAAIF had established a TF consisting of dairy-industry stakeholders to draft the new act in line with the current policy environment in the Ugandan dairy industry.

Membership in Uganda's TF was based on nomination from the following institutions:

- MAAIF (the Permanent Secretary or his nominee was the Chair)
- Ministry of Health
- Ministry of Finance, Planning and Economic Development
- Ministry of Justice
- Cooperative member
- Dairy Corporation
- Private sector
- Dairy farmer
- Finance sector

MAAIF's representation consisted of four officers:

- Permanent Secretary or his nominee
- Animal health officer
- Animal production officer
- Economist

The TF was retained to:

- prepare an outline budget and establish working committees;
- review dairy industry acts from various countries, which shared some commonalities with Uganda – such as Kenya, India, New Zealand, and some European countries;
- draft of the new dairy industry bill;
- initiate feasibility studies for the milk powder plant;
- appoint a new general manager for the Dairy Corporation; and
- prepare a business plan outlining the roadmap to commercialization at the directive of the Minister of Agriculture.

The TF was to continue its work until the dairy board was put in place and able to take up its functions, but for a period of not more than one year.

In Kenya, review and revision of dairy policy became necessary after the dairy industry's liberalization in the late 1990s. Liberalization brought about changes in the procurement, handling and marketing of milk and dairy products, allowing new players in a dairy market that was previously dominated by KCC – a quasi-governmental milk processor. Although not expressly approved, the number of traders (otherwise known as hawkers) of raw or unprocessed milk increased dramatically. In addition, over 40 new milk processors entered the formal milk market.

### **Planning for stakeholder involvement and consultations**

A stakeholder can be defined as anyone who has a claim to the dairy industry or anyone who has something to lose if the industry fails. From this point of view, identifying a dairy industry stakeholder should follow a stakeholder analysis of the dairy industry, including those who interact in transactions involving milk and dairy products, and those who provide inputs and services along the value chain. However, since it is not practical to consult all stakeholders identified in this way, the usual recommendation is to pinpoint major stakeholders for consultation – in other words, those who have more to lose or a greater claim to the industry.

For effective consultation, it is necessary to identify those able to articulate issues, problems and required actions. Failure to identify the right stakeholders can result in poor representation and a futile consultative process. It should be noted that the stakeholder consultation process is tedious and expensive, and it is therefore critical that it is efficient to reduce unnecessary expenditures of money and time.

### *Defining the stakeholders – Tanzania*

In the past, institutions were set up by the government without consulting stakeholders. But in the light of privatization and market liberalization, it was necessary for the three East African countries to involve all relevant stakeholders in redefining the legal frameworks and institutions that would implement the new legal instruments. The Dairy Development Conference reiterated that a national institution without a grassroots base was bound to fail. Given the weak base of the Tanzanian dairy industry, sensitizing

Figure 2. Map of Tanzania showing cattle distribution and milkshed areas in the country



Source of cattle population data: National Bureau of Statistics 2003

stakeholders was considered to be very important, and most available resources were directed towards facilitating consultations with as many stakeholders as possible.

In order to meet this objective, nine milkshed areas were defined based on the extent and intensity of livestock production and dairy development activities. This was crucial to ensure that important stakeholders such as farmers, traders and processors were not left out of the process. Based on national cattle distribution, Figure 2 shows the main milkshed areas located in the central, northern, northeastern and northwestern parts of the country, and in the southern highlands of Mbeya and Iringa. The western and southern regions of the country have very few head of cattle owing to the tsetse infestation in the Miombo woodlands that dominate this ecological zone. The distribution of the milk-processing plants follows a similar pattern.

As the TF members could not cover the whole country, nine facilitators (one from each milkshed area) were identified and nominated to assist the TF in sensitizing farmers and other stakeholders to the need for grassroots organizations. These local organizations would act as the bedrock for any national institutions later formed to coordinate the dairy industry. An action-plan template (Annex 1) was developed for use by all facilitators.

Any effective regulatory instrument has to be backed by government policy. In 1998, when the decision was made to establish a dairy board, the only policy guideline available was a statement in the 1997 Agriculture and Livestock Policy (pg 121) that the “lack of institutional set up and mechanism (Dairy and Meat Boards) to oversee the development of the livestock industry including promotion, regulation and coordination of the subsector” was one of the major constraints in the livestock subsector. The policy did not further elaborate what type of boards would be established, nor did it describe the stakeholders and their roles. Following a review of dairy policies in other areas including India, Kenya, Uganda, Queensland (Australia) and Zimbabwe (Annex 2), the TF elaborated a draft dairy policy that outlined the major stakeholders and their functions (Annexes 3a and 3b).

The government did not formally adopt the draft dairy industry policy, but its findings were accepted by the TF and stakeholders as a basis for defining the structure of the national institution. It was not clear at the outset whether this would be a dairy development platform with promotional and coordination functions or a board with coordination and regulatory capacities. Since regulation is a core function of government institutions, the debates that followed would eventually define what was appropriate for Tanzania’s dairy industry.

### *Defining the stakeholders – Uganda*

In Uganda, a similar approach had been used in 1997, involving stakeholders from the outset to ensure participatory planning. A broad consensus was reached in establishing a national institution in line with the government’s prevailing policies and strategies for economic development. Stakeholder participation in the consultation process was drawn from government, donors, dairy farmers, cooperatives, the private sector and NGOs. Workshops and seminars were used as fora for discussions, and resulted in an interim report in which prospects, issues and options for the new government dairy institution were succinctly articulated.

Stakeholders from the private sector, representing farmers and traders associations, were drawn from the northern, southwestern, eastern, central and mid-west regions, and ranged from those already producing large amounts of milk to prospective producers, and from those restocking after civil wars to those in milk-deficit areas (Figure 3). Stakeholders also included representatives from professional associations, the government and milk vendors. Annexes 3a and 3b show stakeholders in Tanzania and Uganda, and their roles.

### *Defining the stakeholders – Kenya*

Dairy industry stakeholders in Kenya are many and varied. In the past, however, there has been an overemphasis on the industry’s production side – to the point that only dairy producers, especially smallholders, have been viewed as stakeholders. The process of reviewing and revising the dairy policy involved identifying the following groups as dairy industry stakeholders:

- milk producers (farmers), including their organizations;
- both formal and informal milk traders, including raw-milk traders and processed-milk distributors;
- both small- and large-scale milk processors, or those who add value to milk in other ways;
- consumers of milk and dairy products, including consumer organizations;
- the government, particularly the ministry responsible for livestock, the KDB, the Public Health Department, KEBS, institutes responsible for dairy research, public universities and institutions offering dairy-related courses, and other government ministries making contributions to the dairy industry;

- NGOs, community-based organizations (CBOs) and other civil societies contributing to the dairy industry; and
- input suppliers and service providers, including suppliers of feeds, veterinary drugs and equipment (manufacturers, distributors, wholesalers and retailers), dairy consultants, experts and service providers.

After identifying and sampling stakeholders to ensure representative consultation, the next stage of the process involves soliciting contributions from those selected. This involves distributing the initial draft to the selected stakeholders, and inviting their comments and recommendations. Interactions between the TF and stakeholders can take many forms, including distributing materials by mail, telephone conversations, workshops and other interactions, depending on the time allowed. Setting deadlines is useful to avoid indefinite consultations.

To summarize, creating a national dairy institution or board first requires an identified need, and next a TF or work team should be established to lead the process. Stakeholders must then be identified before a clearly mapped consultative process with can be carried out with them.

**Figure 3. Map of Uganda showing different milkshed areas**



Source of data: DDA Report (2002), MAAIF (1997) and MAAIF (1992)

## Consultation and dialogue

### *Re-establishment of the TDB in Tanzania (1998–2004)*

Once the dairy policy paper had been presented to the TF, discussed and endorsed at the TF's third meeting, a draft dairy industry bill was prepared by the same two-person team, with the Ministry lawyer's assistance. The draft bill embraced most of what was spelled out in the dairy policy document and built on the previous legislation (Annex 4). Consultations involved TF members and the milkshed facilitation team, as well as the facilitators and stakeholders as immediate boundary partners. The TF's boundary partners included:

- facilitators, with whom the TF was working to build capacity in facilitating groups and creating awareness; and
- the government, which needed to endorse the policy change regarding the role and structure of the new dairy board.

The process is summarized in Figure 4.

Once the draft policy and dairy bill were in place, the facilitators attended a training workshop to clarify the objectives of the policy and the intention of the bill to establish a national institution. Facilitators were then given funds to conduct stakeholder meetings in their milkshed areas and report back to the TF. They identified stakeholders through farmers' groups and other associations, as well as through private entities active in the dairy industry.

The facilitators were responsible for organizing stakeholder meetings and linking them to the national TF, as well as for financial accounting and reporting to the TF. The TF proposed issues to be discussed at facilitator-led meetings, and facilitators presented issues raised by the grassroots stakeholders to the TF.

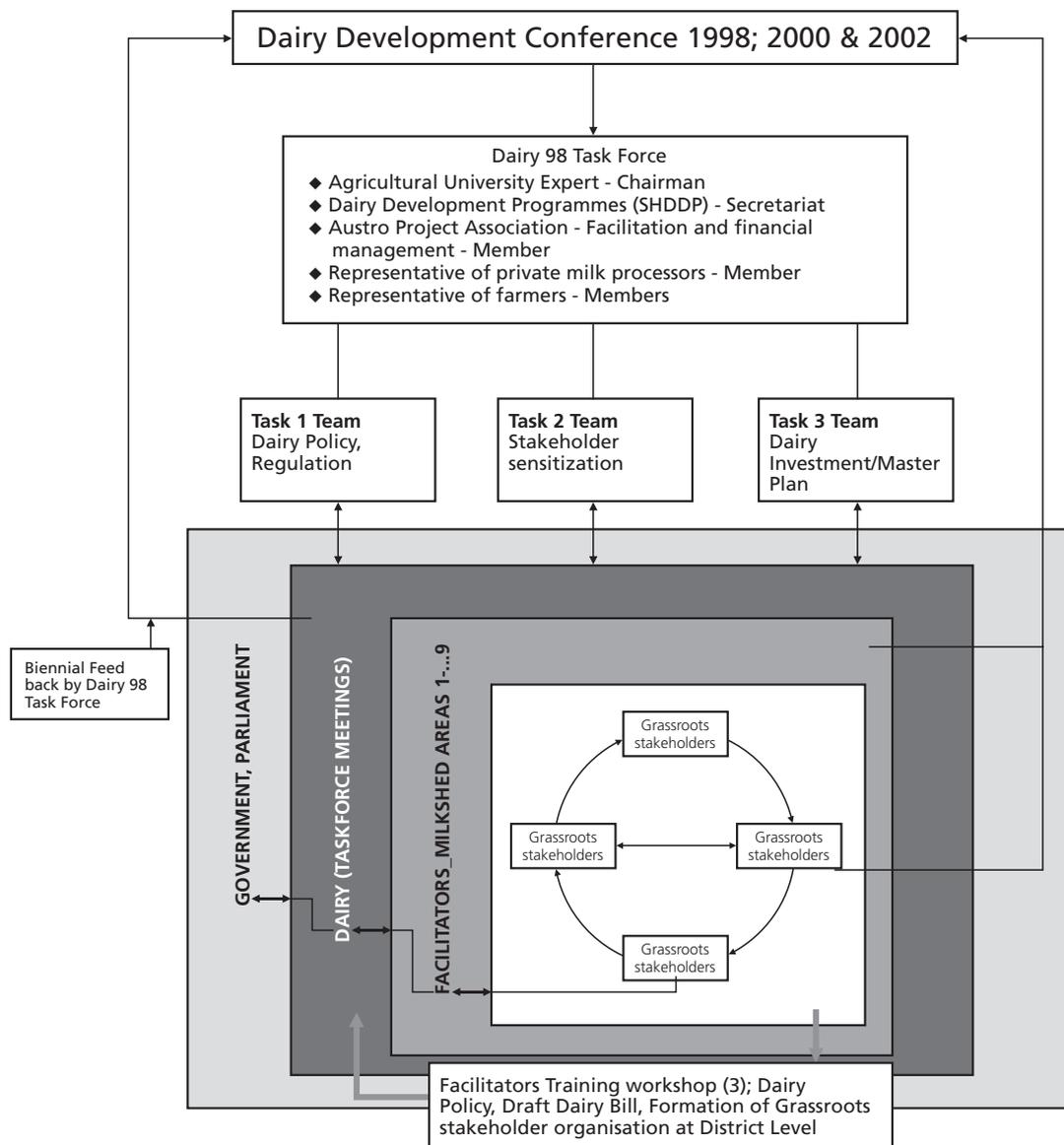
Views received from the different milkshed areas were then taken into account in making revisions to the draft bill. After two years of work, the TF presented its progress report to the third and fourth Dairy Development Conferences held in Arusha in 2000 and 2002. Such conferences bring together academics, development workers, farmers, processors and other stakeholders. Special efforts were made to ensure wider representation of farmers and processors during the 2000 and 2002 conferences, so that different stakeholders had the opportunity to provide feedback on the draft dairy bill. Fair and equitable representation on the board was one of the most contentious issues.

During the four years of its existence, the dairy TF held more than a dozen meetings and drafted six versions of the bill before version seven was approved by the fourth Dairy Development Conference in June 2006 and submitted to the Ministry of Livestock Development. An interim dairy board was set up in 2002, pending the enactment of the new industry bill. The discussions and eventual reading of the draft bill in Parliament took another two years. Finally, the government approved a much leaner structure than had been proposed by stakeholders (Annex 5). The major differences between the draft approved by stakeholders for submission to the government and what was eventually approved by Parliament are summarized in Annex 4.

### *Establishment of the DDA – Uganda (1998)*

A similar process was followed in Uganda during the DDA's establishment. In the interests of participatory planning and as a strategy to develop broad consensus, stakeholders were involved in establishing the national dairy institution in line with Uganda's prevailing economic development policies. In the process, several stakeholder consultations were held at the grassroots, regional and national levels, including

**Figure 4. Consultative process towards formulating and passing the dairy industry bill in Tanzania (1998–2004)**



professional workshops. In order to ensure representation of stakeholders' views in policy formulation and institutional design, it was necessary to categorize them in terms of their roles (see Annex 3a).

Grassroots workshops were organized using the county and district associations of existing farmers' groups in order to gauge public opinion in all parts of the country. Steps were taken to ensure participation from every segment of society to ensure that all important issues were addressed, and half of the participants were women. Workshops for locally elected government officials were organized in the central, eastern, northern, southwestern, and midwestern regions. By aggregating several neighbouring districts into regional clusters, the consultation processes collected a wide spectrum of views. In addition, a number of inter-ministerial consultations were conducted to ensure harmonization of policies. The Uganda Veterinary Association and professionals from various ministries participated.

After wide-ranging local consultations and professional workshops, the draft proposals were discussed and accepted at the national workshop, which was organized and attended by MAAIF representatives. The draft plan was modified and finalized at MAAIF, and a white paper was forwarded to the Cabinet for final approval. After examining the proposal, the Cabinet returned the draft to MAAIF with remarks before forwarding it to the Parliamentary Assembly of Uganda for consideration. The Parliament approved the Dairy Industry Act in June 1998, laying the groundwork for the formation of the DDA.

### *Reforming dairy policy and legislation in Kenya*

The situation in Kenya required a different approach as KDB was established through a 1958 act of Parliament (Cap. 336) during colonial times, and has remained in effect ever since. It was modelled on the 1930s-style Milk Marketing Boards (MMBs) of other commonwealth countries. The United Kingdom MMB had been established to improve producer incomes, coordinate milk marketing and represent dairy producers' interests in the market in order to balance that of dairy companies.

Unlike the milk-marketing arrangement in the United Kingdom however, KCC in Kenya was a pre-existing dairy producers' organization that was already marketing milk for farmers before KDB was established. So while KDB was modelled on MMBs, it lacked the marketing responsibilities and was more of a regulator (although the board of directors until recently had a bias for dairy producers).

The problem with using the MMB model was that it was based on a government response to help dairy producers: it assumed that other dairy industry market players such as processors and consumers had more market power than producers. Unfortunately, the powerful market player, KCC, was by then a farmers' body and therefore KDB could not be used to protect farmers from their own organization. The Dairy Industry Act was therefore designed to enhance KCC's powers rather than counter them. Following liberalization of the dairy industry in 1992, the need to reform the KDB became imperative.

Efforts to review and revise the 1993 dairy policy and the 1984 Dairy Industry Act have been ongoing since 1996. It was necessary to revise the two instruments together, and two documents were approved by the Ministry's policy committee and were ready for presentation to the Cabinet in 1998. Since then, there have been many attempts to finalize these documents, but to date they have not been approved by the Cabinet or Parliament (the latest ready-for-Cabinet editions are dated December 2006). Successful completion of the process will culminate in the repeal of the current Act and its substitution with the revised version, which will establish a new KDB. Since KDB is a creation of the Dairy Industry Act, its structure is therefore related to the functions mandated to it by the Act. Formulating a new policy and legal framework therefore necessitates reformulating KDB's functions and structure.

The structure of the KDB was probably suitable for its purpose at the time it was formed – to assist dairy farmers in marketing their milk in a profitable way. Milk marketing was then monopolized by KCC, a farmers' organization that later became a quasi-governmental institution to accommodate smallholder dairy producers who were not originally part of the commercial dairy farming community. Dairy industry participants have changed since KDB was established, and the purpose for which it was created may have been achieved long ago. Over time, the roles of KCC and KDB in a liberalized milk market have been debated. KCC collapsed in the late 1990s and was later revived. By 2007, it had become a parastatal entity pending its transfer to dairy producers.

