

# Livestock for development

A study of livestock marketing in the Lakezone of Tanzania and its potential for local economic development



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Sometimes a picture says more than a thousand words...

The photo on the cover of this study already unravels quite some of the issues related to the livestock sector in Tanzania; hygiene, professionalism and proper control are obviously lacking at this local slaughter slab.

*Cover photo: local slaughter slab in Katoro village (field research, 2011)*

Pastoralists should consider livestock keeping as an economic activity. Not only as a matter of lifestyle and prestige.

– Quote by Ramadhan Abdullahi in Dutch newspaper Trouw, 2011

## Acknowledgements

The first and most important thing I want to say at this place, is how extremely grateful I am for the wonderful time I experienced during my field research in Tanzania. I arrived in Mwanza in February 2011, and was introduced to SNV Lakezone Portfolio soon afterwards. This was the start of an amazing period of three months in which I both enjoyed carrying out field research and experiencing daily life in a wonderful African country. I will never forget the beauty of the country and its people and, in particular, the special atmosphere at the many livestock markets I visited.

The thesis in front of you is the end product of the Master International Development Studies. During my studies, both my interest in and criticism about development cooperation increased. For this thesis, I choose to study cows and their potential contribution to the local economy in Tanzania, because I think this is a topic that matters. First of all, it matters because meat consumption is an important aspect of human consumption behaviour, in several different ways. Second of all, it is important because it is about providing opportunities for local economic development. Researching the topic in Tanzania has been a great learning opportunity and a valuable experience; I hope you will enjoy reading the end result of it!

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Thank you all, asanteni sana!

Frederieke Anna Ton  
Utrecht, April 2012

## Abstract

While potentials for livestock sector development are high in Tanzania, the sector only accounts to 13 percent of GDP at the moment. Marketing constraints are identified to pose major barriers to economic exploitation of the sector. The aim of this study is to get a greater insight in the system of livestock marketing in the geographical context of the Lakezone. Moreover, the study aims to identify possible interventions needed to enlarge economic benefits derived from the livestock sector in the research area. The outcome of the study is that livestock marketing is complex; many actors and channels are involved and multiple marketing constraints are identified at producer, primary market and secondary market level. Livestock production can be characterized in a supply chain; the supply chain characterization emphasizes the weak position of producers within the chain. Opportunities to improve the position of producers and increase economic benefits from the livestock sector are existing; commercialization of the sector, a change of traditional behaviour and an increased level of education compose major potentials. Different tools can be applied to realize these potentials, such as establishing producer organizations and the strengthening of government and financial institutions.

### Key words

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Cattle, livestock marketing, supply chain, chain strategies, local economic development, economic potential, Tanzania

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## Abbreviations & conversions

### Abbreviations

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CIA	Central Intelligence Agency
CLMO	City Livestock Marketing Officer
DLMO	District Livestock Marketing Officer
FDG	Focus Group Discussion
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
KIT	Royal Tropical Institute
LEO	Livestock Extension Officer
LED	Local economic development
NABC	Netherlands-African Business Council
NARCO	National Ranching Company
NBS	National Bureau of Statistics
ODA	Official Development Assistance
RELMA	Regional Land Management Unit
RMVC	Red Meat Value Chain
SACCOs	Savings and Credit Cooperatives
SAP	Structural Adjustment Plan
SCM	Supply Chain Management
SNV	Netherlands Development Organisation
TPSF	Tanzania Private Sector Foundation
TSAEE	Tanzania Society of Agriculture Education & Extension
TZS	Tanzanian Shilling
UNDP	United Nations Development Programme
UU	Utrecht University

### Currency conversion

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1 Euro	=	2,089 TZS
1 TZS	=	0.0005 Euro (XE, 2012)

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## INTRODUCTION

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Tanzania is bordering Kenya to the North, one of the countries of the Horn of Africa that has been suffering from severe droughts and famines last year. Images of the crisis appeared to us in newspapers and on television; people were hungry and walking for weeks to find water and food; children and cattle were dying along the road.

One can imagine that droughts are also increasingly becoming a problem in neighboring country Tanzania. The rainy season started very late last year and the rains were scarce, compared to other years. This has major impacts on, amongst other things, the agricultural sector. Large parts of the Tanzanian economy are dependent on agriculture; the sector accounts for 45.7 percent of GDP and 76.5 percent of employment (UNDP, 2011).

Cattle are an important agricultural product in Tanzania; besides Ethiopia and Sudan, Tanzania has the largest cattle herd of Africa. However, the livestock sector only accounts for 13 percent of GDP in the country (SNV, 2011). The sector is facing multiple problems, such as traditional production methods, bad utilization of grazing lands, lack of grazing lands and water, inadequate budget allocation by the government and problems regarding market access (Msekela, 2008). With the current droughts, some of these problems are getting more severe. Some people say that pastoralists should therefore change their lifestyles and working methods and ‘consider livestock keeping as an economic activity; not only as a matter of lifestyle and prestige’ (Trouw, 2011). Cattle still represent social status to a great extent to many people living in developing countries and this poses a huge barrier to economic exploitation of the livestock sector.

Even though the sector is facing many problems, economic potentials of livestock sector development are large. Not only the large availability of cattle in Tanzania, but also the increasing demands for livestock products embrace major opportunities. Moreover, economic potentials are not exploited yet; production methods are far from efficient at the moment.

In this context, this study aims to explore economic potentials of the livestock sector in the specific geographical context of the Lakezone, located in the North of Tanzania. Since marketing constraints pose a huge barrier to economic exploitation of the livestock sector, one of the objectives of the study is to enhance understanding of livestock marketing in the research area. Moreover, the study aims to understand and characterize the livestock supply chain and to assess whether several strategies to enhance chain performance and promote local economic development (LED) can be applied to the research area. In the end, the research attempts to identify possible interventions to enlarge economic benefits derived from the livestock sector. The main question of the study thus reads as follows;

Which interventions are needed to enlarge economic benefits from the livestock sector in the Lakezone?

To answer this question, extensive literature study and field research have been carried out. The field research has been conducted in Mwanza and Shinyanga region, both part of the Lakezone. Multiple livestock markets have been visited in order to characterize livestock marketing in the

research area. Many observations have been made and multiple livestock officers, traders and producers have been interviewed at these markets. Moreover, a number of livestock producers have been visited at their homes. Also, several key informants, employed in the livestock sector, have been consulted. Finally, a focus group discussion with livestock producers and officers has been organized to share initial research findings and to receive input on which interventions are needed to improve the position of livestock producers and overall livestock sector performance.

The first chapter of this study contains the theoretical context of the research, in which several theories on the role of livestock in development, tools to characterize the livestock sector in a specific context and LED theories and strategies are provided. Subsequently, the second chapter embraces the geographical context of the study, which is important to understand the geographical, social and economic situation in the research area. The third chapter, then, includes the methodological framework, in which the different methods applied to collect the research data are explained. The actual research findings are presented in chapter 4, which presents information on different levels of livestock marketing; the producer level, the primary market level and the secondary market level. Moreover, it looks at marketing structures by identifying different official and unofficial trade channels. Also, the specific situation regarding Igoma secondary market in Mwanza city is presented as a case study. Chapter 5 brings the different elements of this study together and results in a synthesis on the economic potentials of the livestock sector in the Lakezone of Tanzania. It includes the merge of theories and research findings, the application of different chain and LED strategies to the research findings and ideas of others on how to increase economic benefits from the livestock sector. Chapter 6, finally, provides answers to the research questions and thus composes the conclusion of the study.

# 1. THEORETICAL CONTEXT

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This theoretical context provides the foundation for the other chapters of this thesis. It aims to present various theories on the role of livestock in development (1.1), different tools to characterize the nature of the livestock sector in a specific context (1.2) and local economic development theories and strategies (1.3). These topics are relevant to be able to answer the main question of this research: Which interventions are needed to enlarge economic benefits from the livestock sector in the Lakezone of Tanzania? Chapter 5 is linking back to this theoretical context by relating theories, geographical data and research findings to each other.

## 1.1 Theories on the role of livestock in development

The livestock sector is growing rapidly in developing countries. Livestock sector development is considered to be of major importance for economic development in Africa. This thesis tries to address the question how livestock can better contribute to economic development in Tanzania. In the first section of this chapter the various theories and views on the role of livestock in economic development are discussed.

At first, the views of different authors on the role that livestock can play in economic development are given in section 1.1.1. Then, a section on livestock policies follows. The third section explains how livestock marketing works and how it can make a contribution to economic development. In order to understand the importance of the livestock sector in general and the multiple functions of livestock some background information is also provided in sections 1.1.4 – 1.1.6.

### 1.1.1 Livestock & economic development

Livestock can serve multiple purposes to people living in Africa, such as purposes related to food and money or to security and social status. The different purposes are discussed in more detail in section 1.1.4. The multiple functions of livestock and the importance of livestock as a cultural asset complicate livestock sector development attempts. Several questions rise; how do social and cultural aspects of livestock complicate livestock sector development? Which other factors are playing a role? Can the livestock sector contribute to economic development and in which different ways? Which interventions are suggested by different authors to enlarge the contribution of livestock to economic development? This section tries to answer these questions.

Literature provides many arguments on whether livestock can contribute to economic development or not. Some authors argue that traditional lifestyles exist for centuries and are therefore difficult to transform into modern lifestyles. Kreike (2009) suggests that the fact that cattle are often considered to be cultural assets even makes it impossible to increase economic benefits from the sector. Others argue that traditions are changing more rapidly than ever before, because of easy exchange of and access to knowledge and information nowadays. Madsen et al (2007) advocate for the change of traditions, because this would be the only way to enlarge

economic benefits from livestock. Below, the potential contribution of the livestock sector to economic development is discussed in more detail.

The growing livestock sector can be seen as a major opportunity for economic development and poverty reduction for the rural poor, according to Delgado et al (1999). They identified at least six ways in which livestock contributes to the livelihoods of the rural poor; 1) it provides cash income, 2) it is available to poor people, especially to poor women, unlike many other assets, 3) it provides manure and draft power, which are of major importance to soil fertility and the intensification of farming systems, 4) it provides an opportunity to exploit common property resources, 5) it provides an opportunity to diversify incomes and thus to reduce risks and income variability and 6) it provides a source of income that is vital and often the only source of income available at all to the rural poor.

Based on these different contributions of livestock towards livelihoods, Delgado et al give several arguments that support their idea of livestock as a major opportunity for economic development. The poorest people living in rural areas earn a higher share of their income by keeping livestock than the relatively better off people living in these same areas. They have few opportunities to improve their incomes, due to limited access to land and capital. Livestock keeping however does not require the possession of land and can be carried out at small scale. Delgado et al argue that without the possession of land, capital and training, livestock keeping offers one of the few rapidly growing markets that rural poor can access relatively easily (Delgado et al, 1999).

Madsen et al (2007) agree that livestock can contribute to economic development; however, in order to realize potentials, society needs to be organized differently. Livestock serve multiple purposes in developing countries, which on the one hand makes the sector very efficient, but on the other hand not very efficient because it can produce much more meat and milk than it currently does. Some of the purposes that are now served by livestock can easily be served by credible institutions instead. Subsequently, livestock keepers can lower their numbers of cattle and focus on increasing production and income from livestock.

Madsen et al propose four interventions in order to maximize income from livestock production; 1) the introduction of a grazing fee per head of cattle, 2) the change of traditional into commercial thinking and thus the lowering of numbers of cattle, 3) the strengthening of institutions like banks by the government and 4) the involvement of multiple stakeholders at the high end of the livestock chain. The authors admit that it may sound odd to tell people to lower their numbers of cattle, because of the utmost importance of cattle in the lives and traditions of many people. However, it can also be considered odd not to utilize resources efficiently and miss out on economic benefits from livestock (Madsen et al, 2007).