Many market players have joined the industry since its liberalization. At one time, KDB had been reduced to a market-policing unit, but it has been restructured and strengthened in order to remain relevant and respond to the current needs of the industry. KDB's statutory functions remain as they were at its establishment in the 1950s, but efforts made in 2005, with support from FAO, to improve KDB's structure and functions were successful in reorienting it as a technical service provider. This included establishing

regional offices and improving services for the formal and informal dairy development sectors, including capacity development. The optimal solution would be to repeal the current law that established KDB and replace it with a new one, thus establishing a new KDB (perhaps with a new name). This still-unfinished process is detailed below.

In the 1980s, there was an indication from the dairy industry that the configuration of KDB and KCC was not ideal, and that they were not serving the industry as expected. There was a widely expressed need to review and revise these institutions. The government took the cue, allowed more players into the milk market, reconstituted KDB (within Cap. 336) to reflect changes in the industry and embarked on a review and revision of the existing dairy industry policy and legal framework. In 1996, the government selected a TF broadly representing dairy industry farmers, processors, regulators, teaching and research institutions and development partners to:

- collect, collate and assemble information relevant to understanding the dairy industry and formulating dairy policy and a legal framework;
- consult with a wide, inclusive and representative cross-section of dairy stakeholders;
- assist in reviewing, revising and drafting both policy and the legislation using the information from stakeholder consultations;
- present the draft instrument for national and international stakeholder review;
- ensure a consensus on the revised documents;
- finalize the draft documents (policy and bill) for government approval;
- present the final documents (policy and bill) to the Cabinet for approval;
- feed government comments and any other reactions back to stakeholders and ensure stakeholders' agreement on any recommended amendments to the document; and
- finalize the completed document and resubmit them to the government.

With the government's agreement, the document was to be prepared for Parliament by the Ministry and the Attorney General's Office, and published as a sessional paper on policy and enactment of the law. Once enacted as a law, the government would then set up the dairy institution accepted by dairy stakeholders and government.

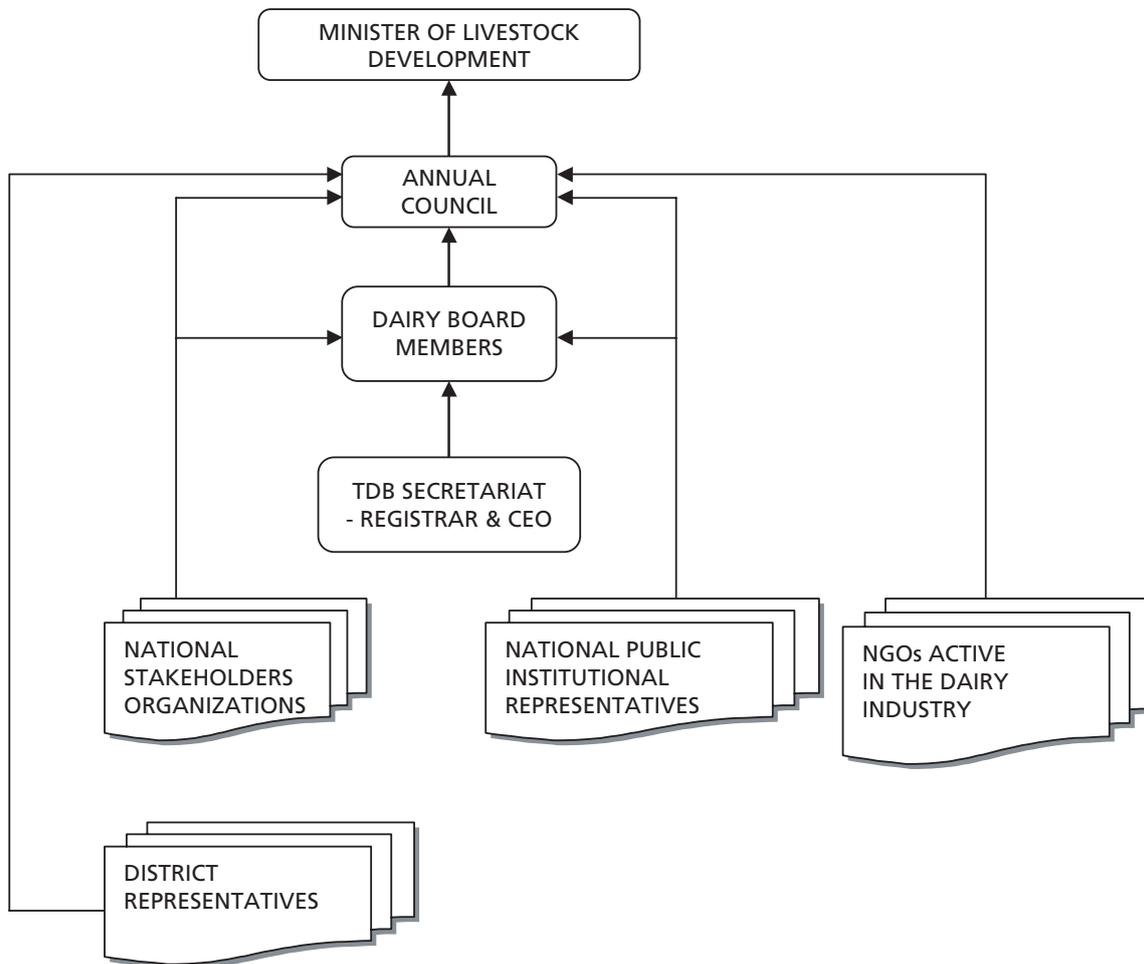
This consultative process was put in place to allow industry stakeholders to identify needs, agree on the institutions required to address their identified needs and specify the structure, functions, roles, financing and administration of the recommended institutions. The initial step was for the stakeholders to agree upon whether they needed a national dairy institution and if they did, what the institution's role, mandate and functions would be.

### **3.3 STRUCTURE AND FUNCTIONS OF THE DAIRY INSTITUTIONS**

#### **Structure of TDB in Tanzania and stakeholder representation**

In the case of TDB, the final version of the dairy industry bill reflects the compromises and consensus reached by stakeholders, the government and the Parliament. As enacted by Parliament, the 2004 Tanzanian Dairy Industry Bill No. 8 is "An Act to provide for the production, regulation and promotion of the dairy industry; establishment of the Tanzanian Dairy Industry Board and repeal of the 1965 Dairy Industry Act". Its main objective was therefore to establish an institutional framework for promoting and regulating dairy industry development in the country. The decision- and policy-making structure is shown below in Figure 5.

**Figure 5. Institutional framework for the Tanzanian dairy industry**



The functions of the Annual Council as spelled out in Section 7 of the Act are to:

- promote the development of a sustainable dairy industry in Tanzania;
- propose members of TDB for appointment by the Minister;
- receive and scrutinize reports from the Board;
- advise the Minister and TDB on issues concerning the dairy industry and matters arising from the implementation and operation of this Act; and
- carry out any other function assigned to it under the Act or as may be deemed necessary for effective implementation of the Act.

The Annual Council is the highest decision-making body of TDB and comprises more than 120 dairy industry stakeholder representatives from recognized stakeholder organizations in every district. The word ‘recognized’ was used instead of ‘registered’ as originally suggested by the TF because of the insufficient number of districts with registered district-level organizations. These organizations are recognized by local government authorities as representing the interests of the dairy industry, and may be at various stages of formal registration. According to the Act, recognized stakeholder organizations include milk producers, processors, traders, service providers and consumers.

Before reaching an agreement on the structure of the TDB, the TF studied the structures of dairy institutions in other countries, including the Indian three-tier model, as well as looked at previous Tanzanian dairy boards (Annexes 2 and 4).

To accommodate the need for a lean structure while guaranteeing democratic participation of stakeholders, a two-tier structure was adopted. The TDB is answerable to stakeholders through an Annual Council of representatives from each of the country's 120 administrative districts and representatives of national stakeholder associations formed under other legal instruments such as the Cooperative Act and the Societies Act. This structure is much smaller than what the TF had recommended: representatives of registered district-level organizations of milk producers, milk processors, milk traders and consumers, which would number nearly 480 if all districts had registered organizations of the four categories of stakeholders (see Annex 5). In the interests of autonomy, stakeholders nominate their representatives to the TDB through this Annual Council, while the final TDB appointments are made by the Minister responsible for livestock development.

Some of the most contentious issues in the consultation process concerned the procedures for appointing the Chair of the Annual Council, the board Chair, members of the board, and fair and equitable representation. Having defined who the stakeholders were and agreeing that the institution had to have both regulatory and coordination functions, it became apparent that the initial idea of an autonomous institution controlled and funded by dairy industry stakeholders was unrealistic. The major differences between versions of the bill submitted by the TF to the government (shaded column) and the final bill enacted by Parliament are presented in Annex 5.

Rather than stakeholders appointing the Chairs of the Annual Council and the TDB as was proposed in the draft bill submitted by the TF, the government sought a more direct role in appointing the Chairs of both the Council and TDB, and endorsing private-sector members elected to the TDB. Since the TDB carries out its regulatory role on behalf of the government according to the 2004 Dairy Industry Act No. 8, final appointment to the board is by the Minister, although the private-sector representative is democratically elected. In other words, TDB carries out its regulatory functions through the authority conferred to it by the Minister's appointment and relevant provisions in the legislation.

In Uganda, according to Section 8 of the 1998 Dairy Industry Act, the authority is required to have a Board of Directors consisting of a Chair and ten other members. The full Board is made up of nine members representing different stakeholder groups, including:

- the Chair, who is appointed by the Minister;
- three members from dairy cooperatives, associations or cattle keepers' groups;
- one representative of medium- and large-scale dairy farmers;
- one member from the ministry responsible for planning and economic development;
- one representative of the ministry responsible for agriculture, animal industry and fisheries;
- one representative of the Ugandan Veterinary Association;
- one representative of the dairy traders;
- one representative of the dairy-processing companies; and
- the Executive Director of the authority who, according to Section 11 of the Act, is appointed by the Board of Directors (similar to the process followed by the TDB).

### *Establishment of stakeholder organizations in Tanzania*

The Zonal Dairy Boards (ZDBs) of 1961–1965 met with a sudden end when the 1965 Dairy Industry Act, Cap. 590 created a National Dairy Board (NDB), which ignored stakeholder representation and

ownership of milk-processing plants. Tanzania's only cooperative dairy society to survive is the Serengeti Dairy Cooperative Society, Bunda in the region of Mara.

Since the start of economic liberalization in the 1990s, the need for stakeholder organizations has again been felt. Tanga Dairy Development Programme (TDDP), supported by the Dutch Government, was the first regional dairy stakeholder organization. In 1993, the Tanga Dairy Cooperative Union (TDCU) was established, bringing together nine primary dairy cooperatives. In 1995, individual farmers from Dar es Salaam and its hinterlands established the Coastal Dairy Farmers Association (CODAFA).

When the TF reported to the third national Dairy Development Conference held in Arusha in 2000, it suggested forming district and national stakeholder organizations in order to provide for proper stakeholder representation and autonomy. These stakeholder organizations would elect representatives to the board for appointment by the Minister. With support from the Smallholder Dairy Support Programme (SDSP) – part of the Dutch Government's last phase of support to the Tanzanian dairy industry – two national stakeholder institutions were established in 2003: the Tanzanian Milk Producers Association (TAMPRODA) and the Tanzania Milk Processors Association (TAMPA). Efforts were made between 2002 and 2006 to establish dairy industry stakeholder organizations at the district level, both by the SDSP in Tanga and Kagera, and by the AustroProject Association Maziwa Business Development Programme in the coastal and lake zones. Owing to the stigma attached to the cooperative movement in the country, most stakeholder organizations prefer to be registered under the Societies Law as not-for-profit organizations. Despite many efforts, only village or division-level farming organizations and cooperatives have been registered in the milkshed areas of Tanga/Kilimanjaro/Arusha, the southern highland, the coastal region, Dar es Salaam and the lake zone.

The future development of the dairy industry in Tanzania depends upon the government and organizations such as TAMPRODA and the TDB continuing their efforts to build grassroots farmers' organizations as focal points for extension services and market infrastructure development for smallholders. A strategic plan for developing livestock farmers' organizations should become part of any future comprehensive livestock development programme in the country.

### **Structure and functions of the Dairy Development Authority (DDA), Uganda**

The repeal of the outdated 1967 Dairy Industry Act and its replacement by the 1998 Dairy Industry Act demonstrated the reformed organizational and policy framework for the Ugandan dairy sector. It also gave DDA its mandate, functions, objectives and structure. The DDA regulates the Ugandan dairy industry through the authority conferred on it by the Minister's appointment of the Board Chair and other provisions in the law.

The DDA Board of Directors is the policy-making body of the Ugandan dairy industry, and consists of stakeholder representatives such as farmers, traders, processors, veterinary associations and officers from relevant ministries. Board members and the Chair are appointed by the Minister of Agriculture. The Board of Directors' functions are spelled out in Section 10 of the Act, as follows:

*“Subject to the general supervision and control by the Board, the Executive Director is the Chief Executive Officer of the Authority with responsibility for the day-to-day operation of the organization; and in particular, for the management of funds, property and business of the Authority, as well as the administration, organization and control of the other officers and staff of the Authority.”*

The DDA's objectives, as specified in the 1998 Dairy Industry Act, “are to provide proper coordination and efficient implementation of all government policies which are designed to achieve and maintain self-

sufficiency in the production of milk in Uganda by promoting production and competition in the dairy industry and monitoring the market for all milk and dairy products. The DDA is specifically charged with facilitating the dairy industry to:

1. raise incomes and living standards of small-scale farmers through increasing their returns in dairy farming;
2. achieve and maintain self-sufficiency in milk and dairy products and export the surplus;
3. increase production in an environmentally sustainable manner (productivity other than population of cattle); and
4. establish a liberal dairy market and enhance competition in processing and marketing.”

### *Establishment of stakeholder organizations in Uganda*

Since the late 1960s, successive governments saw the cooperative movement partly as an instrument to control peasants and partly as an informal mechanism through which rural surplus could be extracted for the benefit of the urban elite. The line Minister had complete authority to appoint managers and they in turn appointed their staff. Hard-earned savings were misappropriated and the movement became discredited in farmers’ eyes.

Despite this painful past, farmers in Uganda still realize the benefits of working together, particularly in marketing, as evidenced by the growth of farmers’ associations in recent years. These are informally constituted and have little or no legal recognition, although they are required to register under the 1918 Business Names Registration Act. However, some districts’ cooperatives have merged to form cooperative unions: these include Bushenyi, Mbarara, Kiruhura, Ibanda and Ntungamo, which formed the Ugandan Creameries Cooperative Union.

In order to ensure stakeholder representation, there has been a drive to register farmers’ groups at the county, district and regional levels. From these bases, democratically elected delegates can contest national leadership posts in the Ugandan Dairy Farmers Association, a national umbrella organization. Under the 1998 Dairy Industry Act, informal milk traders are also required to form an association, assisted by the Ugandan Chamber of Commerce and Industry under the Ministry of Trade, Tourism and Industry. The Ugandan National Traders Association is currently aiming to facilitate the establishment of regional and district traders’ associations. This system, although acceptable to traders at the moment, does not create competitive leadership in the national association. The Ugandan Dairy Processors’ Association, for instance, whose formation was also required under the 1998 Dairy Industry Act, is currently seen by many institutions as weak.

DDA’s structure includes a board, a Chief Executive Officer and staff in the three departments of finance and administration, regulatory services and dairy development. DDA’s five core activities are:

- providing support for increased production of milk and dairy products;
- spearheading and supporting scientific and socio-economic research;
- supervising adherence to quality standards and enforcement of regulations;
- promoting milk and dairy products, and providing support to marketing, promotion and export of dairy products; and
- collecting, analysing, storing and disseminating information.

## Structure and functions of KDB

KDB has been a category-E state corporation since the late 1950s. It was established in 1958 through the Dairy Industry Act (Cap. 336), which took effect on 19 August 1958. The Act states in Section 4(1) that: “There is hereby established a Board to be known as the Kenyan Dairy Board, which shall be a body corporate with perpetual succession and a common seal, with power to sue and be sued and to purchase, hold, manage and dispose of land and other property, and to enter into such contracts as may consider necessary or expedient”. KDB has 12 members appointed by the Minister.

Although KDB is better known more for its regulatory activities, its functions indicate a very liberal legal environment. However, the Minister responsible for livestock development has a great deal of power in providing the subsidiary regulations that KDB enforces. The Minister, theoretically on the advice of KDB (which is the Minister’s own creation), is empowered by the Act to make regulations for the purpose of carrying out the provisions of the Act. The powers conferred on the Minister to regulate the activities of the dairy industry have been the source of many of its problems.

In 1972, the Minister of Agriculture (including livestock) disbanded the KDB and left its secretariat to carry out its functions under the Animal Production Division of the Ministry of Agriculture. In the 1980s, the President appointed only the KDB Chair, without appointing the other 11 board members. The practice of appointing only a Chair continued through the 1990s, and it was not until 2000 that a full KDB was appointed once more. The current KDB’s tenure is three years, after which a new board has to be appointed.

Although the KDB’s functions as spelled out in the Cap. 336 have not been repealed or amended, there have been attempts to redefine its function and roles to fit with changes that have occurred. Its corporate strategic plans (2005–2009) state that KDB’s mandate is “to efficiently, and in a sustainable way, develop, promote and regulate the dairy industry in Kenya”. Major changes include a reorientation as a service-oriented organization with a network of regional offices staffed by technical personnel.

### *Establishment of stakeholder organizations in Kenya*

Following the liberalization of the Kenyan dairy industry that ended the monopoly of KCC, a number of private processors established new processing plants. In order to have a common voice, they established the Kenyan Dairy Processors Association (KDPA), and by 1998 the KDPA was represented on the board of the KDB.

The KDB’s structure includes a secretariat staffed by 10 to 12 employees, which can be expanded as the need arises. The functions of these dairy boards, as elaborated in the legislation, are similar in the three countries (Table 2). The corporate structures of the three institutions are shown in Annexes 6a to 6c.

## **3.4 RESOURCES NEEDED TO ACHIEVE DAIRY INSTITUTIONS’ OBJECTIVES, FUNDING ARRANGEMENTS AND OPTIONS**

In order for any dairy institution to carry out its functions properly, it must have adequate human and financial resources. In Tanzania, for instance, stakeholders wanted an institution that was autonomous, and funded and controlled by stakeholders. At first, their definition of stakeholders excluded government. This meant that TDB had to be independent of government; however, it became apparent that the government was a major stakeholder since it had an enormous stake in the industry with respect to government policies on food self-sufficiency, poverty reduction, and not least, government revenue.

**Table 2. Functions of dairy institutions in East Africa**

Tanzanian Dairy Board (TDB)	Dairy Development Authority (DDA) – Uganda	Kenyan Dairy Board (KDB) – current	Kenyan Dairy Board (KDB) – proposed
a) To advise the Minister responsible for livestock on matters concerning dairy development policies and strategies for promoting and developing the dairy industry	a) To provide support for increased production and improved quality of milk and dairy products	a) To organise, regulate and develop the efficient production, marketing, distribution and supply of dairy produce required by different classes of consumers	a) To promote, plan and organize development of the dairy industry, including provision of assistance through cost sharing, for efficient production, marketing and supply of milk and milk products
b) To perform regulatory activities in the dairy industry	b) To sponsor and encourage planned and focused research programmes and projects in the dairy industry	b) To improve the quality of dairy produce	b) To regulate the supply of milk and milk products with regard to quality only
c) To search for and develop markets	c) To ensure adherence to set quality standards for milk and dairy products, and enforce established regulations	c) To secure reasonable and stable prices for producers of dairy produce	c) To provide a level playing field for all players in the industry
d) To conduct market research	d) To promote and monitor markets locally and overseas	d) To promote market research in relation to dairy produce	d) To permit the greatest possible enterprise including milk producers' processing cooperatives
e) To develop and monitor strategies and plans designed to achieve and maintain self-sufficiency and efficiency in milk production, processing and marketing	e) To collect, analyse, store and disseminate information to stakeholders and other users	e) To permit the greatest degree of private enterprise in the production, processing and sale of dairy produce, consistent with the efficiency of the producers and the interests of other producers and consumers	e) To collect, collate and make available information on the dairy industry
f) To ensure the availability of appropriate technology for the industry	f) To provide institutional support services such as financial and human resources management and administratio	f) To ensure the adoption of measures and practices designed to promote greater efficiency in the dairy industry	f) To assess the requirements of the dairy industry in terms of skills and technical services for the purpose of increasing industry efficiency
g) To create a competitive environment conducive to fair play among stakeholders in the dairy industry			g) To promote market research on dairy production, product development and transfer of dairy technology
h) To monitor the execution of contracts and marketing arrangements between dairy producers and processors or other bodies related to dairy sector, and reconcile parties when disputes arise			h) To keep an inventory of dairy consultants and other sources of information such as dairy equipment

**Table 2. Functions of dairy institutions in East Africa (continued)**

Tanzanian Dairy Board (TDB)	Dairy Development Authority (DDA) – Uganda	Kenyan Dairy Board (KDB) – current	Kenyan Dairy Board (KDB) – proposed
i) To collect, analyse, maintain and disseminate information related to the dairy industry			i) To develop and provide, through cost-sharing, training and other manpower development services for the dairy industry
j) To promote and facilitate the formation of associations or other bodies of stakeholders within the dairy subsector, which shall form a consultative forum with the board and monitor their activities			j) To advise the government on policy related to the dairy industry
k) To promote and coordinate the development of small-, medium- and large-scale dairy keepers and processors			k) To perform, on behalf of the Government of Kenya, social functions such as buyer of last resort and the maintenance of strategic reserves on a cost-recovery basis
l) To promote the training and improvement of skills in technological advancement for the dairy industry			l) To provide an international liaison to facilitate the exchange of information, personnel and foreign dairy market intelligence
m) To promote advocacy in the dairy industry			
n) To monitor trends in local dairy production, dairy export and import requirements			
o) To represent stakeholders in international fora related to the dairy industry			
p) To monitor the implementation of agreements governing the sale of dairy factories and farms and submit the reports to the Minister			
q) To register producers and processors of dairy products			
r) To liaise with the Tanzania Food, Drugs and Cosmetics Authority (TFDA) on licensing			

**Table 2. Functions of dairy institutions in East Africa (continued)**

Tanzanian Dairy Board (TDB)	Dairy Development Authority (DDA) – Uganda	Kenyan Dairy Board (KDB) – current	Kenyan Dairy Board (KDB) – proposed
s) To collaborate with the TFDA on inspection of dairy facilities such as dairy farms, plants, kiosks, parlours and other facilities			
t) To organize dairy shows and participation of stakeholders in such shows within and outside the country			

In response to such thinking, dairy legislation in Kenya, Tanzania and Uganda has outlined the sources of funding for the activities of dairy institutions and their members, including training, market research, development, and promoting consumption of milk, milk products and exports (see Table 2). All include government subventions and collectable fees from industry stakeholders. Of the three dairy institutions, KDB is the most established and manages to raise 70 percent of its approximately Ksh300 million annual budget from its own sources (including cess, licence fees and levies); a government grant accounts for only 30 percent of its budget (Muriuki 2007). The KDB headquarters and its 15 regional offices currently employ around 100 staff members.

To meet capital development and recurrent expenditures, KDB's 2007/08 budget was estimated at Ksh300 million (Ksh267 million recurrent expenditure and Ksh42 million capital expenditure) against a similar recurrent income (KDB Corporate Strategic Plan 2005–2009). About 40 percent of recurrent expenditure was for personnel, jumping to around 50 percent when allowances were added. In the future, the KDB may need to establish regional mini-laboratories for quick tests and analysis of milk samples.

In Uganda, DDA was able to raise Ush215 486 000 during 2004/05 towards its total budget of Ush576 million, while the government provided Ush256 million and donors an additional Ush104 million (Muzira 2007). The Dairy Industry Act also requires that the DDA levy cess on milk and dairy products based on the ex-factory price, as well as cess on imported milk products with the exception of products in transit. Raw milk marketed in areas with processing facilities incurs a levy. The collection of levies on raw milk started in Kampala where most milk is sold, and is carried out by executives of the traders' association.

In Tanzania, TDB's annual budget for its recurrent and development activities is approximately Tsh500 million. While the government appropriated Tsh140 million in 2006/07, modalities for collecting fees are still being worked out. These means of raising revenues will only become effective only after the relevant regulations have been gazetted by the Minister responsible for livestock development.

The various sources of funding for the dairy institutions in Kenya, Tanzania and Uganda are summarized in Table 3.

### 3.5 THE LEGAL FRAMEWORK AND ENABLING LEGISLATION

In Tanzania, the functions of the TDB complement other government agencies mandated to do work that may overlap with its own sphere of influence. During the process of drafting the legal framework

**Table 3. Sources of funds for dairy institutions in East Africa**

Tanzanian Dairy Board (TDB)	Dairy Development Authority (DDA)	Kenyan Dairy Board (KDB)
a) Such sums of money as may be appropriated by Parliament for the purpose of this Act	a) Grants from the government	a) Government grant (30% of budget)
b) All fees and other charges payable under this Act	b) The balance of DDC funds following its dissolution as well as funds accruing from the DDC's credit scheme	b) Milk cess levied on producers (collected by processing plants)
c) Such donations, grants and bequeaths as the TDB may receive from stakeholders or organizations	c) Money appropriated by Parliament	c) License fees
d) Income derived from investments	d) Levies imposed on some imported products	d) Levies
e) Proceeds derived from sale of assets	e) Counterpart funds towards donor-financed grants	
f) Contribution from fees collected on importation of milk and milk products	f) Borrowed funds	
g) Any other source of income identified by the Board and legally acquired	g) Money accruing to the DDA in the normal discharge of its functions	

and the public hearing before it was presented to Parliament, stakeholders were wary of the potential for duplication of functions between TDB and other government agencies. This problem was avoided by concentrating the TDB on quality assurance down the value chain, while the TFDA concentrates on food safety issues during and after processing, and on the retailing of dairy products. Regulations made by the TFDA are published by the Minister of Health, while regulations made by the TDB are implemented under the authority of the Minister responsible for livestock development.

In Kenya, many public and private institutions are relevant to the dairy industry. However, only a few of them are involved with dairy regulations. The most important institutions for dairy industry regulation are the two departments of MoLFD, KDB, KEBS, the Public Health Division of the Ministry of Health, the Weights and Measures Section of the Ministry of Trade, the Kenyan Police and local councils. KDB, KEBS and the Public Health Division are central institutions within the dairy industry regulatory framework. In addition, KEBS implements the standards for dairy products, equipment and handling in collaboration with KDB.

The Department of Livestock Production is responsible for formulation and oversight of the dairy industry policy and legal framework. It has been suggested that the agricultural sector has too many laws, most of which are out of date and inconsistent with reforms made over the last 20 years. Some of these laws established institutions to regulate, market or promote a specific subsector or commodity. Out of over 100 pieces of legislation governing the agricultural sector, 13 relate to livestock (development and veterinary services), some of which are obsolete. Only one – the Dairy Industry Act (Cap. 336) – specifically covers dairying. However, several others impact on dairy production and marketing, including the Public Health Act (Cap. 242), the Food, Drugs and Chemical Substance Act (Cap. 254), the Pharmacy Poisons Act (Cap. 244), the Standards Act (Cap. 456), the Agricultural Act (Cap. 318), the Animal Diseases Act (Cap. 364) and the Cooperative Societies Act (Cap. 490). In addition, many institutions either created or recognized by acts of Parliament as implementing agencies oversee the implementation and enforcement of these laws. For example, the Dairy Industry Act (Cap. 336) established the KDB.

Although the policy environment has, in practice, evolved in the last 15 years towards fewer government interventions to control the market, some aspects of regulation have lagged behind. The enforcement of regulation is hindered by its inconsistency with practice and by lack of capacity within the enforcing agencies, including lack of qualified staff and resources to undertake inspections, implement regulations and prosecute offenders.

The weaknesses of the current agricultural policies and legislation, including dairy legislation, arise from their having been formulated during the colonial era when commercial agriculture, for which they were developed, was the preserve of large-scale settlers. The legislation discriminated against indigenous agricultural production systems and did not envisage the participation of indigenous smallholder producers in market-oriented farming. There have been efforts to review and revise the Kenyan dairy policy and the Dairy Industry Act since 1996. However, a review of the draft bill intended to replace the current act reveals a worrying situation. The revision has only managed to increase KDB's regulatory activities, rather than strengthen liberalization or the free market.

In addition, the Dairy Industry Act is in addition to, and not a derogation of, others such as the Public Health Act, the Agriculture Act, the Food, Drugs and Chemical Substances Act, the Standards Act and the Animal Disease Act, particularly where there is a conflict in the interpretation of any provision of the Act.

In Uganda, the Minister of Agriculture and Animal Industry may make regulations relating to the following pieces of legislation:

- 1962 Public Health Act
- 1998 Dairy Industry Act
- 2003 Dairy Regulations

Section 33 of Uganda's Dairy Industry Act provides for the establishment of the Dairy Corporation, with the mandate of assuming a commercial role to later be divested. the Dairy Corporation's divestiture is to be handled within a larger government restructuring and divestiture programme in consideration of the recommendations of the Dairy Master Plan.

The DDA is the main institution responsible for the development and regulation of the dairy industry; however, the Dairy Industry Act recognizes the important roles of other institutions. The 2003 Dairy Regulations (related to the marketing and processing of milk and dairy products) make reference to compulsory standards and technical regulations under the 1995 Ugandan National Bureau of Standards Act, the 1995 National Environmental Statute and the 1962 Public Health Act.

Making this dairy legislation operational requires new regulations to be drafted. These regulations must cover issues such as transportation of milk and dairy products (see Annex 7), the duties and powers of the board members, inspectors and analysts (Annex 8), and treatment and disposal of unfit milk or dairy products (Annex 9).



## 4. Achievements, opportunities and challenges

### 4.1 ACHIEVEMENTS, OPPORTUNITIES AND CHALLENGES OF THE EAST AFRICAN DAIRY INDUSTRY UNDER ECONOMIC REFORMS AND GLOBALIZATION

#### Achievements in milk production

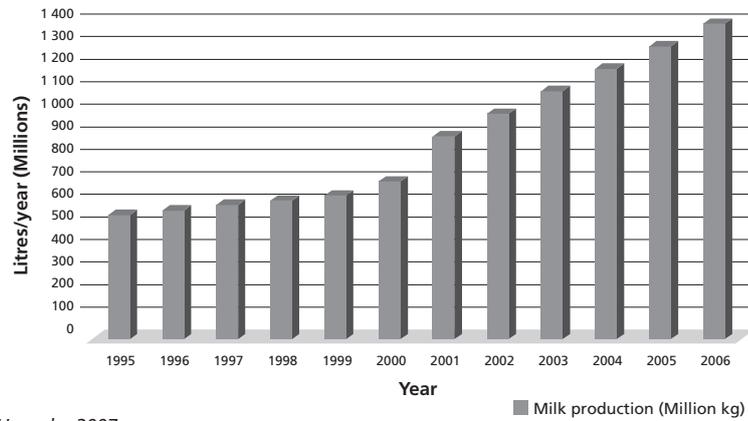
A liberalized and globalized market environment has brought with it both opportunities and challenges for the East African dairy industry. The number of smallholders and the size of the improved dairy cattle herd has increased considerably, especially in Kenya. The grade herd is mainly composed of purebred Friesian/Holstein, Ayrshire, Guernsey, Jersey and their crosses. Crosses constitute over 50 percent of the total herd, with Friesian/Holstein and Ayrshire the dominant breeds. Of the total cattle population, the Zebu herd makes up over 70 percent but contributes less than 20 percent of total milk production from cattle and about 15 percent of the total annual milk production from all the species. A similar scenario exists in Tanzania and Uganda where, out of cattle populations of 18.4 million and 6.3 million respectively, about 500 000 head in each country are improved dairy cattle (see Table 4). In Uganda, milk production increased from 365 million litres in 1991 to approximately 1.4 billion litres in 2006 (45 litres per capita). Tanzanian government statistics show that in 2006, milk production and consumption reached a level similar to that of Uganda: 1.4 billion litres total and 40 litres per capita. Kenya's milk supply for 2006 was estimated to be in the region of 3.6 billion litres (approximately 100 litres per capita). In general, milk production has been on the increase in East Africa (Figures 6a to 6c are estimates based on criteria such as herd size, conception rates, calving intervals, calving rates, calf mortalities in the case of the traditional herd and average lactation or annualized milk yield per lactating cow). Comparing across the three countries, the data show great inconsistencies when per-cow milk production is calculated from the cattle population of both local and improved dairy breeds, and the figures need to be read with caution. However, based on these figures, growth in milk production has generally been between six percent and

**Table 4. Population of milk-producing livestock in East Africa 2005–2006**

Country Parameter	Kenya		Tanzania		Uganda	
	National livestock population – 2005 (1 000)	Total estimated milk production (million kg)	National livestock population – 2005 (1 000)	Total estimated milk production (million kg)	National livestock population – 2005 (1 000)	Total estimated milk production (million kg)
<b>Type of animal</b>						
Grade cattle	3 498	475	500 000	440	680	280
Zebu cattle	9 522 000	2 345	17 700 000	960	6 120	1 120
Camels	931	269	-	-	-	-
Dairy goats	143	5	-	-	-	-
Indigenous goats	13 739	102	-	-	-	-
<b>Total</b>	<b>9 540 311</b>	<b>3 196</b>	<b>18 200 000</b>	<b>1 400</b>	<b>6 800</b>	<b>1 400</b>

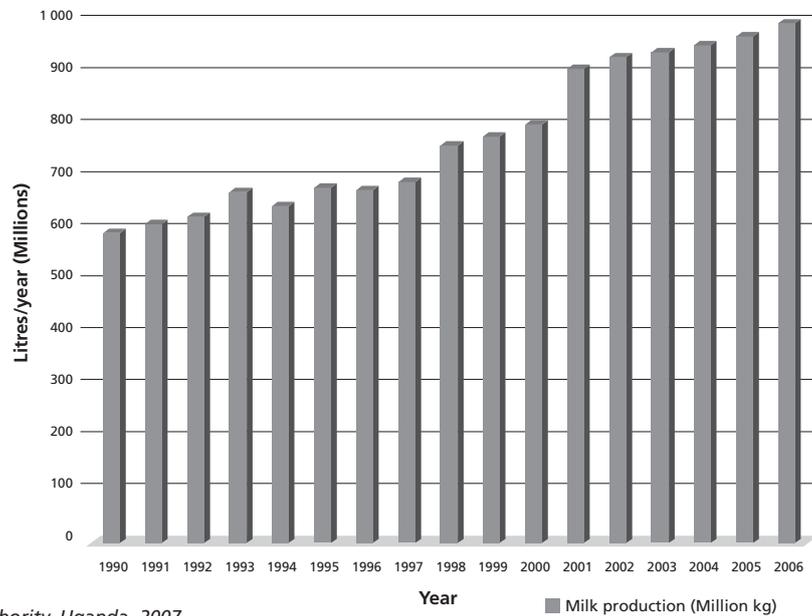
Figure 6. Milk production trend

6a. Milk production trend in Uganda 1995–2006



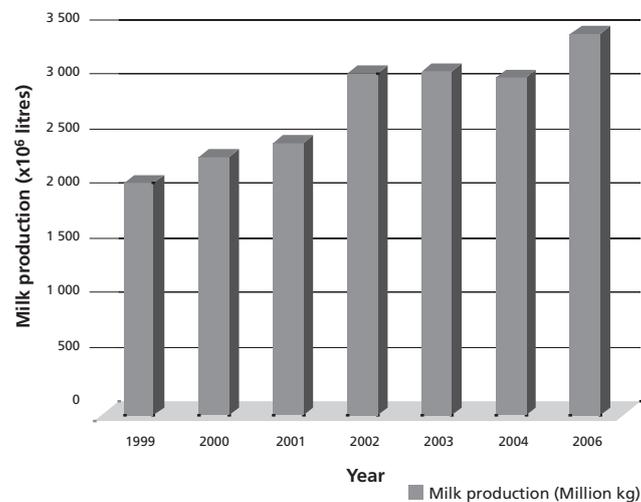
Source: Dairy Development Authority, Uganda, 2007

6b. Milk production trend in Tanzania 1990–2006



Source: Dairy Development Authority, Uganda, 2007

6c. Milk production trend in Kenya 1999–2006



Source: SDP Policy Brief 3, 2004; Muriuki 2007

eight percent per year across the three countries, with much of the growth emanating from expansion of the dairy herd rather than in productivity per cow. Lactation yield remains low at between 1 500 and 1 700 litres per cow, per year (Muriuki 2007; Muzira 2007).