Ly et al (2010) confirm the idea that livestock can contribute to economic development. The authors argue that livestock can contribute to poverty reduction, risk reduction, increased food security and accelerated economic growth. As mentioned before, livestock serves multiple purposes. This is confirmed by the fact that livestock are kept by different people across different wealth groups. In general, poor people are more likely to keep cattle than the non-poor,

because the poor try to reduce risks by diversifying activities. The authors argue that in the end, livestock can only contribute to income growth and provide a pathway out of poverty to a small number of people, because only a small number of households will be able to focus their activities on livestock production. To a much bigger share of livestock keepers, livestock is not a major source of income and therefore specialization is difficult (Ly et al, 2010).

While Madsen et al (2007) consider a change of society to be necessary for the economic contribution of livestock; Ly et al consider a change of policies to be a prerequisite. Policies should be consistent with all different roles that livestock can play to different people (Ibid).

The importance of policies is also emphasized by Pica-Ciamarra (2005), who argues that it is difficult to develop a livestock sector that benefits poor people. Policies that aim at improving the livestock sector often do not acknowledge the multiple functions of livestock. The following paragraph discusses livestock policies further.

### **1.1.2 Livestock policies**

Policies for livestock development in developing countries often aim at production goals, such as increasing meat and milk production, in order to generate more income from the livestock sector and meet growing demands for food of animal origin. Policies prioritize the use of technologies to enhance productivity and do not focus on poverty reduction. Existing policies often do not acknowledge the multiple roles (see section 1.1.4) that livestock can play to different people (Pica-Ciamarra, 2005 & Randolph et al, 2007).

The fact that policies are not aiming at poverty reduction at the moment, makes it difficult to develop a livestock sector that benefits poor people. Besides, policies aim at short term improvements and do not pay attention to a changing macroeconomic situation and increasing access to global markets. Finally, most policies fail to address the most important constraint of livestock keepers in developing countries; the difficulty to access markets and market information (Pica-Ciamarra, 2005).

In order to solve these issues, three interventions to make livestock policies more pro poor focused can be recommended. At first, it is important to provide poor livestock keepers with access to basic production inputs and tools to manage risks. Second, livestock markets need support to take off, which means that livestock keepers should have access to financial services, animal health and extension services and output markets. Third, existing livestock markets should be strengthened and expanded in order to enhance sustainable livestock production (Ibid).

Another approach to livestock sector development is a dual-track approach. Especially in West Africa, policies are just focusing on increasing livestock production and trade at the moment and do not recognize the multiple ways in which livestock contributes to livelihoods of people. A dual-track approach supports both production goals and the non-market linkages between livestock and livelihoods. Both people who keep livestock to make profits only and people who keep livestock for multiple purposes would be able to benefit from an approach like this (Ly et al, 2010).

The prerequisites for livestock sector development are sufficient policies and institutions, which enable people to make use of services to improve animal health and marketing opportunities. Investments in both technical and institutional aspects are necessary to establish these kinds of strong policies and institutions (Ibid).

### **1.1.3 Livestock marketing**

Livestock can be an important source of income to people. Logically thinking, one might argue that a household will decide to sell an animal when prices are good and high profits can be made. However, for livestock keepers in developing countries it is not that simple and risk management plays an important role as well. The decision to sell and trade cattle or not is based on household characteristics and the broader physical and institutional infrastructure that is available (Pica-Ciamarra, 2005). In terms of constraints, three types of marketing constraints can be identified; 1) a lack of know-how and capital, 2) inadequate physical infrastructures and 3) a weak institutional framework (Eskola, 2005).

#### *1) A lack of know-how and capital*

Households have numerous characteristics that can influence the decision to either sell cattle or not. The decision to sell cattle and to participate in markets is affected by income, level of education, types of cattle, available information and distance to markets. For example, transaction costs for small scale livestock keepers are high and a household may reject the opportunity to increase production, because the costs of investments are too high (Pica-Ciamarra, 2005).

These characteristics can be described as individual constraints, because they are based on the characteristics of an individual. Households' characteristics are an impediment to marketing when there is a lack of know-how or capital within the household, or when marketing decisions are based on risk avoidance. A lack of know-how is very common in developing countries; most farmers lack entrepreneurial skills and knowledge of markets and prices. As a result, farmers often have difficulties to increase profits or to expand businesses. A lack of capital is a related problem; this causes difficulties to expand businesses for farmers, who also lack the skills to require and control loans. Risk avoidance is an important factor in decision making for livestock keepers and is a constraint to marketing because it results in great variance in supply and prices at markets (Eskola, 2005).

#### *2) Inadequate physical infrastructures*

Besides the availability of know-how and capital, the decision to participate in markets also depends on the available physical infrastructure. In this respect, livestock keepers in sub-Saharan Africa have high barriers to overcome, because physical infrastructure is badly developed in most countries (Pica-Ciamarra, 2005).

Lacking infrastructures, such as the absence of facilities at markets and a proper road network, are a major constraint to livestock trade. Good roads are scarce in developing countries and as a result markets are difficult to reach and transportation costs are high. Lacking facilities at markets are causing health problems for both livestock producers and consumers. A lack of

proper storage facilities at last can also be a constraint to marketing, because it can result in a loss of perishable goods. All of these constraints lead to high transaction costs and difficulties for (rural, isolated) households to access markets (Eskola, 2005).

### *3) Weak institutional framework*

Livestock trade is often complex and personalized in developing countries; supply chains are long and transactions are actor specific. Some political and economic institutions need to be in place in order to enhance trade and economic growth and keep transaction costs low at impersonal markets (Eskola, 2005).

Even though regulations at a national levels, like laws and rules for trade transactions, are more and more in place, institutions at a grass root level are often weak or absent in Sub-Saharan Africa. At present, livestock keepers and traders are starting to organize themselves into associations. However, these associations are still weak and members often lack education, entrepreneurial skills and the experience needed to have proper prices negotiations. Middlemen can play a role in negotiating between different parties that are not familiar with each other and in lowering transaction costs (Ibid).

While Eskola (2005) states that at least policies and regulations at national level are in place, Pica-Ciamarra (2005) argues that the few existing policies that aim at improving the livestock sector do not address the right issues. Another major institutional constraint to livestock marketing is corruption; still highly present in developing countries. Traders do not only have to deal with corruption at markets, but especially during transport. Police forces are often not functioning properly and road blocks where traders are forced to pay fees are very common (Eskola, 2005).

Livestock market structures are complex and cattle trade involves multiple channels and actors that complicate the process. Not only producers are involved in cattle trade, but also middlemen, traders, trading cooperatives and exporters. The nature of livestock as a product makes it difficult to match supply and demand and the different marketing channels complicate communication and knowledge even further (Legese et al, 2008).

Another problem that occurs in livestock marketing is the lack of quality standards and quality control of cattle and meat products. Objective standards to measure quality do often not exist and visual observation is the most important tool of livestock traders. The combination of bargaining skills and personal preferences of traders may lead to transaction failures and small profits for sellers (Ibid).

Livestock can generate income through the sale of livestock products at either formal or informal markets (Thornton, 2010). Inadequate access to markets seems to be the biggest constraint for livestock keepers wanting to sell cattle. Eskola (2005) distinguishes four types of markets; 1) local village markets, 2) regional markets, 3) national markets and 4) export markets. Local village markets are small scale and facilitate a limited number of households. The markets are informal and operate at crossroads of villages. The farmers themselves are traders at these markets. Although access is relatively easy, supply is often limited. Regional markets operate in the center of a region. Supply is more reliable at these markets and a greater variety of products

is available. For most consumers, these are the largest markets available and if the market does not sell a certain product, the consumer goes without. At the national market products from all regions are brought together to be sold to consumers, traders or the export market. Connections and trade between different regional markets are often badly developed and therefore most products are traded through national markets (Eskola, 2005).

#### 1.1.4 Food & money or security & social status?

Livestock has different functions to different people. People living in developing countries have multiple reasons for keeping livestock. First of all, livestock is kept for the purpose of food production. Livestock is an important source of nutrition, which provides important protein, calcium and vitamins. Especially milk can be an important source of nutrition that is not dependent on seasonality (as opposed to products like grain). Many people only slaughter (and consume the meat of) cattle occasionally, for example when animals become sick or unproductive or for ceremonial purposes (Delgado et al, 1999 & Randolph et al, 2007).

Of course, livestock is also an important source of income. Some livestock keepers produce livestock for market purposes and sell cattle on a regular basis. However, many livestock keepers only sell cattle on occasional basis. They can decide to sell animals when money is needed for urgent needs, like money for school fees or medicines. Livestock keepers can also generate income by selling milk and other dairy products on a regular basis (Ibid).

Besides the provision of meat and dairy products livestock can also provide other products, such as hides (RELMA, 2007). Manure or dung is another important product that can serve multiple purposes. It can contribute to greater crop production because it can help to maintain soil fertility. Manure can also be used as fuel or as building material. Both as fertilizer, fuel and building material manure can be a marketable product (Randolph et al, 2007 & RELMA, 2007).

Livestock can also be used as farm equipment. Animal power is the most important nonhuman power for most farmers in developing countries (Delgado et al, 1999 and Randolph et al, 2007).

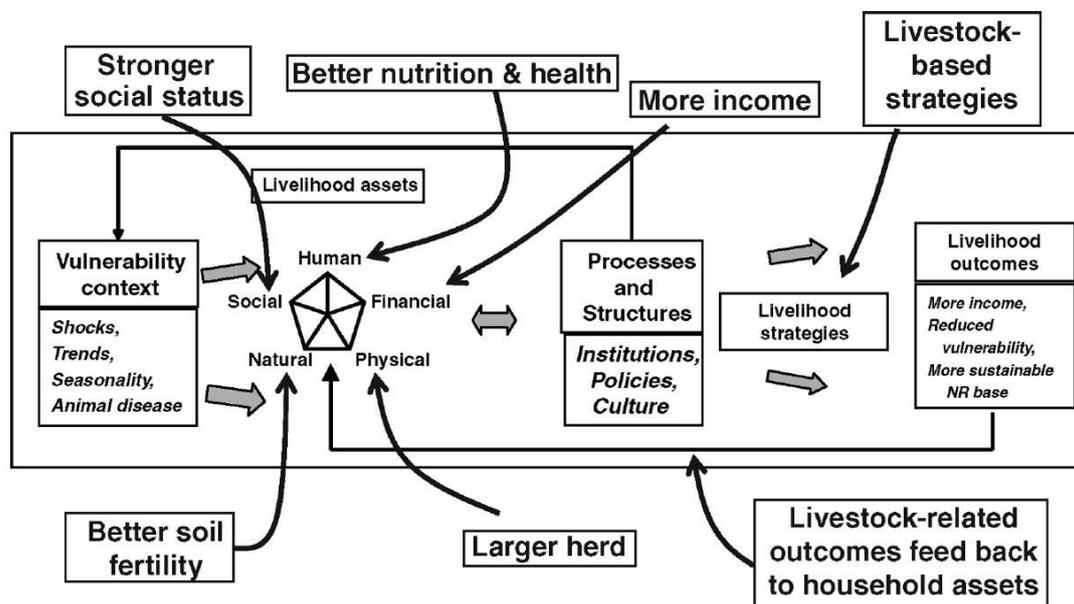
Cattle have been used as a bank for thousands of years and it still is being used as a financial instrument. Livestock can store value for people who do not have access to financial services. By serving as 'living savings account' livestock is a reliable storage of savings that is pretty well resistant against inflation. Similar, livestock can provide insurance, because it can be sold and provide cash in times of crisis (Delgado et al, 1999 & Randolph et al, 2007). By providing these kinds of financial services, livestock is serving purposes that are covered by credible institutions in developed countries. Because these institutions are not available to most people living in developing countries, like Tanzania, livestock are extremely important for both individuals in society and for development (Madsen et al, 2007).

The importance of the following reason for people, especially those living in developing countries, to keep livestock should not be underestimated. The last reason for keeping livestock is the fact that it provides prestige and social status to people (Ly et al, 2010). Livestock can play a significant role in 'cementing important social relationships' (RELMA, 2007). Social importance is measured by the possession of livestock in large parts of the world. Social status within communities is important because it can lead to access to resources and to authority

within the society. Several traditions can be linked to social status, like the use of livestock as bride price (Madsen et al, 2007 & Randolph et al, 2007).