### Achievements in milk processing

While milk production has recorded positive developments, the processing and marketing aspects of the dairy industry have experienced mixed results in terms of the number of processing plants and their capacity. In Tanzania and Uganda, following privatization of previously state-owned dairy plants, the number of plants increased to more than ten in each country, bringing the processing capacity to 450 000 litres and 358 000 litres per day respectively (Nyabira 2004). In Kenya, the number of plants increased to over 40 (KDB 2006). However, at least five of the privatized or new plants in the three countries collapsed within a short period after beginning operation. As of September 2007, the remaining 11 plants in Uganda had a total capacity of between 283 000 and 331 000 litres per day (DDA 2007; Elepu 2007), and processed a total of 90 000 litres per day. In Tanzania, all plants (with a total capacity of 506 000 litres per day) were by January 2007 processing about 60 000 litres per day (see Table 5).

In contrast to Tanzania and Uganda, the total volume of milk processed in Kenya has increased faster than the rate of increase in national production – from 145 million litres in 2002 to 360 million litres in 2006 (Figure 7). Meanwhile, total production has only grown from 3.1 billion litres to 3.6 billion litres. It is therefore possible that the proportion of milk marketed through processors has increased to over 20 percent.

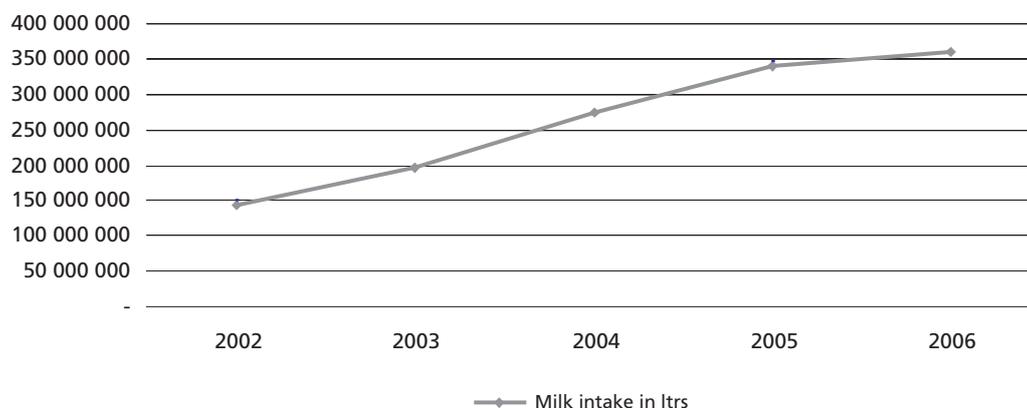
Regional milk processing plants have, on a daily basis, idle capacity of 1.9 million litres (60 percent), which constrains the competitiveness of the East African dairy industry in the world market. The data in Table 5 reveal that daily milk production is approximately 12 million litres, of which about 7.5 million litres is marketed off-farm. With a total installed capacity per day of 2.8 million litres, and assuming that all the milk marketed off-farm is processed before reaching consumers, the region would need an extra capacity of about 4.7 million litres per day to match the fluid milk volume. The fact that even the present capacity of 2.8 million litres per day is underutilized by 60 percent suggests that the informal milk trade for raw milk is very strong, making up 93 percent (between 6.5 million litres and 7.5 million litres) of total the milk marketed daily in East Africa.

Although the evidence from Kenya (where processing performance continues to increase in the face of the prevailing informal sector) suggests otherwise, the informal milk market in Tanzania and Uganda has been blamed for presenting unfair competition and therefore being responsible for the collapse some small- and medium-scale milk-processing enterprises that entered the liberalized industry. Calls for tighter

**Table 5. Performance of milk processing sector in East Africa 2004–2006**

Capacity	Country			EAC Region
	Kenya	Uganda	Tanzania	
Installed capacity (1 000 litres/day)	1 980	358	450	2 788
Output (1 000 litres/day)	990 <sup>a)</sup>	90	60 <sup>b)</sup>	840
Capacity utilization (%)	35	21	11	30
Idle capacity/day	1 280	268	400	1 948
Milk production (1 000 litres/day)	7 000	3 829	2 778	12 278
Milk available for marketing (1 000 litres/day)	3 850	2 680	931 506	7 461 506

Source: Nyabila 2004: RATES Programme; <sup>a)</sup> Muriuki 2007; <sup>b)</sup> TDB 2007

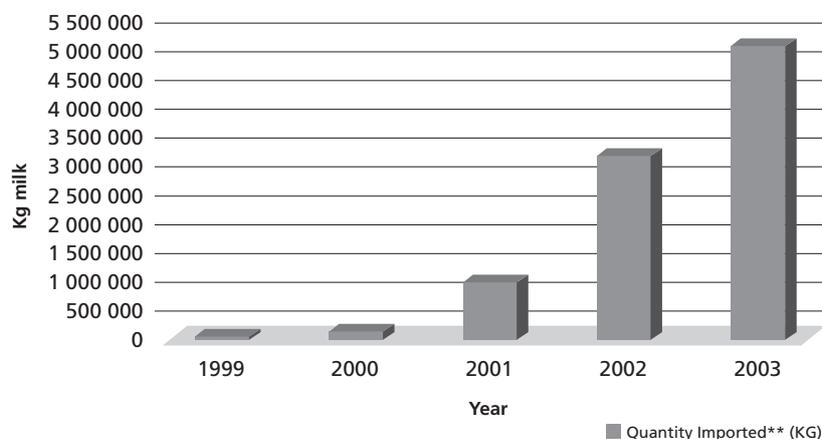
**Figure 7. Annual milk intake by the formal sector: 2002–2005**

Source: KDB

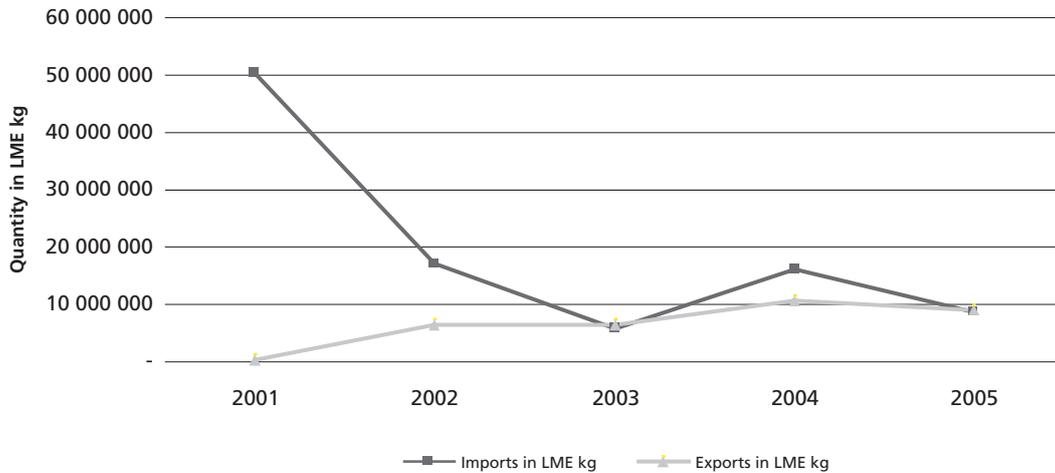
regulation of the informal milk trade have been made by formal milk processors in all three East African countries – including Kenya where, during 2004, accusations and counter-accusations reached ‘press-war’ proportions (ILRI-SDP Policy Briefs 2006). Only after various NGOs joined the debate, which culminated in a policy forum, KDB finally embraced the informal sector. The pro-poor stance taken by protagonists of the informal sector, together with increasing demand and the preference for raw milk by low- and middle-income consumers, ultimately convinced the KDB.

### Milk imports and exports

The existence of a demand-supply gap for processed milk and dairy products in a given country may be indicated by its level of milk imports. In Tanzania, as a result of the inadequate supply of processed milk, imports of dairy products increased from 3 459 metric tonnes in 1997 to 7 111 metric tonnes in 2004, worth about US\$10 million or Tsh10 billion (FAO 2007). In Uganda, as shown in Figure 8, imports increased

**Figure 8. Milk and dairy products imports: Uganda (1999–2003 excluding milk powder)**

Source: Dairy Development Authority, Uganda, 2007

**Figure 9. Kenya's imports and exports in LME kg 2001–2005**

Source: KDB

from 62 metric tonnes in 1999 to 5 098 metric tonnes in 2003 (Muzira 2007). By contrast, imports of dairy products to Kenya have declined from over 50 million kg liquid milk equivalent (LME) in 2001 to about 8.5 million kg LME in 2005, while exports have grown from about 400 000 kg LME in 2001 to 9 million kg LME in 2005 (Figure 9).

## 4.2 STRENGTH AND OPPORTUNITIES

A detailed analysis of strengths, weaknesses, opportunities and threats (SWOT) for the dairy industries of Kenya, Tanzania and Uganda is shown in Annexes 10a to 10c. The sections below summarize the major strengths, weaknesses, opportunities and challenges of the dairy industries in the three countries.

### Strengths

A major strength of the East African dairy industry is the availability of a strong base of local cattle (around 32.3 million head), which has sustained crossbreeding programmes over the last 40 years. The improved dairy herd has recorded an average growth rate close to 6 percent per year. Smallholder dairying has strong potential for reducing rural poverty, improving nutritional security and generating employment opportunities. Abundant natural resources (land, climatic conditions and water) give East Africa a comparative advantage as a dairying region in sub-Saharan Africa. The region, and particularly Uganda, appears to have some of the lowest milk-production costs in the world. Experiences gained through several dairy development programmes provide a strong basis for expansion in other areas of Kenya, Uganda and Tanzania with suitable agro-climatic conditions for dairying. In contrast to Tanzania and Uganda, the Kenyan dairy industry is backed by a well-established national institution, KDB, which is government supported and has the capacity to raise up to 70 percent of its budgetary requirements. Kenya has perhaps the best milk production, marketing and processing infrastructure in the region.

## **Weaknesses**

Despite the enormous potential for dairying, the productivity of both traditional and improved cattle remains low, owing mainly to the lack of systematic breeding data and weak support services for artificial insemination, disease surveillance and control.

Milk surplus areas are located far away from major urban centres, making the collection and transport of even small quantities of milk over long distances unprofitable. With the exception of Kenya, milk-marketing systems are poorly developed with weak infrastructure for milk collection, transport, processing and distribution. Most plants work 30 percent or more below their installed capacities, and have high collection and processing costs. Consumer prices for dairy products are consequently high relative to average consumer incomes.

The privatization of dairy-support services across East Africa has left a vacuum, which the private sector is finding difficult to fill. This is especially the case in rural areas, which should be the epicentres for expansion of sustainable milk production in the region.

A major constraint to developing competitive and sustainable milk production in the region is the weak institutional framework for farming organizations. The national dairy institutions (TDB, DDA and KDB) will have to work very hard with stakeholders to create strong and vibrant farmers' and other stakeholders' organizations that can take on the challenges facing the industry. These challenges include the need to address weak dairy research-extension linkages, poor service delivery and the lack of a coherent system for collecting and disseminating data, market intelligence and the technologies required to develop the dairy industry.

Tanzania lacks highly skilled managerial expertise, especially in the management of large-scale dairy farms and in the processing industry. This will have to be addressed by both the private sector and government, since vocational and higher education is in the public domain. While KDB is a well-established institution in Kenya, it still has structural weaknesses that prevent it from adequately meeting all stakeholder expectations. Farmers support KDB through payment of cess, and processors collect that cess on its behalf, but service delivery is still held back by outdated work traditions and an overemphasis on industry policing. In addition, KDB lacks the capacity to meet stakeholder expectations and to monitor the milk volumes in the market.

## **Opportunities**

The major opportunity for the dairy industry in East Africa is a strong and unmet demand for milk and dairy products in urban areas where people have high purchasing power. The rise in milk and dairy imports from outside the region to Tanzania and Uganda is an indication of that unmet demand and of Kenya's incapacity to fill the demand gap.

In the medium to long term, demand is expected to grow further in response to the growth in the human population and per-capita income. Income elasticity of demand for milk is expected to remain high (at 0.8). East Africa, and especially Tanzania, possesses adequate land resources and suitable agro-climatic conditions for supporting different systems of milk production (intensive, high input-high output, exclusive, low input-low output and intermediaries) and for expansion. There is a good supply of labour with at least primary education and a tradition of keeping cattle, sheep and goats. The crop subsector, particularly cereal grain production and agroprocessing, provides a considerable amount of by-products suitable for feeding dairy cattle at low cost. The liberalization of input supplies and support services offers the private sector an opportunity for improving delivery of services, and for profitable investment. Finally, many people in the region readily accept goat milk, which offers an opportunity for investing in dairy-goat breeding, production and marketing.

## Threats

Trade liberalization and globalization is a threat to the local dairy industry, especially if imported dairy products are subsidized by exporting countries or if import taxes are not paid. Recent studies by FAO have shown a trend in import surges in Tanzania between 1994 and 2004 (Sharma *et al.* 2005). Research in the country is neither adequately funded nor focused on solving major problems in the sector; the ‘public good’ aspect of research remains fuzzy and therefore government support has not been consistent over the years. Concerns over environmental pollution within urban and peri-urban areas may force governments to discourage or limit dairying in and near major cities. And while highland areas provide the best environment for supporting improved dairy cattle, rapid population growth has led to land fragmentation, constraining the expansion of dairy production.

Enforcing the regulations on sales of unprocessed milk in areas with milk-processing plants may depress demand for milk, particularly among poor consumers. Since processed milk is more expensive and demand for milk is highly income-dependent, this is likely to result in decreased consumption of milk and a loss of income for producers and traders of unprocessed milk. Finally, external demand for oil cake and molasses may encourage exporters to sell animal feed abroad at the expense of the local industry.

## 4.3 CURRENT CHALLENGES

### In-country challenges

Each of the East African countries has unique challenges to overcome if the region’s dairy industry is to expand and make the expected contribution to economic growth and poverty reduction.

The dairy industry in Uganda is faced with increasing challenges arising from a small dairy market, a weak processing sector, and an aggressive informal market sector that prefers to reform at its own pace or to resist change, which many informal traders see as threatening to transform them into processors. This fear is based on fact that nearly 50 percent of the dairy plants established since 1989 have collapsed, while those that have survived are grappling with 70 to 80 percent idle capacity.

The challenge of strengthening links with stakeholders as a way of enhancing participation in the dairy industry at the local and national levels is substantial in a sector that mainly consists of widely scattered smallholders with between one and five animals. In both Tanzania and Uganda, dairy farmers are organized into groups that are still fairly weak. But exceptions have been noted in the southwest of Uganda, where strong farmers groups do exist. Primary societies have joined together as the West Ugandan Dairy Association (WUDA).

The quality of milk and dairy products in these countries may not be consistent, hampering competition in local, national and regional markets. Milk consumption rates are still low, with per capita consumption currently at between 40 and 45 litres per year in Uganda and Tanzania. However, consumption is growing at between 6 percent and 8 percent per year. The remaining challenge is that low milk consumption negatively affects investments in the subsector.

People in Uganda cannot afford to pay for milk because of poverty and low incomes. In addition, the government has not been able to fund the school milk programme because of budgetary constraints. Farm prices remain low as a result, and much of the milk produced goes to waste because it lacks a market.

Dairy processing companies are operating at less than 30 percent of capacity and handling only 20 percent of total marketed milk. Although they complain of unfair competition from the informal market, the

imminent threat is from imports. In both Uganda and Tanzania, imports from Holland, Kenya and South Africa are in high demand – even when they are priced above the comparable national products.

Uganda's DDA is almost entirely funded by the government, although Danida provided financial support on an annually decreasing basis between 2002 and 2007. Like many other government institutions, DDA suffers from a shortage of funds for its operations. In the absence of other sources of funding, most of its requirements are catered by government within the context of the performance of the economy, and are therefore subject to national budgetary priorities and limitations. This is perhaps the root challenge from which the other problems stem.

In Tanzania, the new TDB is yet to show its relevance and what value can bring to the future of a young industry whose base consists of smallholder dairy farmers. Producers need to be organized to realize the benefits the market can offer, such as good prices for high-quality milk. Demand for high-quality milk and dairy products outstrips domestic supply, but getting the milk to the market is a serious challenge.

The production potential of most crossbred cows has not been reached owing to inadequate feeding, delayed breeding and subsequent low conception and calving rates; long calving intervals need to be overcome. For many smallholder farmers, access to input and output markets is a major constraint; only smallholder farmers acting together in organizations can overcome these challenges. So far, only the Tanga milkshed area appears to have a well-organized milk collection infrastructure and farmers' groups. The Tanzanian Milk Producers Organization (TAMPRODA), and the Tanzanian Milk Processors Association (TAMPA) are still weak and without strong grassroots support. This is a major challenge for both organizations, which are supposed to be the pillars of the new TDB.

TDB requires strong farmers' organizations at the grassroots level in order to carry out functions such as registration, information collection and dissemination, and technology and quality improvement. The national farmers' organization is still weak, serving only a tiny fraction of the farming community. One challenge for TDB is how to build this organization's capacity so that it can help its grassroots members. Thus, strengthening farmers' and other stakeholders' organizations should form the cornerstone of TDB's strategic plan in the next five to ten years.

The same applies to the milk-processing subsector in Tanzania, which is shrinking rather than expanding. Although current capacity stands at more than 400 000 litres per day, a recent assessment indicated that only about 50 000 to 60 000 litres are being processed by all Tanzania's dairy plants combined. Most plants are very small while the few large ones are finding it difficult to compete in the marketplace.

The growing competition from informal raw milk marketing is particularly worrisome. The pro-poor policy that is used to justify its existence is widely misused when medium- to large-scale milk producers sell raw milk directly to the public and to institutions such as hotels and restaurants instead of to processing plants. In Uganda, there is a provision for raw-milk sellers to pay a fee if they sell milk in an area such as Kampala where there are milk-processing plants; however this does not deter raw-milk vendors from selling raw milk to consumers.

Such additional costs are compensated by adulterating milk with water. In the liberalized market, buyers want to pay as little as possible for commodities, while sellers want to obtain the highest possible returns. Because of the public health risks associated with such practices, TDB prohibits selling raw milk directly to consumers, although the practice of boiling milk before consumption significantly reduces these risks. Consumer education and product price differentiation may help consumers to make informed choices between purchasing adulterated raw milk and processed milk. TDB also has a role in promoting technological advances in the dairy industry.

Only an organized milk-marketing system can support the industry's technological advancement and TDB's work on issues of food safety and quality. These challenges go hand in hand with TDB's stated objective to be funded and controlled by stakeholders. Collecting fees will be virtually impossible unless milk is marketed through dairy cooperatives and plants. It cannot be overemphasized that the growth of the dairy industry depends very much on the extent to which TDB can work with producers, processors and other stakeholders to fulfil the wide mandate outlined in Section 3.3.

Much of TDB's mandate requires that it has data from farmers, processors, milk traders and others regarding the types and number of dairy farmholdings, their locations and production levels. Currently, the National Bureau of Statistics assists the Ministry of Livestock in collecting and storing information for the livestock subsector as a whole, including the dairy industry. TDB will have to establish its own data collection and dissemination system in collaboration with the National Bureau of Statistics and the Ministry of Livestock.

### **Regional challenges**

The dairy industry's contribution to GDP is 3 percent in Kenya, 1.8 percent in Tanzania, and 5 percent in Uganda. Regional milk production is estimated at 5 million metric tonnes per year, 60 percent of which is produced in Kenya. More than 80 percent of it is traded informally as raw milk.

The processing industry works at less than 30 percent of its capacity of about 2.8 million litres per day. With the exception of Kenya, demand for milk and other dairy products exceeds domestic production. For EAC countries, the gap between supply and demand is filled by imports, which in 2003 amounted to 31 555 metric tonnes worth US\$8.3 million.

A recent study by the Eastern and Central African Programme for Agricultural Policy Analysis (ECAPAPA) and the USAID-sponsored Regional Agricultural Trade Expansion Support (RATES) programme established that intraregional trade in milk and dairy products amounted to US\$20 million in the period between 1997 and 2003, compared with dairy imports of eleven selected EAC countries (the Democratic Republic of Congo, Ethiopia, Madagascar, Malawi, Mauritius, Namibia, Seychelles, Sudan, Tanzania and Uganda) which were worth US\$175 million over the same period. The low intraregional trade in milk and other dairy products is explained by low production, inadequate milk collection, processing and marketing infrastructure, and a number of barriers to trade.

The EAC established a Customs Union protocol in January 2005 in order to address problems affecting intraregional trade in general. The protocol provides for reduced import tariffs of 10 percent on Kenya's milk exports to Uganda and 25 percent on those to Tanzania, while the two countries have been able to export to Kenya at a zero import rate since February 2005. Dairy trade between the three countries has thereafter been zero-rated. The Customs Union has also adopted a protective 60 percent common external tariff on extra-EAC imports. These measures are aimed at promoting intraregional trade by reducing barriers such as import licensing, duties, customs clearances and inspections.

Another significant impediment to intraregional trade is the lack of uniform dairy quality standards. A number of initiatives have been undertaken by regional organizations to address these constraints. Studies aimed at promoting regional dairy trade by harmonizing policies and standards have been carried out by ECAPAPA (as part of the Association for Agricultural Research in East Africa) together with the International Livestock Research Institute (ILRI) and by the RATES programme working with the EAC and the Common Market for Eastern and Southern Africa (COMESA). The convergence of these two initiatives culminated in a COMESA/EAC regional dairy trade policy paper, which was discussed at a meeting held in Nairobi in September 2004. As a result, dairy standards are being harmonized within the EAC as well as by COMESA.

Given the important role played by informal dairy markets in the region, training and certifying the key players in this segment of the industry is an important step in improving sanitary and quality standards throughout the regional dairy industry. ECAPAPA and ILRI are addressing the training and certification of informal milk traders in Kenya, Tanzania, Uganda and Rwanda. The three EAC dairy boards have been engaged in dialogue to develop standardized training curricula and, by collaborating with the national bureaus of standards in their respective countries, to harmonize standards for milk and dairy products.

With these objectives in mind, a memorandum of understanding to establish the East African Dairy Regulatory Authorities Council (EADRAC) has been proposed. This committee of the Chairs and Chief Executives of the national dairy industry regulatory authorities seeks to work under the mandate of the EAC secretariat. EADRAC would allow national dairy authorities to:

- exchange information related to national dairy industries;
- facilitate intraregional trade and conflict resolution through evidence and scientifically based advice to governments;
- promote quality standards and food safety throughout the dairy industry through training, research, development and mutual recognition;
- hold joint activities such as conferences, workshops, meetings, symposia, dairy shows and exhibitions; and
- promote the exchange of genetic materials and technologies within the regional dairy industry.

Kenya has the largest dairy industry in the region and there is great market potential within the region for Kenyan milk and dairy products. The fact that extraregional exports are still very significant in all three countries is a clear indication of the great opportunity to increase production and processing. Despite the gains that have been made in East Africa compared to other parts of sub-Saharan Africa, the challenges of how to motivate producers and promote dairy consumption remain huge for dairy industry stakeholders, organizations, institutions and government agencies.

## 5. Lessons learned and future prospects

### 5.1 LESSONS LEARNED

Following economic liberalization in the mid-1980s to early 1990s, government policy formulation has become more participatory than it had been previously, and has begun to involve the private sector and civil society. While participatory policy-making process can be long and protracted, the resulting policy and legislation are more clearly understood and accepted by stakeholders, including government. However the result of a participatory policy-making process in a liberalized economic and political environment tends to lag behind actual practice on the ground. A case in point is the restructuring of KDB: while it still operates under a 1958 law, practice on the ground (in terms of the participation of informal traders and organization of stakeholders) is more liberal than is provided for in the existing legislation.

In formulating policies, just as in setting up public or parastatal institutions, it is important that stakeholders are widely consulted in order to generate consensus. Dissenting views should not be ignored but instead scrutinized objectively. It is also apparent that attaining compromise among stakeholders becomes even more important when the institution is to be stakeholder financed. Balanced and equitable representation of various stakeholder bodies and their influence on policy and strategy development is therefore essential.

It is important to note that the national dairy institution is both a stage and an actor in the dairy industry. It is a stage in that the various stakeholders use it as a platform to discuss policy issues that government may be required to consider, and it is particularly valuable as a means of eliciting feedback and input from producers, processors, traders and consumers at the local, national and regional levels. It is an

#### Lesson learned 1

While the participatory policy-making process can be long and protracted, the resulting policy and legislation are more clearly understood and accepted by stakeholders, including government.

#### Lesson learned 2

In formulating policies, just as in setting up public institutions, it is important that stakeholders are widely consulted to generate consensus. Attaining compromise among stakeholders becomes even more important when the institution is to be stakeholder financed.

#### Lesson learned 3

Participatory policy-making in a liberalized economic and political environment tends to lag behind actual practice on the ground.

#### Lesson learned 4

In a developing dairy industry, private-public sector partnerships are required to ensure that government plays an appropriate role, and that the private sector enjoys a level playing field and conducive environment for doing profitable business in dairy farming, processing or marketing.

actor in that it has staff that implements the policies agreed upon by stakeholders from both the private and public sectors. This dual function requires the institution to be impartial when conducting its duties and competent in giving necessary guidance.

The dairy industry in East Africa still operates under multiple regulatory environments that complicate the business environment in which stakeholders must operate. While reforms and restructuring attempt to adjust to the changing policy environment, the resulting legislation can create institutions with multiple roles including development, coordination, promotion and regulation. Contradictions have resulted, especially with regard to regulatory functions, which seem to work against the very stakeholders the institutions are supposed to serve. This contradiction is largely responsible for the lack of progress in revising the dairy industry bill in Kenya and the subsequent restructuring of KDB.

One school of thought advocates the separation of dairy institutions from the regulatory role since dairy institutions ought to be developing and promoting the interests of the industry rather than making and enforcing regulations. However, as long as the government is represented as a major stakeholder in any national dairy institution, it must perform some element of regulation while other stakeholders (farmers, processors and traders) seek to maximize their benefits along the value chain. The current scenario whereby national dairy institutions play a regulatory role represents the most workable solution if regulation is carried out alongside stakeholder education and sensitization. This is the approach currently being used by both DDA and KDB.

Among the important lessons learned in the process of planning the re-establishment of TDB is that when sectors of the economy consider who their key stakeholders are, government is often seen as irrelevant, not wanted or simply a bully whose main interest is to put in place unnecessary regulations and other barriers to participation in the industry.

But the role of government as a regulator becomes apparent when it comes to funding activities that industry stakeholders are not yet ready to shoulder, especially in a developing country such as Tanzania. Stakeholders' wish to be autonomous and independent from government is idealistic. It takes a lot of organization for stakeholders to be able to collect cess from the sale of their commodity. Provision of effective services and marketing of milk and dairy products are critical in strengthening public-private partnerships and encouraging contributions from all industry players for the industry's long-term development.

The Kenyan experience shows that it is important for a national dairy institution to be sustainable in order to encourage harmony in the dairy industry. The Kenyan dairy industry has grown tremendously since 2003, mainly because of government macro-policies. To ensure continued good performance for the dairy industry and representation of stakeholders' interests, KDB needs to be restructured and strengthened as a stakeholder organization and protected by law. The proposals for a restructured and revitalised KDB are vital for the development of an all-inclusive dairy-industry stakeholder institution supported by the government.

### **Future prospects and options**

The prospects for the dairy industry in East Africa are generally bright, but its growth hinges on building capacity for the private sector to play a more effective role. The region does have significant resources in terms of the water, land and animals, and Uganda is estimated to have one of the lowest milk production costs in the world.

However, improved human and investment capacity is required to promote more efficient milk production among the smallholder farmers who continue to form the backbone of the industry. The

Kenyan experience – along with experiences in the highland areas of Tanzania and the rainy and fertile regions of Uganda – has shown that smallholders can support a vibrant dairy industry.

The milk collection and processing infrastructure needs to be developed by the private sector. Government can play a vital role by facilitating access to credit and other financial services such as credit guarantees. In addition, experiences in China, Thailand and other countries have shown the benefits of supporting school milk programmes, since supplying milk to schools increases demand for processed milk.

A milk-drinking culture is likely to start with school children and continue in future generations, developing a formidable local market for dairy products. This can stimulate milk production and eventually lead to a vibrant dairy industry in the future, while contributing to poverty eradication. Farmers' increased incomes will enable them to diversify production and penetrate other available markets.

### **Options for national dairy development institutions**

Government policy will dictate the type of national institution to take on the role of national dairy development. There seems to be broad agreement that such boards are useful and can play an important role in sustainable and remunerative dairy development. Based on the three examples reviewed, some options for different stakeholders are listed below:

#### 1. Government/decision-makers

- Organize thorough and comprehensive stakeholder consultations based on clear policy objectives in the process of developing relevant and representative dairy institutions.
- Provide clear guidance on policy and regulations within dairy institutions and national food safety authorities, and their respective responsibilities.
- Avoid duplication of efforts by assigning different regulatory authorities clear operational boundaries along the dairy value chain. In Tanzania for instance, it has been agreed that TDB registers and regulates milk production and marketing up to the factory gates, while the Food and Drugs Authority regulates milk processing and the quality of processed milk and dairy products. TDB also plays an advisory and technical support role for the processing industry.
- Provide a supportive policy environment for private-sector participation and growth within the dairy industry and, where appropriate, provide support for public-private sector partnerships such as extension services.

#### 2. Dairy industry groups

- Represent all dairy industry stakeholders, including producers, processors, traders and consumers from both the formal and informal sectors.
- Be cognizant of the need for the continued role of the formal and informal sectors, and seek synergies for improved milk collection and marketing across different systems.
- Be true agents of the stakeholders by observing good standards for accountability and good governance (adhering to constitutions and sound financial accounting).

#### 3. Development partners

Support governments and stakeholder organizations in promoting improved stakeholder involvement, and encourage and facilitate sharing of best practices in dairy institutional development.



## 6. Conclusions and recommendations

From the foregoing analysis and discussions presented in Chapters 1 to 5, a number of conclusions and recommendations are detailed below.

1. Experiences in Kenya, Tanzania and Uganda show that national dairy institutions are required to provide production and processing technology support, market development, data collection and analysis, set quality standards and help the market to grow by improving the investment climate through sound advice to the government. It is important to have a national dairy institution to promote harmony within the dairy industry. For example, the Kenyan dairy industry has shown tremendous growth since 2003, mainly because of government macro-policies. To ensure continued good performance, KDB needs to be restructured, strengthened as a stakeholder organization and protected by law. In this way, it can continue to serve the interests of the stakeholders in a similar way to TDB, in which an Annual Council of stakeholders oversees the national dairy board's functions.
2. The process of industry policy formulation in the three countries has been widely consultative, with most stakeholders given adequate opportunity to participate. Ensuing legislation has provided for the formation of semi-autonomous institutions that are in effect quasi-governmental owing to their regulatory roles, but also guided by stakeholder representatives from the private sector. The main shortcoming of institutional development is not in representation but in how representatives are selected in these institutions.
3. Although lengthy and time-consuming, the participatory approach by East African dairy industry stakeholders to establish dairy institutions that bring together public- and private-sector players seems to have produced national dairy institutions that are capable of taking on both promotion and regulation of the dairy industry. In the cases of Uganda and Tanzania, the advocacy aspect of these institutions is carried out by democratically elected representatives of farmers', processors' and other stakeholders' organizations.
4. Given the strengths and opportunities that exist, the region's dairy industry can be further developed in the next ten years or so. But many challenges remain for dairy institutions to realize their objectives. The promotional and coordination roles of the boards are of particular importance, as dairy markets need to be supported with the necessary infrastructure and institutional framework for stakeholders. In addition, their regulatory role will require cooperation, support and harmonization among several government agencies such as bureaus of standards, food and drug control authorities under Ministries of Health, Trade and Industry, and local government.
5. The relevance of an institution depends squarely on its ability to be on the forefront of providing solutions to challenges, especially with regard to facilitating business and initiating reforms that can make the dairy industry competitive. These challenges can be successfully addressed provided that dairy institutions are well supported by governments and other industry stakeholders. The vision of any dairy institution should be to become an effective agent for the development of a competitive industry that produces high-quality, safe milk and dairy products for the market in an efficient and environmentally sustainable manner.

6. The way forward lies in the various industry players taking up the following roles:
- Governments need to: provide greater room for stakeholder consultations in dairy policy formulation and representation in national dairy institutions; establish a conducive environment for private-sector participation and growth, including taxation regimes, rules and regulations; and support and strengthen grassroots stakeholder organizations.
  - Stakeholder organizations need to be true agents of their members, observing good governance and accountability.
  - International development partners can play a vital role in replication of best practices across national borders by supporting national and regional dairy institutions to better carry out their roles in promoting the growth of dairy industries.