The multiple reasons for livestock keeping illustrate the complex role that cattle can play in the lives of many people. Therefore, livestock should not be considered as a conventional, independent, isolated production activity, but rather as an important incentive in household decision making. Livestock can contribute to the minimization of risks related to household well-being in various ways (Randolph et al, 2007 & Stroebel et al, 2011). The complex role of livestock is further explained by linking the different functions of livestock to the sustainable livelihoods framework (see figure 1.1).

**Figure 1.1 Sustainable Livelihoods Framework with contributions of livestock to different assets**



Source: Randolph et al, 2007

The framework illustrates that livestock contributes to all five different livelihood assets. It contributes to human capital by providing better nutrition and health, to financial capital by providing income, to physical capital through the possession of a cattle herd, to natural capital through the provision of manure (used as soil fertilizer) and to social capital by providing a stronger social status. Altogether, the strengthening of these livelihood assets reduces the vulnerability of households and enhances the possibilities for the improvement of livelihood strategies and outcomes (Randolph et al, 2007).

Thus, the role of livestock is much more complex than it seems at first sight. It is important to realize this because this knowledge contributes to the understanding of the livestock sector as a whole and the difficulties of livestock sector development.

### 1.1.5 The cattle complex

The importance of livestock for social status is further explained by the concept 'cattle complex'. The cattle complex is a term introduced by Melville J. Herskovits in 1926, emphasizing the cultural element of cattle ownership in East Africa. Cattle often serve as a means of invidious comparison, more than it serves food or milk purposes (Herskovits, 1926). This is a rather vague description of the term. Lucy Mair (1985) even advocates that no one has ever known exactly what Herskovits meant by the term cattle complex. However, some other authors explain the term more clearly.

Stroebe et al (2011) emphasize the social-economic status that results from the possession of livestock, meaning that cattle are kept for prestige and social status rather than production purposes. This explanation of the cattle complex illustrates the strong connection between livestock sector development and social development.

The cattle complex can also be described as the cultural and political importance of cattle to African people that goes well beyond the economic importance (Shutt, 2002).

Another explanation of the cattle complex reads as follows; the fact that African livestock keepers consider cattle to be cultural objects rather than commodities, meaning that cattle characterize wealth, status, prestige or piety instead of a marketable product. Because of the high cultural value of cattle livestock keepers try to minimize the consumption and sale of cattle and to maximize the number of cattle. This method of livestock keeping resulted in a 'cattle population explosion' which caused overgrazing and desertification in the 1960s in colonial Africa. The concept cattle complex is therefore used as an explanation of overstocking in this period. It was suggested that livestock keepers should behave more 'rationally' and practice modern livestock keeping methods, such as using market opportunities, in order to solve these problems (Kreike, 2009).

Another theory that can be linked to the cattle complex is the moral economy approach. The moral economy approach is also emphasizing the cultural importance of cattle, but it complements the theory by saying that there are also social causes to the unwillingness of people to sell cattle. There is a natural resistance of people to the marketing of cattle, which does not only have cultural but also social and natural roots. The theory does not focus on the hoarding and maximizing the number of cattle only, but also looks at the redistribution of animals. Due to the importance of livestock for social relations, cattle often circulate within societies (Ibid).

### 1.1.6 Livestock revolution

Livestock is of major importance to people living in rural areas of the world; it provides to the livelihoods of 70 percent of the world's rural poor. Also, it contributes to 20 percent of international trade of agricultural products (Stroebe, 2011).

Over the past decades, demands for food of animal origin have risen tremendously. Some people even speak about a Livestock Revolution. People living in developed countries (about 23 percent of the world's population) currently consume three to four times the meat and fish and five to six times the milk per capita as people living in developing countries. Nevertheless, consumption of animal products is also increasing rapidly in developing countries (Delgado et al, 1999).

**Table 1.1 Past and projected trends in consumption of meat and milk (1980 – 2050)**

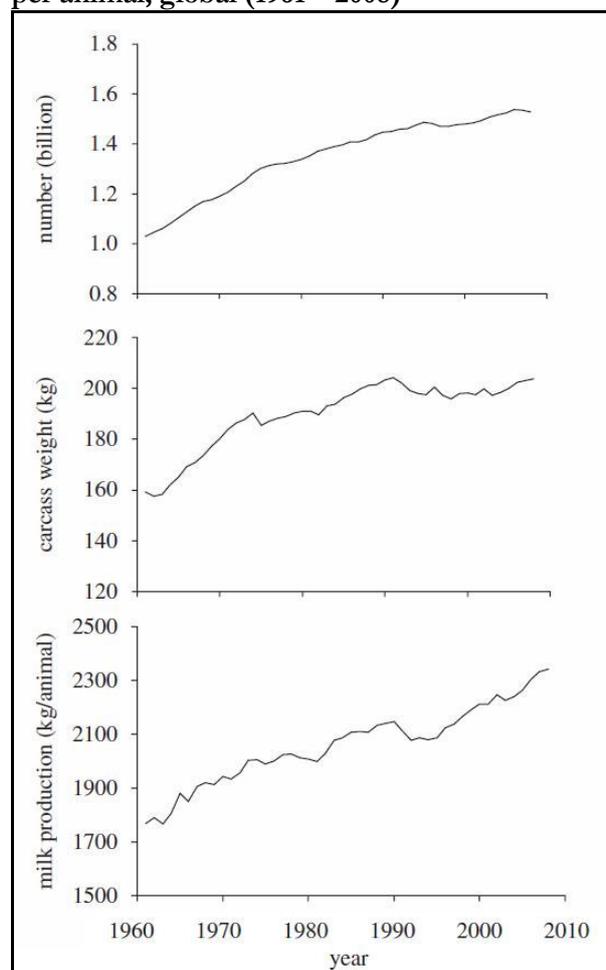
		Annual consumption per capita		Annual consumption total	
		Meat (kg)	Milk (kg)	Meat (Mt)	Milk (Mt)
<b>Developing countries</b>	1980	14	34	47	114
	1990	18	38	73	152
	2002	28	44	137	222
	2015	32	55	184	323
	2030	38	67	252	452
	2050	44	78	326	585
<b>Developed countries</b>	1980	73	195	86	228
	1990	80	200	100	251
	2002	78	202	102	265
	2015	83	203	112	273
	2030	89	209	121	284
	2050	94	216	126	295

Source: Thornton, 2010

Numbers confirm that demands for livestock products have increased largely over the past decades. Demands for livestock products are projected to increase further over the coming forty years, especially in developing countries. The numbers of meat and milk consumption in both developing and developed countries are presented in table 1.1.

Large growth of livestock production has followed from these increasing demands. Figure 1.2 presents the increase of the number of cattle and buffaloes in the first image, the increase in weight per carcass in the second image and the increase of milk production in the image at the bottom. Beef production, measured by number of cattle, has increased with about 50 percent; carcass weight has increased with about 20 percent and milk production per animal has increased with about 25 percent between 1961 and 2008.

**Figure 1.2 Number of cattle and buffaloes, carcass weight and meat and milk production per animal, global (1961 – 2008)**



Source: Thornton, 2010

The main reasons for the growing demands for food of animal origin in both developed and developing countries are: Population growth, urbanization and income growth (Delgado et al, 1999). Population growth is causing increased demands for livestock products because it enhances efforts towards food security in some countries. Urbanization leads to better infrastructures and possibilities to trade perishable goods and therefore also has a major impact on demands for livestock products. Income growth results in higher expenditures towards livestock products (Thornton, 2010).

The Livestock Revolution has major impacts on our health, our livelihoods and the environment. The expansion of the livestock sector in developing countries has derived from larger numbers of animals, rather than higher weights per animal. This has resulted in higher concentrations of animals in urban areas. This in turn is causing growing stress on resources and capacities and increasing environmental and health problems. Higher concentrations of animals are also resulting in the clearing of forests and degradation of grazing lands (Delgado et al, 1999).

Thornton describes the global livestock sector as highly dynamic. While demands for livestock products are increasing rapidly in developing countries, they are slowly stagnating in developed countries. Rapid changes of the sector in developing countries ask for a proper response. At the same time, the livestock sector in developed countries becomes more efficient and focused on environmental sustainability quickly. Thornton predicts that livestock production will be more and more affected by competition over natural resources, such as land and water, and by carbon-constraints that are requested by the global economy in the future (Thornton, 2010).

So far, several theories related to the multiple functions of livestock and the potential contribution of livestock to economic development have been discussed. The following part of this chapter provides the tools to study the livestock sector in a specific context; in this study the Lakezone in Tanzania.

## **1.2 Tools to characterize the nature of the livestock sector**

For studying the livestock sector in a development context, various tools are available to analyze and explain the characteristics of the sector. This section assesses the different tools to be applied later on in this study.

It starts by explaining the concept of value chains and value chain analysis as a tool (1.2.1). Then, it looks into the difference between value chains and supply chains (1.2.2). Finally, it assesses different strategies for chain empowerment and development (1.2.3).

### **1.2.1 Value chain analysis**

#### *Value chains*

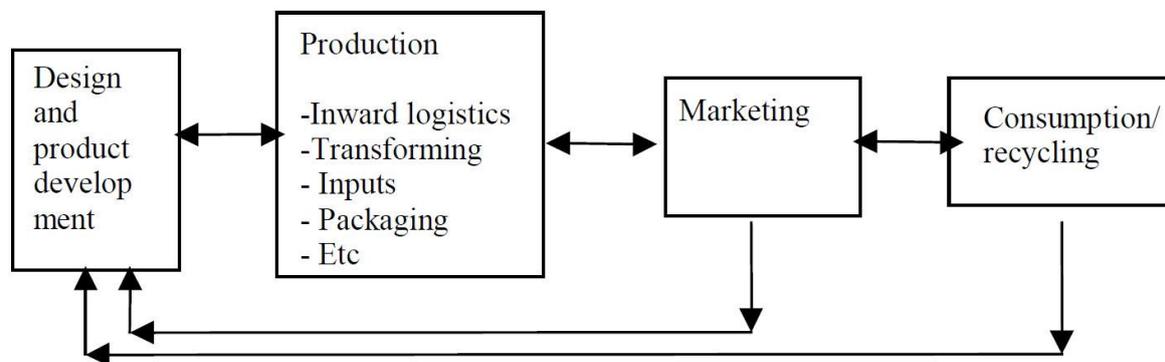
Nowadays, the world economy is characterized by rapid globalization and increasingly complex relationships. Flows of goods, services and money have become more interrelated and countries have become more interdependent ever since the 1970s. Development is almost a synonym for

the integration of nations into the world economy. In an attempt to understand the increasingly complex economic relations, value chain analysis is a widely used tool these days (Gereffi et al, 2001).

A value chain can be defined as: ‘... the full range of activities which are required to bring a product or service from conception, through the intermediary phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use’ (Kaplinsky, 2000).

In its simplest form, a value chain looks like the image presented in figure 1.3. The image clarifies that the creation of a product involves more value adding activities than just the production. In reality value chains are often more complex and involve many more activities and actors than presented in this image. Moreover, the links between the different stages of the product creation can involve different activities and actors themselves (Kaplinsky & Morris, 2001).

**Figure 1.3 Linkages in a simple value chain**



Source: Kaplinsky & Morris, 2001

### *Value chain analysis*

As mentioned before, the analysis of value chains is used as a tool to understand the increasingly complex economic relations that the world is characterized by these days (Gereffi et al, 2001). Traditional value chain analysis consists of four main elements. At first, all actors that participate within the chain are mapped and characterized. Second, governance structures within the chain are analyzed. Chain governance embraces the structure of relationships and the issues that are involved with coordination between actors and management of the chain. Third, possibilities for upgrading within the chain are assessed. At last, an assessment can be made of whether actors benefit from their position within the chain and whether they could benefit from support or organizing or not (Rich et al, 2010).