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# Annex 1. Generic template for formulating an action plan for stakeholder sensitization in a specific milkshed area

Action plan proposal outline	Content																																												
1. Background information	<ul style="list-style-type: none"> <li>Area to be covered; zone (milkshed/area name) region; districts covered including some demographic statistics.</li> <li>Indicate dairying potential (low, medium or high) and why (climate, cattle populations, land availability, traditions, culture of the people); potential markets for surplus milk; how much milk is produced per day/seasonal variations/location variations; describe market for milk; prices along the dairy value chain from farm gate to retail; seasonal variations.</li> </ul>																																												
2. Introduction: stakeholder situation	<ul style="list-style-type: none"> <li>Differentiate main categories of stakeholders, e.g. producers/farmers: small, medium and large-scale.</li> <li>Estimate numbers for each category active in the area. Indicate level of organization; if organized, what form of organization? What are the strengths and weaknesses; opportunities, threats in the area?</li> </ul>																																												
3. What needs to be done	<ul style="list-style-type: none"> <li>Explain what you need to do to organize the stakeholders; indicate methods you intend to use, whether meeting or workshops; their number/ frequency and number of participants expected to be covered; what will be the set up of meetings/workshop? Explain. Options include: <ul style="list-style-type: none"> <li>– brainstorming on problems;</li> <li>– grouping of problems;</li> <li>– proposing solutions; and</li> <li>– outlining strategies on how to solve problems.</li> </ul> </li> </ul>																																												
4. Activities required	<ul style="list-style-type: none"> <li>Identify existing groups/networks.</li> <li>Hold workshops to sensitize stakeholders to their problems.</li> <li>The stakeholders would be interested in getting organized after they have been sensitized to their problems, i.e. realizing that it is difficult for them to solve problems in isolation and/or individual basis.</li> <li>Estimate number of workshops to be held, venues and numbers of participants. For example if about 300 stakeholders need to be reached, a sensitization workshop should not have more than 30 participants so you will need to organize 10 one-day meetings/workshops in your zone/milkshed area.</li> <li>Work out budget for each workshop taking into account the following:</li> </ul>																																												
	<table border="1"> <thead> <tr> <th>Cost item</th> <th>No of units</th> <th>Rate per unit (shs)</th> <th>Total</th> </tr> <tr> <td></td> <td>(a)</td> <td>(b)</td> <td>(c)</td> </tr> </thead> <tbody> <tr> <td>Accommodation participants</td> <td></td> <td></td> <td><math>C = a \times b</math></td> </tr> <tr> <td>Meal participants</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Transport (bus) participants</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Stationery participants</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Human resources</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Workshop materials</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Facilitators associated costs (transport)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contingency (copies, telephone, etc.) 10%</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>Total</b></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Cost item	No of units	Rate per unit (shs)	Total		(a)	(b)	(c)	Accommodation participants			$C = a \times b$	Meal participants				Transport (bus) participants				Stationery participants				Human resources				Workshop materials				Facilitators associated costs (transport)				Contingency (copies, telephone, etc.) 10%				<b>Total</b>			
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Action plan proposal outline	Content																																																																		
5. Interaction with the task force (TF)	<ul style="list-style-type: none"> <li>• What do you expect of the TF concerning the organization of stakeholders in your milkshed area?</li> <li>• How could your milkshed area contribute to the other tasks of the TF, e.g. review of laws and regulations/feedback on draft policy, dairy bill?</li> <li>• How could you provide input to the establishment of a national dairy institution/platform or whatever form stakeholders in your area prefer to have it named/structured?</li> </ul>																																																																		
6. Facilitation main contact person	<ul style="list-style-type: none"> <li>• Provide name, address, e-mail, fax and telephone number.</li> </ul>																																																																		
7. Financial implications	<ul style="list-style-type: none"> <li>• Prepare a simple budget covering:</li> <li>• Meetings/workshops (number of participants, cost per participant per day, number of meetings/ workshop data, stationery, etc., as outlined above</li> <li>• Correspondence and communication</li> <li>• Miscellaneous expenses</li> </ul>																																																																		
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8. Reporting and Monitoring	<p>Progress reporting schedule – one every 8 weeks</p> <p>Minutes of meetings – copies of minutes to be forwarded to TF secretariat regularly</p> <p>Proceedings of workshops – as above</p> <p>Monitoring progress of formed organizations – periodic field visits, attending their meetings and following up on their activities and deliberations/recommendations, forwarding these to TF</p>																																																																		
9. Work out action plan	<table border="1"> <thead> <tr> <th data-bbox="371 1328 464 1350">Activity</th> <th data-bbox="730 1328 783 1350">Year</th> <th colspan="9" data-bbox="826 1328 906 1350">Month</th> </tr> <tr> <td></td> <td data-bbox="730 1368 783 1391">2007</td> <td data-bbox="847 1368 884 1391">Jan</td> <td data-bbox="943 1368 979 1391">Feb</td> <td data-bbox="1023 1368 1059 1391">Mar</td> <td data-bbox="1102 1368 1155 1391">April</td> <td data-bbox="1198 1368 1251 1391">May</td> <td data-bbox="1278 1368 1315 1391">Jun</td> <td data-bbox="1358 1368 1410 1391">July</td> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td data-bbox="371 1408 504 1431">a. Field trips</td> <td></td> </tr> <tr> <td data-bbox="371 1449 655 1471">b. Sensitization workshops</td> <td></td> </tr> <tr> <td data-bbox="371 1489 683 1512">c. Group formation meetings</td> <td></td> </tr> <tr> <td data-bbox="371 1529 687 1552">d. Monitoring and evaluation</td> <td></td> </tr> </tbody> </table>	Activity	Year	Month										2007	Jan	Feb	Mar	April	May	Jun	July			a. Field trips											b. Sensitization workshops											c. Group formation meetings											d. Monitoring and evaluation										
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## Annex 2. Comparative dairy industry structures

	India	Uganda (1997 Dairy Industry Act)	Zimbabwe	Queensland, Australia (1992)
Farmers' cooperative structure	3-Tier: primary, district, national	Primary cooperatives, district/zonal cooperatives, association	Zimbabwe Dairy Board for commercial dairy farmers, emerging primary smallholder cooperatives	Primary cooperatives
Processing industry	Mostly farmers, district cooperatives + private	Public (dairy corporation) + private processors	Privatized Dairibord Ltd.	Private
Quality control and standards vested in	Co-operatives and private plants	Dairy Board + Bureau of Standards	Zimbabwe Dairy Association –runs artificial insemination system, milk recording and quality-control scheme (private)	National dairy authority
Financing of the Board	Fees, cess, donations (operation flood)	Government subvention, fees	Cess, levies	Government appropriations
Appointments to the board – Chair and board members	Annual general meeting?	Minister of Agriculture	Annual general meeting?	Governor of Council
Relation of board to government	Autonomous	Still government institution	Autonomous	Government institution
Execution of the Board	Managing Chair of the board	Managing Director appointed by Board of Directors	Managing Director?	Executive Director?
Membership				3 persons with experience in milk production, processing or distribution and 3 persons with experience in public admin., business, finance, marketing, quality control or industrial relations, all nominated for appointment by a selection committee



## Annex 3a. Stakeholders and their roles in the dairy industry in Tanzania

Stakeholder	Role
Government – this includes agriculture and other government ministries, and institutions such as the Tanzania Bureau of Standards and the National Food Control Commission (NFCC).	<ul style="list-style-type: none"> <li>• policy formulation and periodic updating</li> <li>• providing extension services plus facilitating private extension services for the time being</li> <li>• ensuring a level-playing ground and fair competition for all participants in the dairy industry</li> <li>• dairy industry research</li> <li>• ensuring the establishment of proper and adequate infrastructure</li> <li>• creating and enabling environment for all stakeholders in the dairy industry</li> <li>• raising necessary funds, including those from development partners, for the development of the dairy industry</li> <li>• contributing to overall dairy industry sustainability</li> <li>• overall development of the dairy industry and promotion of efficiency in the dairy industry</li> </ul>
Ministry of Livestock Development (formerly Ministry of Agriculture and Cooperatives)	<ul style="list-style-type: none"> <li>• overall dairy industry quality assurance and control</li> <li>• overall development of the dairy sector</li> <li>• disease control, including livestock movement and vaccination campaigns for diseases such as foot-and-mouth, rinderpest and contagious bovine pleuropneumonia (CBPP), and ensuring that zonal and central disease diagnostic facilities are available and functioning</li> <li>• initiating policy and legal instruments for the dairy industry</li> <li>• providing dairy extension services for the public good</li> <li>• dairy industry information management in collaboration with proposed board and other stakeholders</li> <li>• ensuring efficiency and healthy competition in the dairy industry</li> <li>• coordinating and harmonizing all dairy industry activities and stakeholders</li> <li>• creating an enabling environment in the dairy industry for and on behalf of the government</li> <li>• through the Department of Research and Development and the proposed National Agricultural Research Council, and in collaboration with Sokoine University of Agriculture, setting the dairy industry research agenda on behalf of the government and carrying out adaptive research, especially at the farm level</li> </ul>
Ministry of Health through NFCC	<ul style="list-style-type: none"> <li>• enforcing hygienic handling of milk and milk products as food items</li> <li>• ensuring that exports and imports of milk and milk products meet minimum hygienic and other health standards</li> <li>• advising the dairy industry on health standards, including monitoring of such substances as growth hormones, drug residues, chemical residues, milk-borne zoonoses and radioactive contaminants.</li> </ul>
Ministry of Local Government and Regional Administration	<ul style="list-style-type: none"> <li>• working hand in hand with the Ministry of Livestock Development and the Ministry of Health in fulfilling their roles as specified above</li> <li>• assisting the government, in collaboration with the Ministry of Livestock Development, in fulfilling its role as spelled out in this policy and for the general advancement of the dairy industry</li> <li>• working towards the socio-economic development of the people through supporting dairy industry development in their areas of jurisdiction</li> </ul>

<b>Stakeholder</b>	<b>Role</b>
Farmers (producers) – these include dairy farmers, farmer groups and cooperatives, and other organizations at the village/district/zone and national levels	<ul style="list-style-type: none"> <li>• representing, promoting and lobbying for farmers' interests</li> <li>• enabling farmers to take advantage of economies of scale</li> <li>• enabling farmers to source inputs and market their produce efficiently, including establishment of farm-supply stores at convenient locations and availing credit lines to their members</li> <li>• establishing banking and credit facilities for members (SACCOS, SACAS)</li> <li>• sourcing new technologies for farmers (research and extension)</li> <li>• contributing to policy initiatives on behalf of the farmers</li> <li>• affiliating with district, regional, zonal, national and international organizations with similar interests on behalf of and for the benefit of their members</li> </ul>
Milk processors – those with capacity to pasteurize and add value to raw milk by producing other products such as cheese and ghee	<ul style="list-style-type: none"> <li>• ensuring quality processed milk and milk products in the market at reasonable cost</li> <li>• creating demand for their products through market promotions</li> <li>• responding to consumer demand</li> <li>• contributing to dairy research</li> <li>• undertaking innovative introduction of new dairy products in the market and promoting their consumption</li> <li>• creating healthy competition in the market</li> <li>• participating in dairy policy formulation</li> <li>• contributing to dairy industry sustainability through efficient processing</li> </ul>
Service providers	<ul style="list-style-type: none"> <li>• responding to dairy industry service demand</li> <li>• ensuring availability of quality services in the market</li> <li>• supplying dairy services at competitive prices</li> <li>• ensuring that services conform to quality standards</li> <li>• keeping pace with new technologies and standards</li> <li>• promoting proper use of services/inputs in the industry</li> <li>• providing product/service information to customers</li> <li>• providing services on credit when necessary</li> </ul>
Input suppliers – including suppliers of veterinary drugs, feeds, equipment, etc.	<ul style="list-style-type: none"> <li>• responding to dairy industry input/service demand</li> <li>• ensuring availability of quality inputs/services in the market</li> <li>• supplying dairy inputs/services at competitive prices</li> <li>• ensuring that inputs/services conform to quality standards</li> <li>• keeping pace with new technologies and standards</li> <li>• promoting proper use of inputs in the industry</li> <li>• providing product information to customers</li> <li>• facilitating purchase arrangements</li> </ul>
Donors and NGOs involved in the dairy industry	<ul style="list-style-type: none"> <li>• supplementing public- and private-sector efforts to develop of the dairy industry</li> <li>• supporting disadvantaged groups in the dairy industry</li> <li>• assisting and catalysing the introduction of new technology in the dairy industry</li> <li>• contributing to national efforts in dairy development</li> </ul>
Milk traders – including wholesalers, retailers and raw milk traders (vendors and hawkers)	<ul style="list-style-type: none"> <li>• promoting wide use of milk and various milk products</li> <li>• maintaining high quality standards in dairy trade</li> <li>• interpreting market signals for both producers and consumers</li> <li>• linking supply and consumption</li> <li>• participating in policy formulation</li> <li>• promoting efficiency in milk trade</li> <li>• promoting milk consumption</li> </ul>

Stakeholder	Role
Consumers – including individual consumers and consumer organizations	<ul style="list-style-type: none"> <li>• ensuring the supply of quality milk and milk products</li> <li>• signalling what the dairy market should offer</li> <li>• exerting pressure on the dairy industry to be efficient and competitive</li> <li>• responding to market signals of supply and demand</li> <li>• getting involved in electing management committees and in the management of consumer organizations</li> <li>• demanding representation in issues regarding dairy industry development and collaborating with NFCC to ensure compliance with these standards.</li> <li>• initiating and coordinating dairy industry research</li> <li>• promoting milk consumption through advertisement, etc.</li> <li>• disseminating information</li> <li>• lobbying for dairy industry interests</li> <li>• supporting research, education and training</li> <li>• administering dairy development funds</li> </ul>
Proposed dairy development platform/ association/board	<ul style="list-style-type: none"> <li>• dairy industry quality assurance</li> <li>• overall development of the dairy industry</li> <li>• in collaboration with the Ministry of Livestock Development, initiating dairy industry reviews</li> <li>• in collaboration with the Ministry of Livestock Development, managing a dairy industry information system</li> <li>• ensuring that it is a dairy industry stakeholders' agent, not master, and representing their interests in all undertakings</li> <li>• monitoring imports and exports of milk and milk products</li> <li>• supporting dairy industry development through positive interventions such as training</li> <li>• ensuring the observance of hygiene in the entire dairy industry</li> <li>• in collaboration with the Tanzania Bureau of Standards, setting standards for milk and milk products, and in collaboration with NFCC, ensuring compliance with these standards</li> <li>• Contributing to promotion milk consumption through advertisement, etc.</li> <li>• Disseminating information</li> <li>• Lobbying for the interests of the dairy industry</li> <li>• Promoting consumption of milk and milk products</li> <li>• supporting research, education and training</li> <li>• administering dairy development funds</li> </ul>



## Annex 3b. Stakeholders and their roles in the dairy industry in Uganda

Stakeholder	Role
Ministry of Agriculture, Animal Industry and Fisheries	<ul style="list-style-type: none"> <li>• overall development of the dairy subsector</li> <li>• disease control, animal movement, vaccination</li> <li>• extension services</li> <li>• data collation, analysis and publication</li> <li>• policy formulation, implementation and appraisal</li> <li>• coordinating research with other academic and research institutions</li> </ul>
Government agencies	<ul style="list-style-type: none"> <li>• providing auxiliary regulatory functions for animal drugs, technical regulations/ standards</li> <li>• dairy farming advisory services</li> <li>• establishing analytical laboratories and scientists for quality monitoring</li> <li>• research activities</li> </ul>
Ministry of Health/local government	<ul style="list-style-type: none"> <li>• ensuring compliance with hygiene requirements</li> <li>• ensuring public safety and health</li> <li>• epidemiological data collation and collection</li> </ul>
Farmers (individuals or groups)	<ul style="list-style-type: none"> <li>• advocacy for enabling policy environment</li> <li>• marketing of milk and milk products</li> <li>• establishing farm input supplies</li> <li>• sharing information</li> <li>• investing in the dairy subsector</li> <li>• experimental units</li> </ul>
Milk traders and their organizations	<ul style="list-style-type: none"> <li>• collecting milk from farmers and distributing it in urban areas</li> <li>• advocacy for proper policy</li> </ul>
Development partners	<ul style="list-style-type: none"> <li>• advocacy</li> <li>• technical service provision</li> </ul>
Financial institutions	<ul style="list-style-type: none"> <li>• development funding</li> </ul>
Dairy processors	<ul style="list-style-type: none"> <li>• collecting, processing and marketing milk and milk products</li> </ul>



## Annex 4. Features of previous dairy boards in Tanzania (1961–1973), and the proposed new Tanzanian Dairy Board (TDB) (2000)

	<b>Zonal Dairy Boards, 1961</b>	<b>National Dairy Board, 1965</b>	<b>Tanzanian Dairy Board (TDB), (proposed &amp; submitted to government, 2000)</b>
<b>Functions</b>	<ul style="list-style-type: none"> <li>• Opening and running dairy farms and milk-processing plants</li> <li>• Collecting, cooling and marketing of milk and milk products from farmers, milk processors and distributors</li> <li>• Conducting market research and education relevant to farmers and processors</li> <li>• Providing services such as registration, licensing, veterinary services, livestock inputs and testing</li> <li>• Grading of milk</li> </ul>	<ul style="list-style-type: none"> <li>• Advising the government on all matters affecting the dairy sector</li> <li>• Promoting, organizing, regulating and developing the production, processing, marketing and distribution of milk and milk products</li> <li>• Establishing and running dairy farms and milk-processing plants</li> <li>• Registering and licensing all dairy stakeholders</li> <li>• Fixing milk prices</li> <li>• Making by-laws for safeguarding the dairy sector</li> <li>• Promoting milk market development research</li> <li>• Improving quality of milk and milk products</li> </ul>	<ul style="list-style-type: none"> <li>• Dairy industry quality assurance</li> <li>• Overall development of the dairy industry</li> <li>• In collaboration with the Ministry of Livestock Development</li> <li>• Initiating dairy industry reviews</li> <li>• In collaboration with the Ministry of Livestock Development, managing a dairy industry information system</li> <li>• Ensuring that it is a dairy industry stakeholders' agent, not master, and representing their interests</li> <li>• Monitoring imports and exports of milk and milk products</li> <li>• Supporting the dairy industry's development through positive interventions such as training</li> <li>• Ensuring the observance of hygiene in the entire dairy industry value chain</li> <li>• In collaboration with the Tanzania Bureau of Standards, setting standards for milk and milk products, and in collaboration with NFCC ensuring compliance with these standards</li> <li>• Promoting milk consumption through advertisement, etc.</li> <li>• Disseminating information</li> <li>• Lobbying for the interests of the dairy industry</li> <li>• Supporting research, education and training</li> <li>• Administering a dairy development fund</li> </ul>
<b>Financing</b>	Fees for registration, licensing and other services	Fees and government	Fees, cess, donations,
<b>Powers</b>	Appoint inspectors	Minister of Agriculture appoints Chair and board members	Stakeholder council elects Chair and board members from among stakeholders at annual general meeting
<b>Stakeholder involvement</b>	Farmer owned 15% – 40% share in processing plants	Not defined	All stakeholders represented at all levels
<b>Legal status</b>	Corporate body	Corporate body, government agency	Corporate body, autonomous and independent from government