Value chain analysis is a good means of analyzing and contextualizing the current complex and interrelated world economy because it does not look at production only, but also includes the full range of activities from design to marketing and consumption. Besides it pays attention to the governance aspect of value chains and therewith it looks at the organization and management of chains (Gereffi et al, 2001). Furthermore, value chain analysis is a market oriented tool because all activities within the value chain are linked to markets (ILO, 2007).

After the assessment of the concept of value chains, the question arises whether value chain analysis is the appropriate tool to characterize the livestock sector. Since cattle are an agricultural product and therefore part of a supply chain, the following section explores the concept of supply chains and looks at the difference between value chains and supply chains.

### **1.2.2 Supply chains vs. value chains**

#### *Supply chains*

For the purpose of this study it is necessary to keep in mind the difference between value chains and supply chains. Livestock is an agricultural product and therefore livestock keepers are part of supply chains, which are in turn part of value chains. Supply chains focus on the input-output structure of different activities within the value chain (Gereffi et al, 2001). Besides, unlike the value chain, the supply chain does not begin with a phase of product design and development. Some authors use the term agricultural value chain as well.

Supply chains consist of producers at the one end of the chain, consumers at the other end and hundreds of individuals and companies in between those. Other actors, such as financial and governmental institutions, are also of importance to the functioning of the chain. Possible activities that take place in the middle of the chain are transport, processing, storage, sales, purchasing, packaging, checking, monitoring and decision making (KIT et al, 2006).

An important aspect of supply chains is the geographical dimension. The geographical location of producers at the beginning of supply chains can be widespread. Rural production and urban consumption are becoming more and more geographically dispersed, while producers are forced to meet the growing demands for high quality food in urban areas and maintain low prices at the same time (Höffler & Maingi, 2005). Höffler & Maingi suggest that strengthening of rural-urban linkages through the promotion of agricultural value chains can be a useful tool in overcoming these challenges (Ibid). This is further explained in section 1.2.3.

Another important aspect of supply chains is governance, which involves all the issues related to management of the chain and coordination between actors along the chain. Understanding chain governance is relevant to understand group dynamics and incentives for group behaviour (Rich et al, 2010). Moreover, chain governance, or chain coordination, can decide upon whether chains are buyer-led or producer-driven. In other words, chain governance explains who owns decision power within the chain (Mitchell et al, 2009). In the case of agricultural chains, power is usually owned by buyers. This is explained in more detail by the concept buyer power in the next section.

#### *Supply chains vs. value chains*

The difference between supply chains and value chains is mainly expressed by their functioning. Contrary to supply chains, actors within value chains have the power to negotiate and bargain prices and therefore they are willing to invest in the chain and support other actors along the chain. Supply chains function far less smoothly, because farmers at the beginning of the chain lack this kind of power (KIT et al, 2006).

Farmers or producers often have a bad position compared to other actors in the chain. Especially farmers in Africa have to deal with several challenges, due to the fact that they often

work on individual basis and therefore lack power to bargain. They live in remote areas with limited availability of infrastructures and limited access to (market) information. Also they often do not have the capital to invest in their own businesses. These challenges make that farmers are not motivated to improve their production, because their bad position in the chain makes it hard to bargain for better prices (Ibid).

The difference between the position of producers of agricultural products and other actors within agricultural or supply chains is further explained by the concept of buyer power. Agricultural chains are characterized by the power of buyers to decide on standards and prices and the lack of power with the many small-to-medium-size farmers that these chains often consist of. Farmers are forced to accept and comply with standards set by large companies. The so-called coordination mechanism of the chain is found at the buyer end of the chain, which can be found either in the country of production or in developed countries. Buyer power is often associated with the role of governance (Fromm, 2007).

### **1.2.3 Chain strategies**

#### *Agricultural value chain promotion*

As mentioned before, the promotion of agricultural value chains can be a useful strategy to overcome barriers for livestock producers. The promotion of agricultural value chains encompasses the strengthening of rural supply and urban demand linkages. Höffler & Maingi (2005) provide three reasons for the use of agricultural value chain promotion; at first, it is a useful tool to analyze markets and sub sectors, because it looks at more aspects than production solely; second, the characterization of a sector in a chain stresses out the importance of the linkages between actors and activities along the chain; third, agricultural value chain promotion emphasizes the relevance of the private sector to the development of the agricultural sector.

The process of agricultural value chain promotion can comprise many different activities. The first part of the process exists from listening mainly. It is important to listen to the interests of all stakeholders along the chain, in order to build mutual trust. One method that can be applied is a participatory chain mapping workshop. Sometimes, listening to consumers can be very enlightening to producers and traders. Also, negative perceptions can be removed this way. One example of a negative perception is 'middlemen exploit us'. By indicating the weak points along the chain, the role of different institutions in the process can become more clear (Höffler & Maingi, 2005).

Further activities that can be carried out to promote agricultural value chains are; providing training, mobilizing farmers and other private sector players and delivering public and private services. Training in organizational development, group dynamics and leadership is an essential type of support for producers. In order to mobilize farmers and other private sector players, it might be useful to negotiate with (local) politicians. The delivery of public and private services finally is necessary for the creation of an enabling environment for producers, investors and businesses. One example of such a necessary service is agricultural extension services (Ibid).

### *Supply chain management*

Another strategy that supports supply chains or agricultural chains and the actors along these chains is supply chain management (SCM). SCM is defined as ‘...a set of interdependent companies that work closely together to manage the flow of goods and services along with the value-added chain of agricultural and food products, in order to realize superior customer value at the lowest possible costs...’ (Ruteri & Xu, 2009). Although this strategy mainly focuses at companies, it is interesting to producers of agricultural products as well for several reasons; SCM can benefit producers through greater variation of products, greater competition, enhanced product quality, an improved environment for production and greater possibilities to transport products at low cost (Ibid).

The authors identified several challenges for SCM in developing countries. One problem is that producers often work individually and do not cooperate with other actors along the chain. They focus on maximizing their own profit and thus operate in their own interest. The only relationship that a producer often has within the chain is the relation with a buyer or trader. Other factors that can challenge the contribution of the agricultural sector towards economic growth are a lack of; technology, entrepreneurial and management skills, investments and physical infrastructure (Ibid).

### *Chain empowerment*

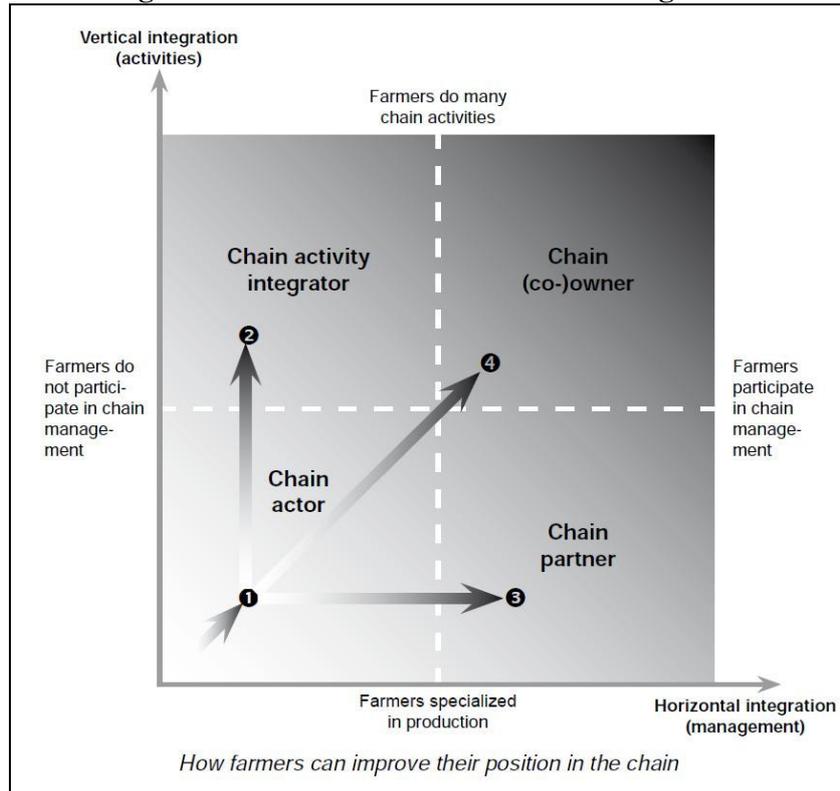
Chain empowerment involves all activities that support development of agricultural value chains and integration of farmers into these chains. KIT et al identify two main dimensions to chain integration, viz. the types of activities that farmers undertake and the involvement of farmers into management issues of chains (KIT et al, 2006).

The activities that farmers carry out can vary from production only to a wide range of activities, such as processing or packaging. One strategy that farmers can apply to increase their integration into the chain is to diversify their activities. Several skills and assets are required to successfully diversify farming activities, such as; proper technologies and equipment, access to finance (for example to invest in processing and marketing), human resources (like management skills) and the organization of farmers into cooperatives (Ibid).

The involvement of farmers in management issues of supply chains can vary from being excluded from any type of decision making to playing a big role in management issues. This may involve decision making on the matters of how to sell, who to sell to, at what price to sell, payments and standards. The probability of playing a big role in decision making is greater when farmers are members of cooperatives. Increasing involvement in management issues can be applied as a strategy for chain integration and improvement. The skills and assets needed are; proper information management (as ever knowledge is power), quality management, innovation management, chain cooperation and marketing knowledge and skills (Ibid).

Both strategies for greater integration into supply chains are represented in figure 1.4. Diversification of activities is shown as vertical integration. Greater involvement in management issues is illustrated as horizontal integration. The image clarifies that farmers can either choose vertical integration or horizontal integration or a combination of both. When both strategies are applied at the same time, farmers can become chain (co-)owners.

**Figure 1.4 Vertical and horizontal chain integration**



Source: KIT et al, 2006

It should be noted here that the matrix is just a strategic tool to simplify and clarify reality. In reality farmers may continuously, willingly or unwillingly, move to all directions within the matrix. Moreover, the best position for farmers depends on their specific situation and may change over time. The best position for a farmer is not necessarily the position of chain (co-)owner (KIT et al, 2006).

KIT et al identify five important phases of chain interventions in their report “Chain Empowerment”. At first, interventions should always start with an assessment of the supply chain, in which the situation and goals of different actors are analyzed thoroughly. Second, engagement of farmers, policy makers and other actors along the chain should be assured. When the first two steps are taken care of, the actual interventions to develop the chain and support integration of farmers into the chain can be carried out. The fourth phase of the intervention comprises monitoring and evaluation of the process; not only indicators within the chain, but also in markets or livelihoods should be measured. At last, the fifth phase of the intervention covers learning from the process and innovations for further projects. These innovations may include activities like educating or organizing farmers (Ibid).

At the end of this section can be concluded that livestock production can best be represented in a supply chain or an agricultural chain, rather than a value chain. Several strategies can be applied to improve livestock chain performance, which in turn may contribute to greater economic performance of the livestock sector. Now that different chain strategies have been discussed, it is time to move on to the discussion of local economic development strategies in the next section.

## 1.3 Local Economic Development

After having assessed various theories on the characteristics of the livestock sector and the tools to characterize the nature of this sector, in section 1.1 and 1.2 respectively, it is now time to look at theories related to local economic development. After all, this study aims to explore the question how livestock can better contribute to economic development.

Think globally and act locally.

– Helmsing, 2001

In a world that is characterized by rapid globalization, one strategy that is increasingly applied to encourage development is the promotion of local economic development (LED). This section aims to explain the concept and different views on it in section 1.3.1. Moreover, strategies to enhance LED are discussed in section 1.3.2.

### 1.3.1 Views on the role of LED

Local economic development (LED) strategies emerged as a new approach to development when globalization began to determine economic relations. Up until the nineties of the last century, the development debate has been predominated by a central approach in which national governments and multilateral institutions were the most important actors. Structural adjustment programs (SAPs) were supposed to provide an alternative to this central approach and encourage market liberalization; however, results lacked and poverty rates were still incredibly high. The need for an approach in which economic growth would go hand in hand with poverty reduction was recognized by many. Local economic development strategies aim to do this.