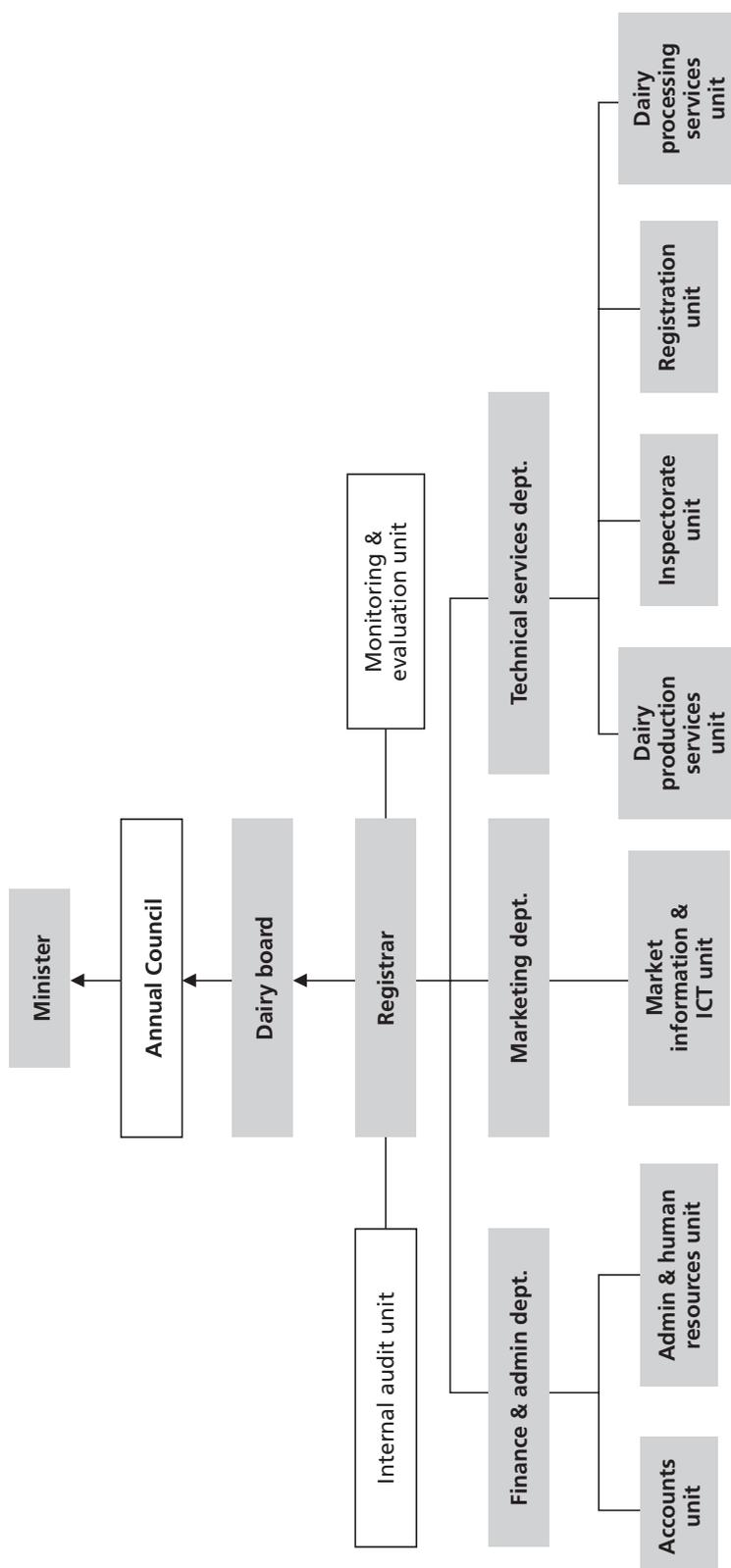


## Annex 5. Proposed functions and structure of the TDB and the Annual Council of the Board

Dairy Council		Dairy Board	
Broad-based stakeholder body		Stakeholder executive body	
Coordinates dairy development and advises government on policy issues		Regulates and controls the dairy industry on behalf of council and government	
Oversees activities of the board		Implements decisions of council	
Elects board Chair and appoints board members		Custodian of Dairy Development Fund	
Meets once per year		Meets at least twice per year	
<b>Proposed composition 1998 Dairy Task Force (2002)</b>	<b>Final 2004 Dairy Industry Act No. 8</b>	<b>Proposed composition 1998 Dairy Task Force (2002)</b>	<b>Final 2004 Dairy Industry Act No. 8</b>
Name: General Assembly	Annual Council	Tanzanian Dairy Development Board	Tanzanian Dairy Board (TDB)
The Minister or his nominee, who shall be the first Chair of the General Assembly at the first annual General Assembly meeting – Council appoints subsequent Chair	Chair to be appointed by the Minister	Board Chair	A Chair who shall be appointed by the Minister
Representatives of <b>registered</b> stakeholder organizations from every district representing: <ul style="list-style-type: none"> <li>• Milk producers</li> <li>• Milk processors</li> <li>• Milk traders</li> <li>• Consumers</li> </ul>	One member representing a <b>recognized</b> stakeholder organization in every district	Executive Secretary	Registrar
Four representatives from registered national dairy farmers' organizations	One member from a registered national milk producers' organization	Milk producers – five members	Two members representing milk producers
Four representatives from registered national milk processors' organizations	One member from a registered national milk processors' organization	Dairy processors – two members	One member representing dairy processors
		Milk traders – One member	One member representing milk traders
		Dairy input suppliers – one member	One member representing dairy input suppliers
		Milk consumers – one member	One member representing milk consumers
Four representatives from registered national milk consumers' organizations	One member from a registered national milk consumers' organization		
Representative from the following public institutions:	Members nominated from public institutions	Ex-officio representative from the following public institutions:	Members nominated from public institutions

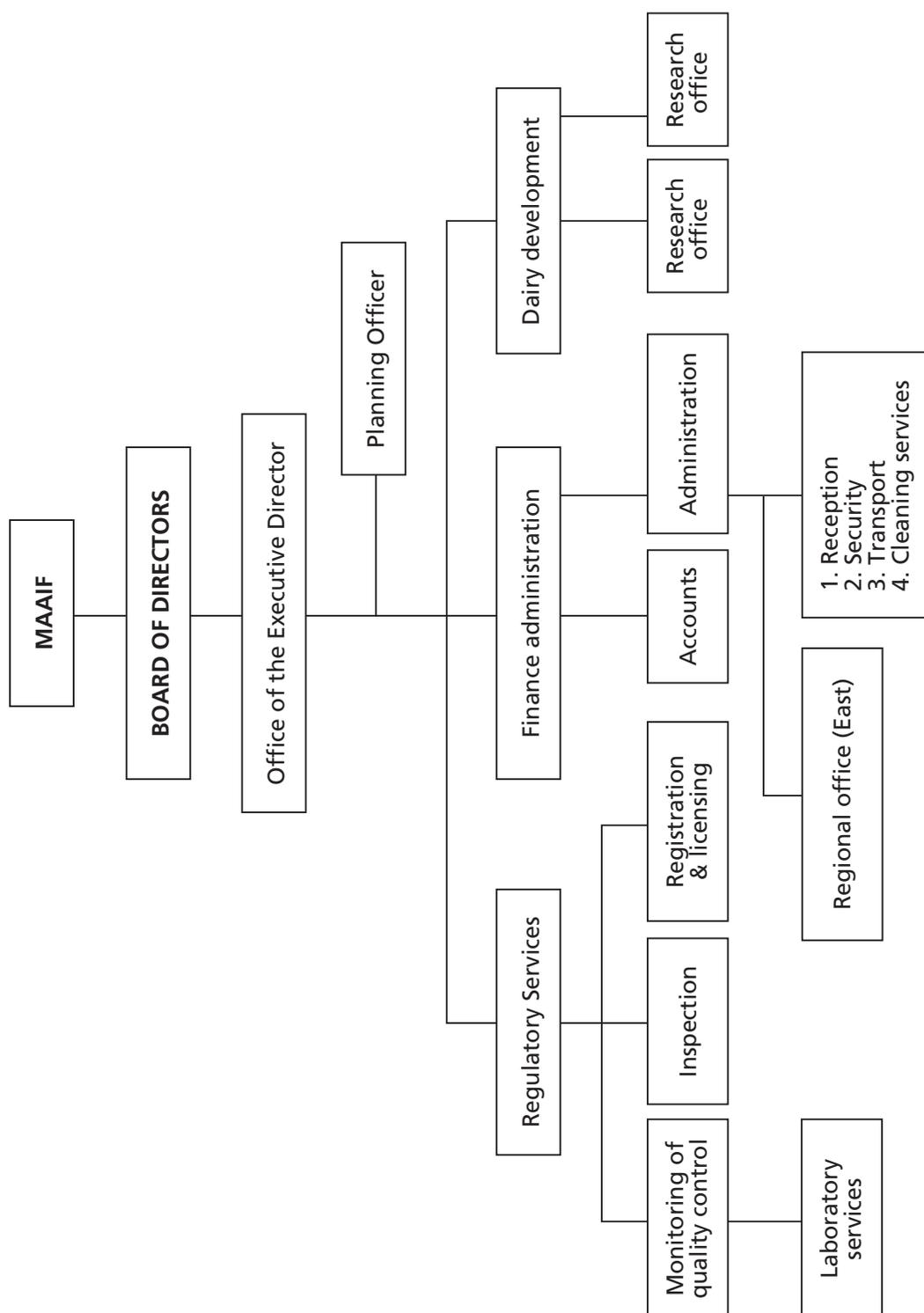
Dairy Council		Dairy Board	
One representative appointed from the following public institutions: TThe Ministry	One member from the ministry responsible for livestock development	The Ministry	One member representing the ministry responsible for livestock development
GGovernment institution responsible for food quality control	One member of a public institution responsible for food quality control	Government institution responsible for food quality control	One member representing the public institution responsible for food quality control
Government institution responsible for standards		Government institution responsible for standards	
University of agriculture	One member from public university of agriculture	University of agriculture	One member from a public university of agriculture
MMinistry responsible for local government and regional administration	One member from the ministry responsible for local government One member from the Ministry responsible for cooperatives	Ministry responsible for local government and regional administration Ministry of Finance	One member from the ministry responsible for local government One member representing the Attorney General
6. Representatives of NGOs active in dairy industry development	Two members from NGOs active in dairy industry development		
		18	13

## Annex 6a. Structure of the TDB



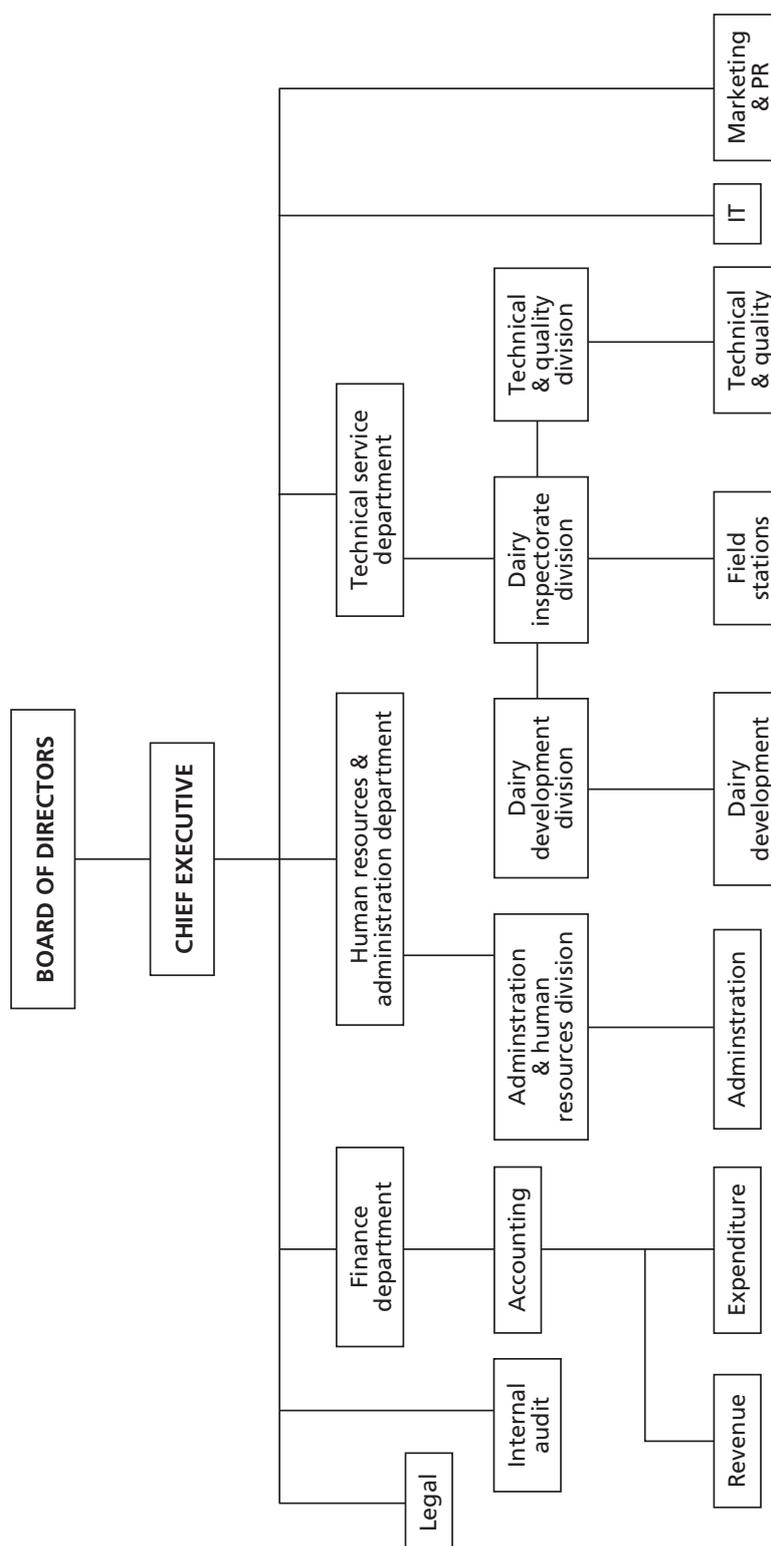


## Annex 6b. Structure of the Ugandan Dairy Development Authority (DDA)



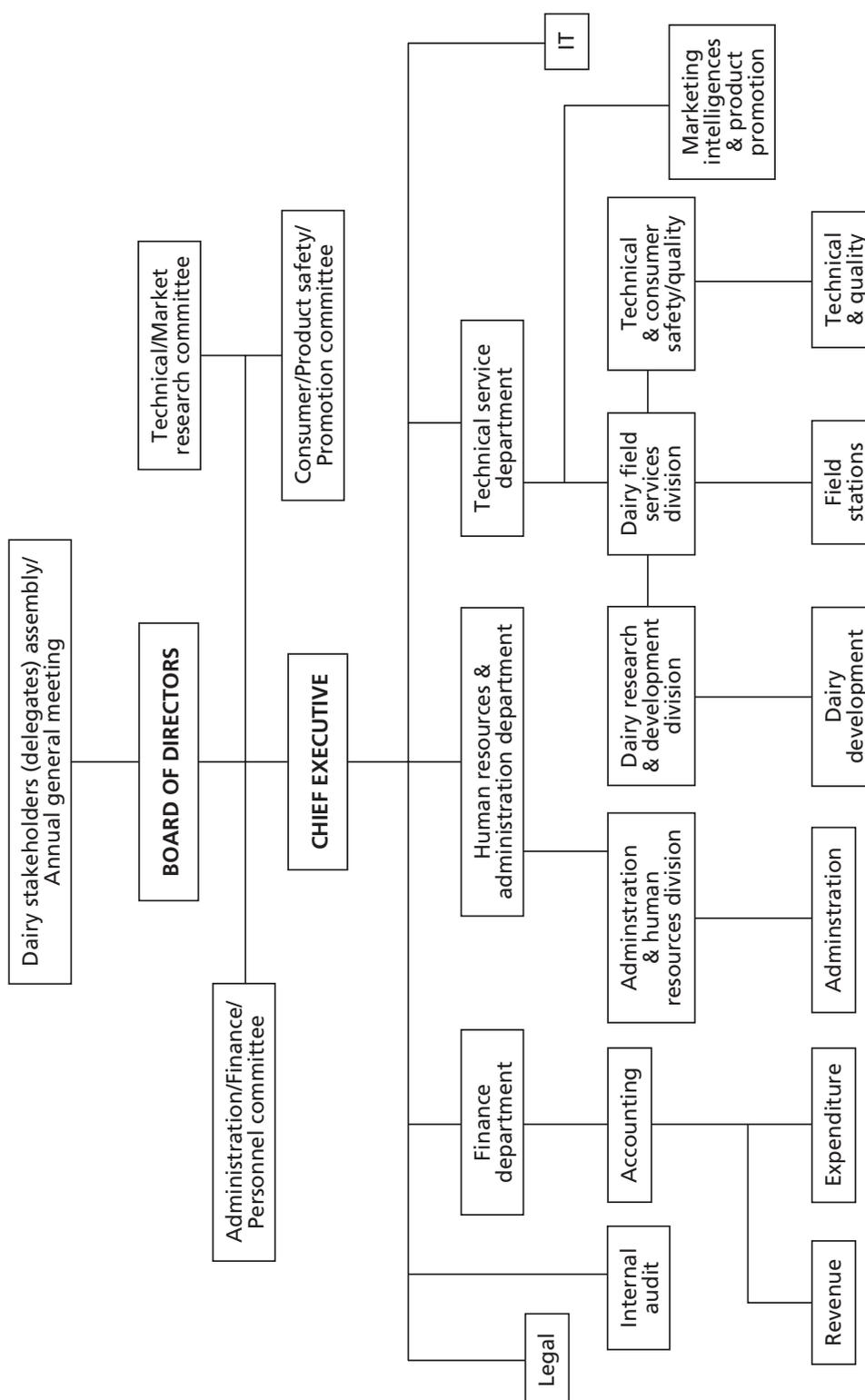


## Annex 6c. Current structure of the Kenya Dairy Board (KDB)





## Annex 6d. Organizational structure of the proposed KDB





# Annex 7. Essential features of dairy regulations

## **MILK AND DAIRY PRODUCTS TRANSPORT REGULATIONS**

### **PRELIMINARY PROVISIONS**

Citation  
Application  
Interpretation

### **MINIMUM REQUIREMENTS FOR TRANSPORTATION OF MILK AND DAIRY PRODUCTS**

Transport equipments and standards  
Restriction for use of carrier or container for transporting milk and dairy products  
Temperature requirements  
Hygiene of equipments and utensils  
Application for transport permit  
Determination by the Board  
Permit fee for containers or carriers  
Conditions of transportation  
Restrictions while handling milk during transportation  
Renewal of permits  
Cancellation of permit  
Labelling