The World Bank (2012) defines local economic development as follows: ‘The purpose of local economic development (LED) is to build up the economic capacity of a local area to improve its economic future and to improve the quality of life for all. It is a process by which public, business and non-governmental sector partners work collectively to create better conditions for economic growth and employment generation’.

A similar but more concise definition to explain LED is provided by Rodríguez-Pose & Tijmstra (2007): ‘Development strategies that are territorially based and locally owned and managed’. They advocate for LED strategies as a way to simultaneously increase economic growth and poverty reduction. Especially to countries in Sub-Saharan Africa LED strategies may offer a good alternative to the structural adjustment programs that dominated development policies over the past decades. LED strategies are more focused on people and better specified to local circumstances than SAPs were.

Helmsing (2001) also explains LED as the alternative to the SAPs of the 1980s en 1990s. He defines local economic development as ‘...a process in which partnerships between local governments, community-based groups and the private sector are established to manage existing resources to create jobs and stimulate the economy of a well-defined territory.’ Local control is at

the core of such a process and dialogue and strategic action are important tools. Helmsing distinguishes three types of LED strategies; 1) community based economic development, 2) business or enterprise development and 3) locality development. For the purpose of this study, the first type is most relevant and therefore further discussed in section 1.3.2.

LED strategies can be explained as bottom-up development approaches, in which local development initiatives are promoted. The key actors in such locally owned initiatives are communities (Turvey, 2007).

Van Westen (2010) believes that the window of opportunity for LED is the creation of capabilities. He names several features of local economic development; 1) LED approaches are multi-actor and multi-level approaches, 2) Many types of actors can be involved in LED processes, viz. individuals, households, civil society organizations, companies and the state, 3) the local aspect of a LED approach implies a local node where different networks meet and 4) different localities can be linked through translocal linkages, which means that LED can take place at different levels of scale.

LED approaches are especially beneficial in times of globalization, according to Van Westen. LED approaches provide easier access to physical resources, financial capital, labour forces and local markets than more traditional approaches do. Moreover, LED processes create an enabling environment for innovation, networks, local institutions and an improved role of the state. These new opportunities may all contribute to the inclusion of small producers and processors into global markets. This in turn provides advantages like better access to markets and knowledge. A precondition for global market access is that global quality standards have to be met; this can either be an opportunity to enhance quality or an impediment to small producers. Summarizing, Van Westen considers a local approach to be a tool for global action (Van Westen, 2010).

#### *Changing context: forces of change*

Both the development and economic context of farmers in developing countries have evolved over the past decades. Helmsing (2001) explains these developments as forces of change. These forces of change are discussed here in order to enhance understanding of the opportunities and need for local economic development strategies for farmers in Sub-Saharan Africa.

The first force of change embraces the radical changes in development policies; from a central approach and state-led development, through SAPs and market liberalization to aid fatigue and declining budgets for Official Development Assistance (ODA). Helmsing explains that, as a result of these changes, small producers are facing several constraints when they want to perform business (Helmsing, 2001).

The second force of change includes three developments that relate to the so-called new geo-economy. New transportation and communication technologies are decreasing time and costs to move products and services around the world. Geographical distance is shrinking and poses less protection and higher competition to small producers. As a consequence, small producers are forced to quickly transform their production into one that is cost-efficient and generates high quality products. The second development is the emergence of new production technologies, which are more flexible and therefore less connected to particular geographical locations than they were before. Thirdly, companies, capital and people are increasingly

mobilized and moving around the globe. This is enhancing competition to a large extent and at the same time creating opportunities for foreign direct investment (FDI). In fact, FDI has grown significantly over the past decades (Ibid).

The forces of change have major impacts on small farmers who have to operate within this new globalized context. Helmsing (2001) names several preconditions for an enabling business environment, in which farmers can overcome constraints and successfully expand their business. These preconditions are; 1) institutions, 2) investments and 3) supporting services.

SAPs generated limited results because private sector support lacked behind. Therefore, public institutions need to be in place to keep the costs of doing business low. Compliance to property rights is an example of a fundamental economic institution. Other important institutions are needed at local level, such as respect for local norms and standards that apply to particular products or people. In other words, the context in which one operates is of undeniable importance (Helmsing, 2001).

Since new markets do not arise spontaneously and the first phases of starting up a new business are difficult and not without risks, investments by other economic actors are needed for support. For example, when a farmer decides to diversify his activities, his success depends on simultaneous, additional investments by other economic players. The chances and challenges of one actor are intrinsically connected to the chances and challenges of the entire industry (Ibid).

Success of local producers who are trying to increase their business also depends on the availability and functioning of supporting services. An example of such a fundamental supporting service is the presence of extension services, which can deal with technical issues related to particular products or industries. Moreover, some basic infrastructures, like an electricity and road network, are essential parts of the local business environment. Alignment between public-, private and non-profits actors is of great importance, especially in times of declining budgets for development assistance (Ibid).

### **1.3.2 LED strategies**

After different views on local economic development have been discussed in the previous section, this section elaborates on different LED strategies. Most of the authors, whose ideas on LED have been presented, also have their ideas on how to design and implement LED strategies. This section discusses the following strategies on a rather theoretical level; local actor strategies, local area strategies, community based economic development, progrowth strategies and pro-poor strategies. The practical implementation of the local economic development approach by SNV is also discussed. Moreover, box 1.1 presents the LED approaches applied by the World Bank.

#### *Local actor strategies*

LED strategies can focus on the empowerment of local actors, for example through capacity building. Chain empowerment, one of the chain strategies discussed in section 1.2.3 of this study, can be considered a local actor strategy. As explained before, local actors can choose to diversify their activities within the chain (chain upgrading) or to increase their control over the chain

(chain governance) in order to improve their position within the chain. An improved position within a supply chain enables a producer to increase economic benefits from his activities (KIT et al, 2006 and Van Westen, 2010).

#### *Local area strategies*

LED approaches can also focus on the improvement of local areas. The formation of business clusters, in which local producers and businesses can benefit from interaction, is an example (Van Westen, 2010).

Prerequisites to both local actor and area strategies are local action and support, for example by government policies and labour organizations. Moreover, Van Westen argues that local coordination, cooperation and negotiation on compromises and outcomes are key needs to success of every LED strategy in a globalizing context (Ibid).

#### *Community based economic development*

Several developments have influenced poor people living in rural areas over the past decades. Farmers are more and more diversifying their activities in order to secure their livelihoods; however, this does not allow them to specialize into activities that are most beneficial to them. Poverty has been feminized. Settlement and housing conditions are poor and deteriorating. Access to basic services is still limited. Income and physical security are still not secured to many poor people. On top of these poor basic conditions, several constraints are posing huge barriers to local development initiatives. Economic institutions, for example regarding land rights or economic transaction, are often insecure. Planning is inadequate because the extent to which household-based economic activities are important contributors to livelihoods is not acknowledged. The fact that needs are always bigger than the availability of resources causes resource inadequacy. Finally, community based development initiatives of the past have never received proper political attention or support (Helmsing, 2001).

Community based economic development aims to overcome all of the barriers mentioned through; stimulating a sense of community, promoting empowerment, promoting (self-)employment, improving settlements by improving conditions to live and work and creating basic public services. Community based economic developments should therefore consist of four different elements; 1) the creation of local safety nets, 2) the improvement of settlements, 3) the delivery of basic services and 4) the stimulation of the economy at community level (Ibid).

#### **Box 1.1 World Bank approaches to LED**

##### **Approaches\* that the World Bank applies to promote LED:**

- **Ensuring that the local investment climate is functional for local businesses;**
- **Supporting small and medium sized enterprises;**
- **Encouraging the formation of new enterprises;**
- **Attracting external investment (nationally and internationally);**
- **Investing in physical (hard) infrastructure;**
- **Investing in soft infrastructure (educational and workforce development, institutional support systems and regulatory issues);**
- **Supporting the growth of particular clusters of businesses;**
- **Targeting particular parts of the city for regeneration or growth (areas based initiatives);**
- **Supporting informal and newly emerging businesses;**
- **Targeting certain disadvantaged groups.**

**\* retrieved from the website of the World Bank, 2012**

The creation of local safety nets is necessary to reduce insecurity of farmers. Services like day care centers, savings and credits facilities and village watch committees can enable poor people to better cope with different types of shocks (Ibid).

The improvement of settlements includes the improvement of conditions for both living and home based economic activities. Changes in design could allow space for basic services, such as water and sanitation or community services, into housing and settlements (Ibid).

Improved delivery of basic services is not only much needed but also an opportunity to decide upon which aspects could be privatized and thus delivered more efficiently. An example of a public service that has already been privatized in some countries, as a means to contribute to community based development, is waste collection (Ibid).

Finally, the stimulation of the economy at community level is an important aspect of community based economic development. Micro-enterprise programs are a means to achieve this. These may include access to credit, the provision of training and technical assistance and marketing support. A major opportunity is provided by the construction industry, because many people could be employed in this industry. Lots of construction work is needed, the work is very labour intensive and thus creates opportunities for local employment and construction materials can often be sourced locally (Ibid).

Since the role of central governments is declining, actors at local and regional level have great responsibilities in all of the elements of community based economic development activities described above (Ibid).

#### *Progrowth strategies vs. propoor strategies*

Nowadays, LED strategies are relatively widespread in Sub-Saharan Africa, but too much focusing on poverty alleviation, rather than building enabling environment for local economies, according to Rodríguez-Pose & Tijnstra (2007). Results of LED strategies so far are disappointing when considering economic indicators.

The authors distinguish two types of LED strategies: the progrowth version and the propoor version. The first one, also referred to as the neoliberal variant, provides an answer to the challenges that originate from current economic processes like globalization and localization. The second one, also defined as the welfarist variant, instead focuses on addressing social issues like poverty and exclusion. The authors advocate for the progrowth strategy, because they believe that increased employment and economic growth are related to addressing social problems and poverty reduction. Economic growth could potentially have a trickle down effect that leads to the realization of social goals. Hence, economic growth and poverty reduction are not exclusive goals, but more likely mutually reinforcing (Rodríguez-Pose & Tijnstra, 2007).

#### *Practical implementation: SNV's local economic development approach*

SNV implies a LED approach in order to strengthen the economic capacity of an area and improve not only its economic prospects but also the quality of lives of its inhabitants. Therefore, SNV aims to identify the economic challenges and opportunities of the area and to kick off some economic activities that encourage and enable other people to also carry out economic activities. SNV's LED approach consists of two phases, both including multiple activities; table 1.2 provides an overview of these phases and activities.

**Table 1.2 Phases and activities of SNV's LED approach**

<b>Phases</b>	<b>Activities</b>
Identification and formulation of activities	Pre-engagement with local authorities Preparation – creating awareness and identifying key stakeholders Identification of economic opportunities and constraints Formulation of activities and targets – in collaboration with all stakeholders
Implementation of activities	Launch of the LED strategy Implementation of the LED strategy and monitoring and evaluation of each activity

Source: KTT et al, 2006

## 1.4 Chapter conclusion

Hence, at the end of this theoretical context, what has been clarified regarding; 1) the role of livestock in development and 2) different concepts and strategies that can characterize and improve performance of the livestock sector? First of all, livestock plays a much more complex role in the lives of many people living in rural areas of Sub-Saharan Africa than expected at first sight. Not only does it provide food and cash income, also it represents an important financial instrument and a meaningful symbol for social status. This complex role of livestock may complicate livestock sector development; however, several authors argue that the economic potentials of livestock sector development are high. Economic performance of the livestock sector could potentially be improved through a change of policies, institutions and behaviour of livestock keepers.

Several chain and LED strategies are available to support livestock sector development. Livestock production can best be represented in a supply chain or an agricultural chain, rather than a value chain. Therefore, possible interventions to improve chain performance are the promotion of agricultural value chains, supply chain management and chain empowerment. Chain strategies can be part of LED strategies, which aim at the improvement of the economic performance of an area and the improvement of the quality of lives of the people living in this specific area. LED strategies are locally owned and locally managed. LED strategies may focus on the strengthening of an area or on the empowerment of local actors. Community based economic development also provides an example of a LED strategy. Moreover, LED strategies can be progrowth or propoor focused.