### **OFFENCES AND PENALTIES**

## **REGISTRATION OF DAIRY PREMISES REGULATIONS**

### **PRELIMINARY PROVISIONS**

Citation  
Application  
Interpretation  
Application for registration of dairy premises  
Location, layout and construction of dairy premises and facilities

### **PROCEDURES BEFORE THE BOARD**

Determination by the Board  
Certificate of registration  
Registration fee for dairy  
Validity of certificate of registration

### **RENEWAL AND CANCELLATION OF CERTIFICATE OF REGISTRATION**

Renewal of certificate of registration  
Cancellation of certificate of registration  
Procedure for cancellation

Right of appeal  
Procedure for appeal

## **MILK AND DAIRY PRODUCTS REGULATIONS**

### **PRELIMINARIES**

Citation  
Application  
Interpretation

### **MINIMUM QUALITY REQUIREMENTS FOR MILK AND DAIRY PRODUCTS**

Adulterated milk and dairy products  
Modified dairy products  
Pasteurised milk or dairy products  
Standardized milk  
Sterilized milk  
ultra-high temperature (UHT) milk  
Reconstituted milk  
Low-fat milk  
Reduced-fat milk  
Toned milk  
Evaporated milk  
Evaporated skimmed milk  
Sweetened condensed milk  
Skimmed sweetened condensed milk  
Whole milk powder  
Skimmed milk powder  
Partly skimmed milk powder  
Whey powder  
Acid-whey powder  
Chocolate drink  
Cheese  
Skimmed milk cheese  
Cream cheese  
Processed cheese  
Skimmed milk processed cheese  
Cottage cheese  
Cream cottage cheese  
Cottage cheese made from sour milk  
All cottage cheese products to be made from pasteurized milk  
Whey cheese  
Creamed whey cheese  
Skimmed whey cheese  
Restrictions on the sale of cottage cheese products  
Butter  
Ghee  
Butter oil  
Cream  
Dairy whip  
Ice cream  
Milk ice  
Cultured milk

Yoghurt

Flavoured yoghurt

Restriction on the use of the term yoghurt

Malted milk

**MISCELLANEOUS**

Restrictions on dealing with milk and dairy products

Offence

Penalty



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# Annex 8. Duties and powers of the board members, inspectors and analysts

## **PRELIMINARY PROVISIONS**

Citation

Application

Interpretation

## **APPOINTMENT, DUTIES AND POWERS OF INSPECTORS AND ANALYSTS**

Appointment of inspectors and analysts

Training and issuance of identification cards

Tenure of office

Termination of inspectors and analyst

Submission of identification card

Duties of inspector

Powers of the Board

Powers and duties of analysts

Sampling and analysis of milk and dairy products

Inspection fee

Inspection report

Submission of report to the Board

Obligation of the inspector

## **MISCELLANEOUS PROVISIONS**

## **OFFENCES AND PENALTIES**

## **IDENTIFICATION CARD FOR INSPECTORS**



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# Annex 9. Treatment and disposal of unfit milk or dairy products

## **PRELIMINARY PROVISIONS**

Citation

Application

Interpretation

Sampling and analysis of milk and dairy products

Voluntary surrender of milk or dairy product

Reconditioning of milk or dairy products

Seizure of milk or dairy products

Procedure for disposal

Methods of disposal

Offences and Penalty

Revocation

## **SAMPLING NOTIFICATION AND RECEIPT**

## **CERTIFICATE OF VOLUNTARY SURRENDER OF MILK OR DAIRY PRODUCT**



## Annex 10a. SWOT analysis of Tanzania's dairy industry

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Provides regular income to farmers, processors, wholesalers and retail traders.<sup>1</sup></li> <li>• Milk production has attractive profit margins in most farming areas where appropriate technology is applied.</li> <li>• Dairy farming, particularly on smallholder farms, improves the nutrition of the families, especially children.</li> <li>• There is a foundation herd of around 500 000 improved dairy cattle and over 17 million Zebu cattle. Expansion of dairy herd from the available stock is feasible.</li> <li>• During the last two decades, considerable experience in the production, collection and processing of milk has been gained; this experience will be a base for an expanded and improved industry.</li> <li>• Dairy farming offers opportunities for agricultural integration, which will increase farmers' benefits, improve environmental protection and better utilize farm resources.</li> <li>• Dairy farming is labour intensive and therefore offers employment opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>• The dairy herd and the traditional livestock have low productivity (in terms of milk produced per hectare/ animal unit) due to: low genetic potential of Zebu cattle; poor feeding; poor husbandry practices; and frequent attacks by animal diseases.</li> <li>• Poor monitoring and data collection in the livestock sector.</li> <li>• Highly competitive regional imports? Dairy product prices to consumers are high (relative to average incomes) despite low production cost, mainly on account of high collection and processing costs. This is a reflection of the low milk production density in most milk producing areas, poor road infrastructure and low utilization capacity in most milk processing plants. Moreover, milk production surplus areas are far from deficit urban centres.</li> <li>• Dairy cattle improvement through breeding and selection is done only on few farms. The poor performance of the artificial insemination services and poor performance of dairy bull distribution projects is resulting in a slow expansion of the dairy herd.</li> <li>• Following reforms in the management and provision of support services, the institutional framework for the division of roles between government and the private sector is not yet clear.</li> <li>• Dairy extension is weak in many areas. The biggest constraint is a lack of appropriate extension services. This in turn is due to poor farmer-extension-research linkages. In addition, the services are poorly funded.</li> <li>• Research on dairy issues is inadequate to respond to the many needs of stakeholders. Apart from poor linkages indicated above, the services are not adequately funded and they lack a long-term perspective.</li> <li>• Although farmers organizations have played a very important role in dairy development elsewhere, especially in milk collection and marketing, such institutions are weak in Tanzania.</li> <li>• Lack of disaggregated information on milk supply and demand. This is a weakness for the future planning of investments in the subsector</li> </ul>

<sup>1</sup> It has been estimated that for every one 4 Livestock Unit (5 animals), one on-farm labour opportunity is created and one off-farm employment opportunity in services such cutting grass, transportation and marketing is created for every 50 Livestock Unit or 10 farm holdings. With average rural wages of 5 000 –10 000/= per month, the contribution to poverty alleviation is extended beyond the farm household (TSDDP 1996).

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• There is strong demand for milk and dairy products in areas where people have high purchasing power. This demand is expected to expand in the medium and long term given the expected increase in human population and per-capita income. The income elasticity of demand for milk is expected to remain high.</li> <li>• Tanzania possesses adequate land resources and climate for supporting different systems of milk production (intensive; high input –high output, exclusive; low input – low output and intermediaries) and for expansion.</li> <li>• There is a good supply of labour that has at least basic primary education and tradition of keeping cattle, sheep and goats.</li> <li>• There is a good supply of trained personnel in different disciplines relevant to dairy production, processing and marketing.</li> <li>• The crop subsector, particularly cereal grain production and agro-processing, will provide a considerable amount of by-products suitable for feeding dairy cattle at low cost.</li> <li>• The liberalization of inputs supply and support services offers the private sector an opportunity for improving the service delivery and profitable investment.</li> <li>• Many people in the country readily accept goat milk. This offers an opportunity for investing in dairy-goat breeding, production and marketing.</li> </ul>	<ul style="list-style-type: none"> <li>• The liberalization and globalization of trade is a threat to the local dairy industry, especially if imported dairy products are subsidized by exporting countries or import taxes are not paid. Recent studies have shown a trend for import surges between 1994 and 2004.</li> <li>• Research in the country is not adequately focused on solving major problems in the sector. For example, there is very little research done on socio-economic issues. There is also a threat that number of research facilities and programmes will close down.</li> <li>• The concern over environmental pollution within urban and peri-urban areas may force the government to discourage dairying near these centres.</li> <li>• Enforcement of regulations on sales of unprocessed milk may depress demand for milk, particularly among poor consumers. This will result in a loss of income to producers and traders of unprocessed milk, and decreased consumption of milk since processed milk is more expensive and demand for milk is highly price elastic.</li> <li>• In some sectors of the dairy industry, there is a lack of highly skilled and managerial expertise, especially on large-scale dairy farms and in the processing industry.</li> <li>• External demands for oil seeds, residues and molasses may encourage exporters to sell animal feed at the expense of the local industry.</li> <li>• The continuing rural-urban migration, unattractiveness of rural life and low returns from farming may draw the most productive youths away from dairy farming.</li> </ul>

## Annex 10b. SWOT analysis of the Ugandan dairy industry (Muzira 2007)

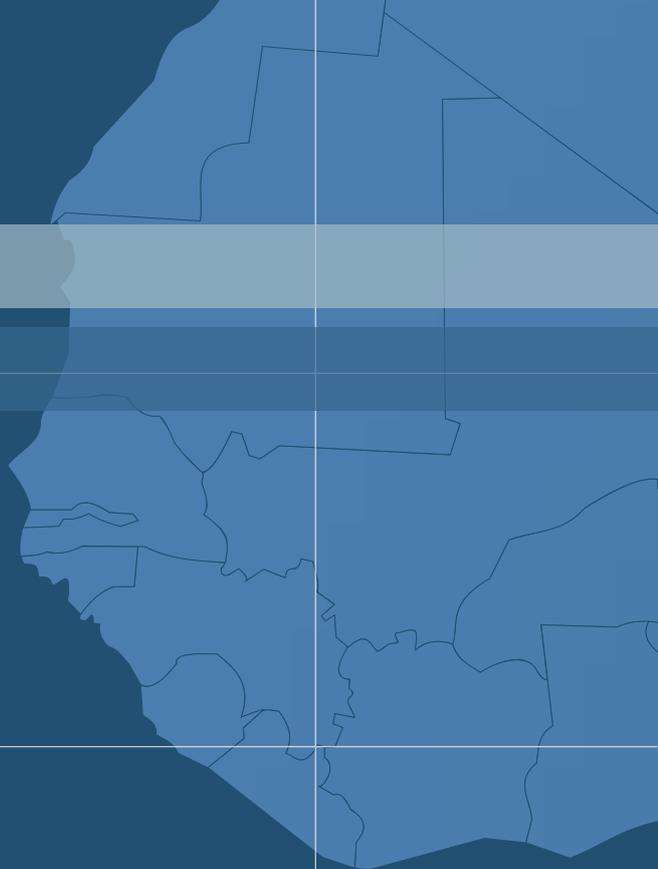
STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Uganda has a comparative advantage in milk production; it is endowed with natural resources (climate, land, water) and a growing population with reasonable spending power.</li> <li>• Large number of small holders (700 000 households) with 3-5 cows motivated by gainful employment and currently spread in 42 districts with potential to expand through the 'loan-a-cow' programme implemented by NGOs.</li> <li>• A cattle population consisting of local and exotic breeds that has encouraged cross breeding and gradual improvement in the productivity of the animals.</li> <li>• Cattle-keeping skills gained from long-term hands-on experience; traditional research where breeding, disease control and feeding knowledge is continuously carried out among cattle keepers.</li> <li>• Existence of science-based research institutions and technology dissemination mechanisms in the dairy sector.</li> </ul>	<ul style="list-style-type: none"> <li>• Reliance on nature for production has been catastrophic in some parts when droughts hit, killing animals and affecting milk production.</li> <li>• Inability to convert plant wastes and food wastes to formulate feeds while rice and maize bran is cheaply collected from mills and exported leaves farmers in Uganda with an inadequate feed supply.</li> <li>• Disease surveillance and response is weak and control of certain diseases is a preserve of the government (MAAIF).</li> <li>• Insufficient milk collection infrastructure: most of the collection centre locations have not changed – many are idle or located away from production. Hence milk collection is done under tree shades or at road junctions without proper premises, posing risks of contamination.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Lack of sufficient animal feeds in the country and rampant droughts provide an enormous opportunity for pasture seed production, fodder and feed preservation.</li> <li>• The low capacity utilization at most processing plants and low consumption provides an opportunity for expansion in processing with respect to increased demand; low consumption can be increased as the milk consumption culture picks up and the income of many Ugandans improves.</li> <li>• Milk-deficit areas present opportunities for dairy production and marketing supported by high level of unemployment, which may provide an opportunity for attracting qualified personnel into this sector.</li> <li>• The presence of business-development services and high potential for profitability is envisaged to improve service delivery.</li> </ul>	<ul style="list-style-type: none"> <li>• Imports from developed countries pose a threat to the Ugandan dairy industry that is still in its early growth stages.</li> <li>• Civil strife in some parts of the country is blamed for looting and destruction of disease-control infrastructure, impacting negatively on production.</li> <li>• Land fragmentation has resulted from high population growth; productive land is shrinking.</li> <li>• The cost of power is very high and in some places it is not available at all; this makes it difficult to handle milk and dairy products along the value chain. High prices for beef encourage farmers to sell off animals to slaughterhouses.</li> </ul>



## Annex 10c. SWOT analysis of the KDB (Muriuki 2007)

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• KDB is an old and established institution, and well known in the country.</li> <li>• It is a statutory institution and enjoys government support.</li> <li>• KDB has improved capacity significantly in the last 10 years following internal reforms. It is relatively self-sufficient, getting 70% of its resources from internally generated revenue and only 30% from government grants.</li> <li>• It works closely with other stakeholders in the sector.</li> <li>• KDB's corporate image in the industry has improved significantly. KDB has a national branch network.</li> <li>• KDB's management of information has improved following digitization of its systems.</li> </ul>	<ul style="list-style-type: none"> <li>• Stakeholders may have a negative image of KDB because of its earlier overemphasis on industry policing.</li> <li>• KDB has inadequate capacity to carry out its mandate in the industry.</li> <li>• KDB has inadequate legal capacity to enforce regulations in the dairy industry.</li> <li>• KDB lacks capacity to adequately monitor the milk volumes in the market.</li> <li>• KDB has limited resource capacity to meet stakeholders' expectations.</li> <li>• KDB still suffers from past work traditions and poor corporate governance.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• The Kenyan dairy sector contributes significantly to the national economy.</li> <li>• The Kenyan dairy industry is a growth sector in the economy and has great potential to create wealth and employment.</li> <li>• Kenya has the largest dairy industry in the region and there is a great market potential in the regional markets for Kenyan milk and dairy products.</li> <li>• Kenya has qualified manpower to manage growth of the dairy industry.</li> <li>• Kenya's new political dispensation and government policies have had a catalytic effect on growth of the dairy sector.</li> <li>• Existing standards and regulatory agencies, and documented milk quality standards provide a platform for quality assurance in the industry.</li> <li>• Milk channelled through the informal sector has the potential to be mainstreamed and to increase the volume and quality of the milk consumed in Kenya.</li> </ul>	<ul style="list-style-type: none"> <li>• Low per-capita consumption of high-value dairy products limits the growth of the dairy industry.</li> <li>• Limited public awareness on need for quality milk continues to hamper KDB's operations.</li> <li>• Mismanagement by some milk-marketing groups and delayed payments by some operators in Kenya have resulted in producers' distrust of the informal milk markets, therefore encouraging sales to informal sector.</li> <li>• Aggressive marketing of other beverages while there is no generic promotion of milk consumption in the market threatens consumption of dairy products in the country.</li> <li>• Growth of a large informal milk market continues to pose public health concerns to consumers.</li> <li>• The country's high poverty has eroded the purchasing power of consumers.</li> <li>• Unregulated livestock movement has increased the prevalence of diseases and reduced dairy herd productivity.</li> <li>• Low per-cow productivity makes milk production costs uncompetitive.</li> </ul>





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