This theoretical context provides a broad base for the other chapters of this study to build upon. Chapter 5 specifically is linking back to this theoretical chapter by relating theories, geographical data and research findings to each other. Through applying research findings to the theories presented so far, it tries to come up with new insights on how to improve economic performance of the livestock sector in the research area.

## 2. GEOGRAPHICAL CONTEXT

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After having outlined the theoretical context of this study, the geographical context also needs to be addressed. This chapter starts with a short story about Africa (2.1) and then takes the reader on a trip to Tanzania (2.2) with final destination being the Lakezone (2.3). Within the research area of the Lakezone, Mwanza region receives special attention. Finally, a brief introduction to the host organization SNV is included at the end of this chapter (2.4).

### 2.1 The story of Africa: positioning the continent

Africa, especially Sub-Saharan Africa, differs from other low and middle income regions in the world to a large extent. Although many countries in Africa have seen relatively high numbers of economic growth over the past years, poverty rates are still incredibly high. Progress in terms of increased life expectancy or reduced poverty have lacked behind economic growth. Several factors cause this lack of social development, such as the unbalanced demographical structures that many African countries are characterized by. High fertility rates and severe illnesses and epidemics cause these demographical inequities, which are further complicated by low population densities and a lack of spatial integration. This in turn is caused by badly developed physical infrastructures. Other complicating factors to economic development and poverty reduction in Sub-Saharan Africa are the weak connection between different economic sectors and the dominance of the informal sector. Furthermore, domestic markets are small and access to international markets is difficult. This is resulting in a lack of competition in general. On top of this, African governments and societies are still too often characterized by corruption. Altogether, this does not create an enabling environment for local businesses or foreign investments (Rodríguez-Pose & Tijnstra, 2007).

Today, it is more and more realized that the agricultural sector can and should play an important role in development. The World Bank (2007) advocated for agriculture as a tool for development in different regions in the world in its 2008 World Development Report. The institute argues that agriculture offers a major opportunity for development, because 75 percent of poor people, living in developing countries, live in rural areas. The large majority of these people is somehow linked to the sector and depends on it for its livelihoods.

Agriculture has features that make it a unique instrument for development.

– The World Bank, 2007

Agriculture can contribute to development in multiple different ways; as a boost for economic growth, as a contribution towards livelihoods or as a provider of environmental services. Agriculture has proven to be an important contributor to economic growth, because two-thirds of agricultural added value is created in developing countries. It thus serves as an important source of income to many rural poor and a major contributor to food security. Agriculture contributes to the livelihoods of an estimated 86 percent of poor people living in rural areas.

This implies an enormous number of people, considering the fact that 3 billion people, out of 5.5 billion people living in developing countries, are living in rural areas. At least 2.5 billion people in the developing world are somehow involved in agriculture. Last but not least, agriculture also delivers environmental services. It does not only have a negative impact on the environment, but also contributes to, amongst others, water management and the preservation of biodiversity (The World Bank, 2007).

The World Bank thus suggests that agriculture is of major importance to both economic and social development. This raises the following questions; how exactly can the agricultural sector contribute to development? What are effective instruments and how should these be implemented? In short, the World Bank envisions a strong and improvement role of the state, meaning that states provide their countries with a strong basis of public goods and services, a good investment climate and proper natural resource management. Moreover, the empowerment of civil society, producer organizations in particular, are of crucial importance. In the end, small producers are the ones who know best how to produce most efficiently, especially when they receive support from their organizations (Ibid).

A recent article in NRC Next (2012) also elaborated on the importance of the agricultural sector for development. Like Rodríguez-Pose & Tijmstra (2007), it puts emphasis on the difference between Sub-Saharan Africa and other regions in the world. It explains that, contrary to Africa, many countries in Asia have seen major economic and social developments over the past decades, thanks to large investments in the agricultural sector in Asia.

In the 1960s, people living in Africa were, on average, wealthier than people living in South-East Asia. In the 1980s, South-East Asia caught up with Africa and right now, in 2012, income per capita is double as high in South-East Asia as it is in Africa. The spectacular thing about this rise in incomes and economic growth is that it was accompanied by major poverty reductions. According to the article, this is fully due to large investments in the agricultural sector by South-East Asian governments over the past decades. Therefore, investing in the agricultural sector could also be considered as the potential key to success for Africa (NRC Next, 2012).

## **2.2 Tanzania: Mt. Kilimanjaro and Lake Victoria**

Tanzania is a beacon of political stability in Africa.

– Msekela, 2008

This statement is made by a regional commissioner of Mwanza Region and might indeed be a good description of Tanzania. The official name of the country is United Republic of Tanzania, but simply Tanzania is used more often. The country became independent of Britain in the early 1960s. There is a constitution since 1977, which has been revised in 1984. One party rule ended, when democratic elections were first held in 1995 (CIA Factbook, 2011).



The Tanzanian climate varies from tropical to temperate. Tourists are attracted by extraordinary geographical features of the country such as Mount Kilimanjaro, which is the highest mountain of Africa, and Lake Victoria, which is the world's second largest freshwater lake. On top of this, Tanzania offers spectacular wildlife in the Serengeti and the perfect holiday on tropical island Zanzibar (CIA Factbook, 2011).

At the moment, Tanzania is ranked 152<sup>nd</sup> out of 187 countries in the Human Development Index. The total population of Tanzania is 46.2 million people. 26 percent of the population lives in urban areas. Life expectancy at birth is 58.2 years. The enrolment in education of men and women above the age of 15 is 56.6 percent. The adult literacy rate, for both sexes and above the age of 15, is 72.9 percent. Tanzania scores 0.59 in the Gender Inequality Index, meaning that the country scores rather high regarding inequalities between men and women in achievements in reproductive health, empowerment and labour (UNDP, 2012). Undernourishment is a big problem in Tanzania. 34 percent of the total population suffers from malnutrition and for children this percentage is even higher; 44 percent of children are malnourished and underweight (FAO, 2012).

### **2.2.2 Economic situation**

The World Bank states that Tanzania is on its way to become one of the best performers in Sub Saharan Africa, with respect to achieving macro-economic stability (The World Bank, 2012). However, at the same time, the nation remains to be one of the poorest countries in the world. 67.9 percent of the Tanzanian population is living below the poverty line of 1.25 dollar a day. GDP per capita is 1,237 US dollars (UNDP, 2012). The annual growth rate is 6.4 percent and rather high, but this can largely be attributed to the production of gold and the growing tourism sector (CIA Factbook, 2011). The question is thus how many people are benefiting from these high numbers of growth.

The Tanzanian economy is largely based on agriculture. The sector accounts for 45.7 percent of GDP and 76.5 percent of employment (UNDP, 2011). Farmers are mainly small holder farmers or peasants who cultivate farms between 0.9 hectares and 3.0 hectares. 70 percent of the farmland is still cultivated by hand hoe, another 20 percent by ox plough and only 10 percent is cultivated by tractor (The Tanzania National Website, 2012). Agricultural products are coffee, sisal, tea, cotton, pyrethrum, cashew nuts, tobacco, cloves, corn, wheat, cassava, bananas, fruits, vegetables and cattle (CIA Factbook, 2011). Needless to say, cattle are the most interesting agricultural product for this study. The status of the livestock sector in Tanzania is therefore discussed separately in the next section.

Industry accounts for 18.1 percent of GDP. The most important industries are agricultural processing, diamond, gold and iron mining, oil refining, shoes, clothing, wood products and fertilizer (CIA Factbook, 2011).

Tanzania exports gold, coffee, cashew nuts, manufactured products and cotton to India, China, Japan, the Netherlands, the United Arab Emirates and Germany. The total value of export is 3,809 billion US dollars. Imported commodities are consumer goods, machinery and transportation equipment, industrial raw materials and crude oil. These products are imported

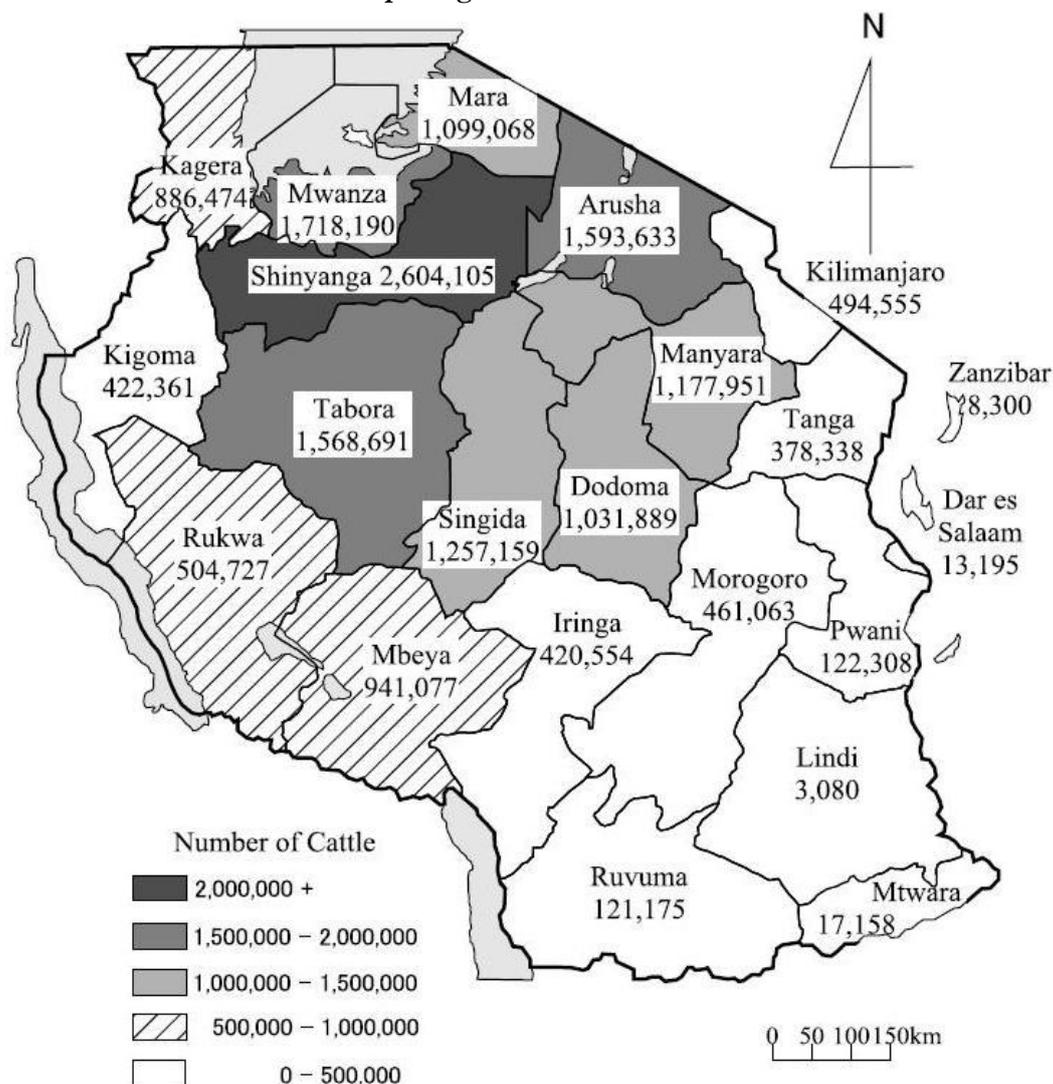
from India, China, South Africa, Kenya, the United Arab Emirates and Japan and have a total value of 6,334 billion US dollars (CIA Factbook, 2011).

### 2.2.3 The livestock sector in Tanzania

Within the predominantly agriculture-based economy of Tanzania, livestock plays an important role. An estimated 30 percent of all agricultural activities are livestock related. Within this share, about 40 percent of GDP is created by beef production. Another 30 percent originates from milk production and the last share of 30 percent is generated by poultry and small stock production (The Tanzania National Website, 2012).

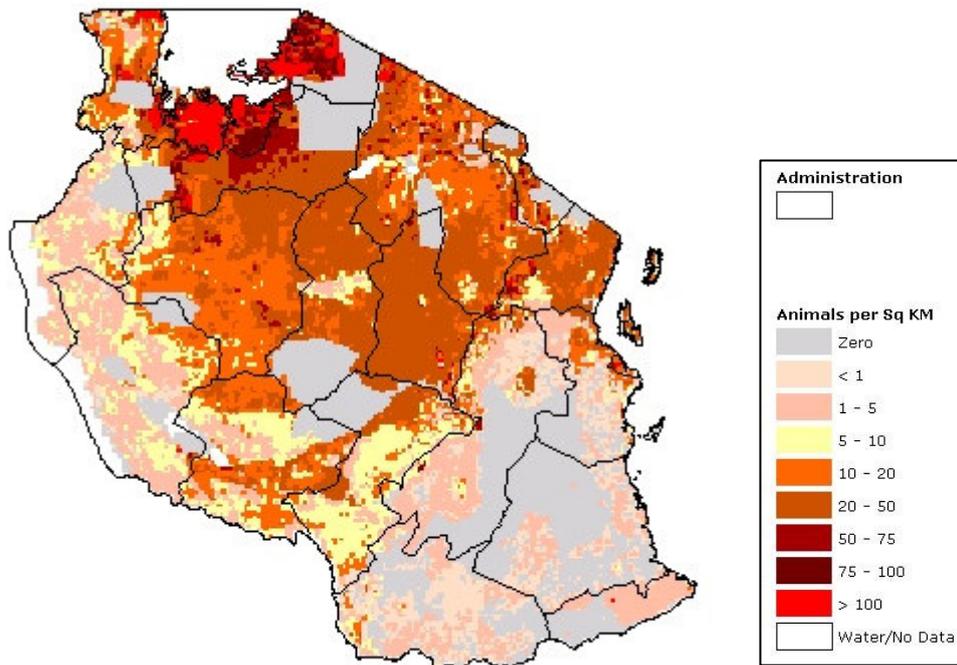
Although 30 percent of all agricultural activities seems a rather large share, this means that only 13 percent of total GDP can be accounted to the livestock sector. Considering the high numbers of cattle available in Tanzania, its economic share is not as high as it could be. The high numbers of cattle and the potentials of the livestock sector in Tanzania are elaborated on next.

Map 2.2 Absolute numbers of cattle per region in Tanzania



Source: Ikegami, 2011

**Map 2.3 Cattle density in Tanzania per square kilometer**



Source: FAO, 2012b

Tanzania is home to an extraordinary large stock of cattle; the Tanzanian government estimates the total number at 16 million (The Tanzania National Website, 2012). The map in figure 2.2 shows the absolute numbers of cattle per region in Tanzania. Numbers of cattle are especially high in Northern regions of the country, such as Mwanza, Shinyanga, Arusha and Tabora region. The map in figure 2.3 illustrates the cattle density in Tanzania per square kilometer. The cattle density is particularly high in regions within the Lakezone. Especially Mwanza and Mara region are densely populated by cattle with over 100 cattle per square kilometer in large parts of the regions.

The Tanzanian government distinguishes three different types of livestock production systems on its website. The first one, commercial livestock keeping, is only performed on two percent of the total population of 16 million cattle in Tanzania. NARCO, the National Ranching Company is the most important actor in the business. This stated owned company is established in the 1970s and now in the process of being privatized. Moreover, small sized commercial farms operate throughout the country. Second, livestock is kept by pastoralists. Pastoralists can keep livestock for three reasons; as a source of subsistence, a store of wealth and a provider of cash income. Pastoralists especially operate in Northern parts of Tanzania, because conditions do not allow so much for crop production in these areas. The third and last type of livestock production system is defined as agro-pastoralism. Agro-pastoralism comprises a combination of two activities; crop cultivation and livestock keeping (The Tanzania National Website, 2012).

The Tanzanian government aims to encourage livestock sector development by formally recognizing farmers' organizations and associations. Moreover, they aim to legalize traditional grazing rights through implementation of the new Land Act. They argue that the carrying capacity of rangelands in Tanzania is not fully utilized at the moment; the total livestock herd

consists of 16 million cattle only, while available rangeland allows for up to 20 million cattle. Government policies therefore aim at expanding the livestock industry through increasing numbers of cattle (Ibid).

Besides Ethiopia and Sudan, Tanzania has the largest cattle herd of Africa. However, the sector only accounts for 13 percent of GDP in the country (SNV, 2011 & The Tanzania National Website, 2012). Despite the high numbers of cattle, there is a lack of high quality beef in Tanzania. Quality meat is being imported from other countries at the moment (Madsen et al, 2007 & SNV, 2011). Different authors and institutes have different opinions on what should be done to improve livestock sector performance. This study makes an attempt to concretize the interventions needed in chapter 5 and 6. Undoubtedly, potentials of the livestock sector are high, but they are not realized at the moment.

## 2.3 Regional context: The Lakezone/ Mwanza region

The Lakezone is an appropriate name for the area surrounding Lake Victoria. It consists of four different regions; Kagera, Mwanza, Shinyanga and Mara region. All of these regions in turn consist of different districts. The Lakezone itself is not used very often to define the geographical area or to present data related to it. Data are more often presented according to regional level.

Although the geographical scope of this study embraces the entire Lakezone, Mwanza region is most relevant. As will be further explained in the section 3.3, the focus point of the fieldwork has been on Igoma market in Mwanza city and its market supply, originating from different districts in Mwanza region mainly and partly from Shinyanga region. Taking the availability and relevance of various geographical data into consideration, the decision has been made to present data concerning Mwanza region in this section.

This section includes information on Mwanza region's geographical and demographical facts (2.3.1), economic situation (2.3.2) and livestock sector specific (2.3.3).

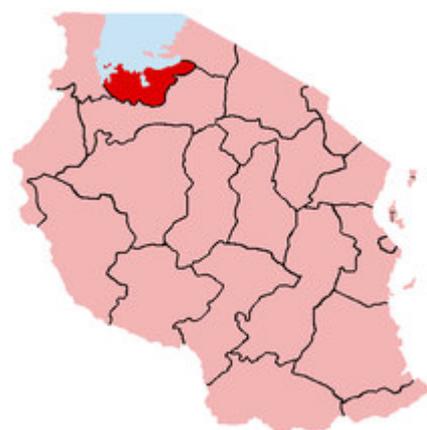
### 2.3.1 Facts: geography & demography

Mwanza region is described as tolerant, coherent and non-violent. The political situation is stable and economic potentials of the region are high (Msekela, 2008). Mwanza city is the second largest city of Tanzania and the industrial, commercial and administrative centre of the North Western part of the country (Flynn, 2001).

#### *Geography*

Mwanza region is the fourth smallest region of Tanzania and is located in the North of the country, South of Lake Victoria. The region exists from 20,095 square kilometers

Map 2.4 Location of Mwanza region

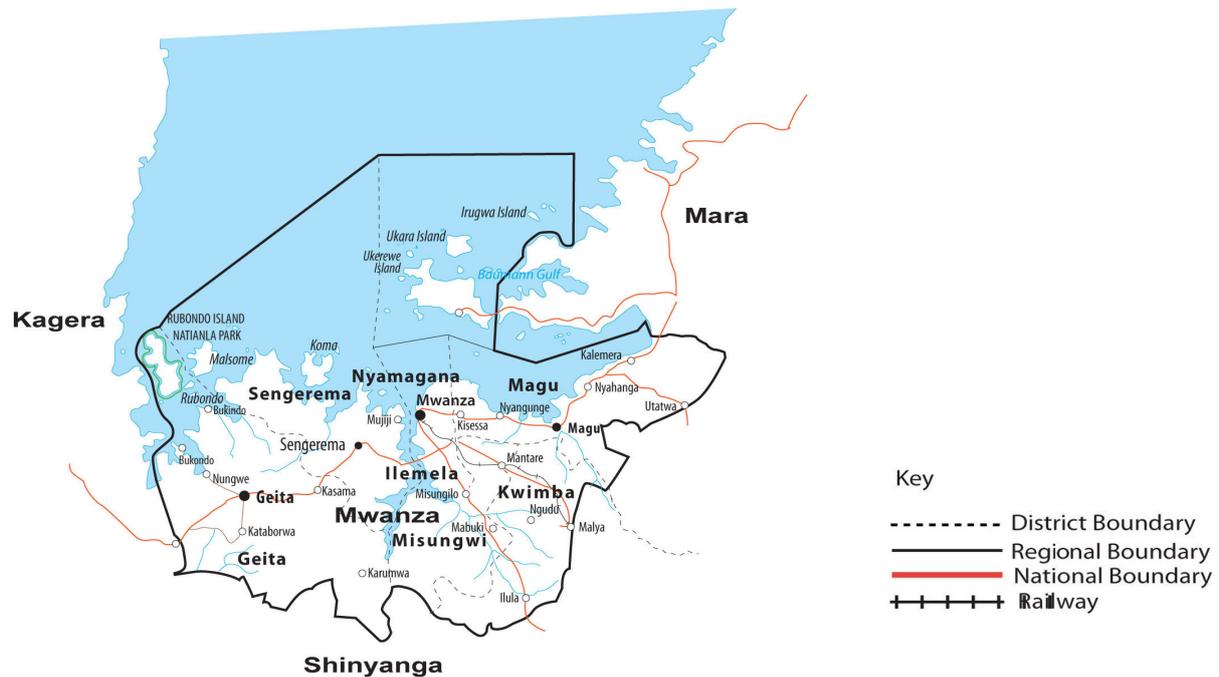


Source: Wikipedia, 2012

of land area and 15,092 square kilometers of water area. Mwanza region is divided into eight districts, seven Local Government Authorities and 683 villages. The districts within the region are; Geita, Sengerema, Nyamagana, Ilemela, Magu, Kwimba, Misungwi and Ukerewe. Mwanza region exists from highlands and climate is influenced by the location next to Lake Victoria, which causes high levels of precipitation (Msekela, 2008).

Map 2.4 points out the location of Mwanza region within Tanzania. Moreover, map 2.5 presents Mwanza region and the different districts it consists of.

**Map 2.5 Mwanza region and division into districts**



Source: TPSF, 2012

### *Demography*

The total population of Mwanza region was 2,942,148 people in 2002, according to the National Population and Housing Census. The population is now estimated to be 3.5 million people. The level of urbanization in Mwanza is high with 18.6 percent. Because of poverty and ignorance, health services in Mwanza are badly developed. Education on the other hand, has seen some major improvements over the past years. There are 1,185 primary schools in the region and opportunities for children to attend school are rising (Msekela, 2008).

### **2.3.2 Economic situation**

About 85 percent of Mwanza regions' population is employed in the smallholder agriculture sector. Besides, fishery, mining and livestock sectors are expanding and account for a large share of the economy of Mwanza region. The most important crop for export is cotton; Mwanza region is the leading producer of cotton in Tanzania. However, due to dropping prices of cotton, fishing activities account for the highest share of foreign exchange earnings at the moment (Msekela, 2008).

The location of Mwanza region enables a connection to Kenya and Uganda, both members of the East African Cooperation, just like Tanzania. This creates opportunities for trade. However, roads are currently badly developed and around 80 percent of the roads are dirt roads. Marine transport is very well possible in the region, making use of Lake Victoria. The lake connects Mwanza region to the regions of Mara and Kagera and to the neighboring countries Kenya and Uganda. However, due to bad facilities, marine transport is also facing lots of challenges (Msekela, 2008).

### **2.3.3 The livestock sector in the Lakezone**

Livestock keeping is the third most important economic activity of people living in Mwanza region. The livestock sector is facing problems, such as traditional production methods and the bad utilization of grazing lands, which constrain the sector from providing sustainable income to people (Msekela, 2008).

A socio-economic profile on Mwanza region, published by the NBS (National Bureau of Statistics) and the Mwanza Regional Commissioner’s Office in 2003, presents some data on the livestock population in the region. The total number of cattle on the hoof in Mwanza region in 1999 is set at 2,163,997. This number of cattle is kept by 170,625 households, which means that the average number of cattle per household is 12.68. The cattle population per square kilometer contained 108 at the time (NBS and Mwanza Regional Commissioner’s Office, 2003). An overview of these numbers is provided in table 2.1.

**Table 2.1 Cattle population in Mwanza region in 1999**

Total number of cattle on the hoof	2,163,997
Total number of cattle keeping households	170,625
Average number of cattle per household	12.68
Cattle population per square kilometer	108

Source: NBS and Mwanza Regional Commissioner’s Office, 2003

The socio-economic profile unravels several dangers within the livestock sector. Overgrazing is a particularly big problem in dry areas within the region, viz; Kwimba, Magu and Missungwi districts. These districts inhabit 56 percent of the region’s total cattle population. Moreover, diseases like tick borne disease pose a great threat to the sector. The availability of facilities like cattle dips and veterinary health centers is inadequate and not sufficient to serve the region’s entire livestock population. The report indicates that policies that aim at improving these livestock services are not maintained and existing facilities are often not functioning and deteriorating (Ibid).

Finally, the study presents some data on livestock marketing. In 1995 a total number of 17,258 cattle were traded through official marketing channels in Mwanza region. The average price per cattle was 47,000 TZS and the total value of cattle trade thus comprised 812,475,790 TZS. In 2002 an increase of 54 percent put the total number of cattle traded throughout the region at 26,638 with a total value of 2,131,040,000 TZS. The average price per cattle was 80,000 TZS at the time (Ibid). These numbers are also presented in table 2.2.

**Table 2.2 Official livestock marketing in Mwanza region in 1995 and 2002**

	1995	2002
Total number of cattle traded	17,258	26,638
Total value of cattle trade (TZS)	812,475,790	2,131,040,000
Average price per cattle traded (TZS)	47,000	80,000

Source: NBS and Mwanza Regional Commissioner's Office, 2003

## 2.4 Introducing the host organization: SNV

SNV, the Netherlands Development Organisation, is a Dutch nonprofit organization that was established in 1965 and is now working in 35 countries in Latin America, Asia and Africa. Over the past 40 years, SNV has developed a strategy that aims at connecting people's capacities. SNV wants to alleviate poverty by enabling people with low incomes to become part of social and economic networks. The strengthening of local organizations is a key aspect of this (SNV, 2011).

Agriculture is one of the most important sectors for SNV to work on, because the organization believes that rural economic development is at the core of poverty reduction in developing countries. Within the agricultural sector, the development of the livestock sector receives special attention. Especially in Tanzania, the potentials of the sector for rural economic development are high, because most of the households in Tanzania own high numbers of cattle and at the same time demands for food of animal origin are rising (Ibid).

In order to improve the livestock sector in Tanzania, SNV is supporting actors throughout the value chain. SNV aims at increasing opportunities for local economic development by addressing problems that occur along the value chain. Strengthening farmers' capabilities and establishing farmers' organizations are important aspects of this (Ibid).

## 3. RESEARCH METHODS

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After having established the context of this study in chapter 1 and 2, this chapter provides a detailed methodology, which has been applied to gather the research findings of this study. It starts with the research objectives and questions in the first section (3.1); the conceptual model is presented in section 3.2; the research area is defined in section 3.3; the applied methods are described in section 3.4; and finally some limitations to the research are discussed in section 3.5.

### 3.1 Research objectives & questions

The research objectives of the study presented in this thesis and the corresponding research questions are provided in this section (3.1.1 & 3.1.2). The study of the livestock sector in the Lakezone of Tanzania has been carried out in close cooperation with SNV Lakezone Portfolio, based in Mwanza, Tanzania. To enhance understanding of decisions made with respect to the study, the objectives of SNV are also briefly discussed at the end of this section (3.1.3); this can be considered as background information.

#### 3.1.1 Research objective UU: Livestock for development

As discussed in the theoretical context in chapter 1, livestock can contribute to economic development in several ways. Livestock marketing helps determine the performance of the sector and marketing constraints can pose huge barriers to economic exploitation of the livestock sector. Chapter 2 discussed the current situation with respect to livestock in the Lakezone and identified several problems that occur along the supply chain of livestock.

From both contextual chapters can be derived that livestock can be of major importance to economic development and that potentials are not fully realized at the moment. This study aims to explore potentials of the livestock sector and to identify ways in which the livestock sector can better contribute to local economic development, in the specific context of the Lakezone in Tanzania. The main objective of the study thus reads as follows;

**To enhance understanding of livestock marketing and the livestock supply chain in the Lakezone and to identify possible interventions needed to enlarge economic benefits derived from the livestock sector.**

The study focuses on characterizing livestock marketing dynamics and on analyzing the supply chain of livestock in the research area. Based on this analysis, several chain and LED strategies are applied to the research findings. A synthesis of theory, geographical data, research findings and studies of others results in the identification of economic potentials of the livestock sector and the steps required to realize these potentials.

### **3.1.2 Research questions**

After having established the objectives of this study, the main research question is defined as follows:

#### **Which interventions are needed to enlarge economic benefits from the livestock sector in the Lakezone?**

In order to answer the main research question, four sub questions have been drawn up. The first sub question reads;

##### **1. What are the main characteristics of livestock marketing in the Lakezone?**

This question aims to establish the characteristics of livestock marketing and to identify its challenges and opportunities. This first question is tackled in chapter 4, which assesses different levels of livestock marketing; the producer level, the primary market level and the secondary market level. Moreover, it looks at marketing structures by identifying different official and unofficial trade channels. Also, the specific situation regarding Igoma secondary market in Mwanza city is presented as a case study. The second sub question then reads;

##### **2. What are the main characteristics of the livestock supply chain in the Lakezone?**

This question is addressed in chapter 5, which relates the research findings to the theories on value and supply chains presented in chapter 1.2. Several actors that operate within the livestock chain are identified and different aspects of the chain are explained. The third sub question is defined as follows;

##### **3. Which strategies can be applied to increase economic benefits from the livestock sector in the Lakezone?**

The answer to this question is provided in section 5.3, which assesses the extent to which different strategies to improve chain performance and to enhance local economic development (LED), as discussed in the first chapter of this study, might be suitable to apply to the livestock sector in the research area. Finally, the last sub question reads;

##### **4. What are the potentials of the livestock sector for local economic development in the Lakezone?**

In order to answer this question, the research findings (presented in chapter 4) are combined with the literature (presented in chapter 1) and the geographical data (presented in chapter 2). Also, studies and ideas of others on increasing economic benefits from the livestock sector are consulted. Based on this input, chapter 5 elaborates on the different ways in which the livestock sector can contribute to economic development.

Chapter 6, finally, elaborates on the main question and comprises the conclusion of the study. The different elements of the research questions are represented in the conceptual model in section 3.2. Subsequently, the research area and the applied research methods are discussed in section 3.3 and 3.4. These sections clarify how the research questions are answered in the

upcoming chapters of this study. Primary to this, the next subsection briefly describes the context of the empirical research of this study, as set out by SNV.

### **3.1.3 Research objective SNV: Mapping livestock on hooves**

SNV states that the livestock sector, especially meat production, is facing many problems. The abattoir in Mwanza city, in the Lakezone, is functioning poorly at the moment. The quality of meat, deriving from the abattoir, is bad and this is resulting in health problems and low economic profits (SNV, 2011). In order to address the problems that the livestock sector is facing, SNV is working on a Public Accountability Tanzania (PATA) initiative for livestock. The key objectives of PATA for livestock are; 1) to increase domestic income from the red meat value chain and 2) to avail good quality of meat to consumers.

Part of this intervention is the value chain analysis of red meat that SNV has been working on and which has resulted in the synthesis report 'In the Red'. The report identified some of the problems that occur in parts of the value chain; however, it appeared that other parts of the value chain were not being addressed yet. In order to address all the issues of the value chain, the producers at household level needed to be included in the study. To complete the value chain analysis of red meat, the study 'Mapping livestock on hooves' has been carried out by a young professional working at SNV (Edgar Begasha) and the author of this thesis (Frederieke Ton).

'Mapping livestock on hooves' aimed to enlarge understanding of the value chain of red meat in the Lakezone of Tanzania all the way from producers at household level to the butcheries where the meat is sold. Its objectives were twofold; 1) to understand household level livestock marketing behavior and its influence on red meat value chain and 2) to establish the dynamics of livestock marketing from the household to the secondary markets in order to understand factors which enhance or impede the availability of quality red meat in Mwanza.

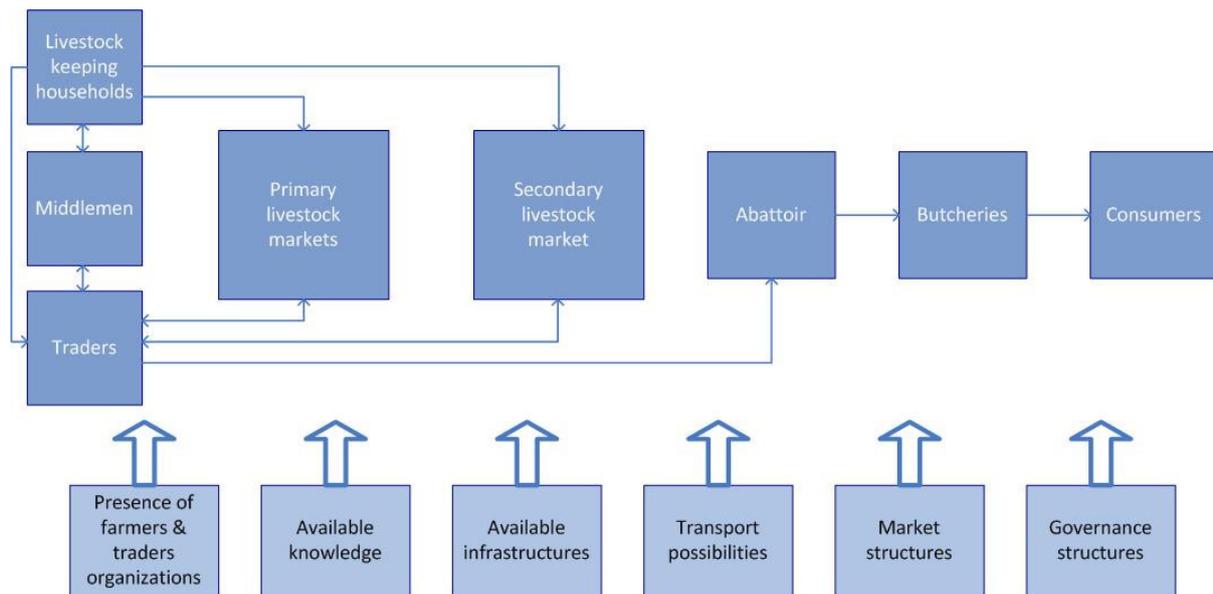
The study presented in this thesis is based upon the field research 'Mapping livestock on hooves'. However, the objectives of the study are different and therefore only parts of the findings of 'Mapping livestock on hooves' are used to answer the research questions of this study. Other sources of information are used as well; this is explained further in section 3.4.

## **3.2 Conceptual model**

The conceptual model of this study is presented in figure 3.1. It provides an overview of all different aspects of livestock marketing in the research area. It illustrates the different channels that are used to trade cattle through and the actors that are involved. Producers (livestock keeping households), middlemen or traders can trade cattle at primary markets, the secondary market or anywhere else. A distinction can be made between official and unofficial livestock trade. Officially, all cattle should be traded through the system of primary and secondary markets. When cattle do not pass through a livestock market it is traded unofficially.

At the bottom the figure shows the factors that are influencing overall livestock trade, such as the available infrastructures and governance structures. All of the elements within the conceptual model are discussed in the upcoming chapters of this study.

**Figure 3.1 Conceptual model**

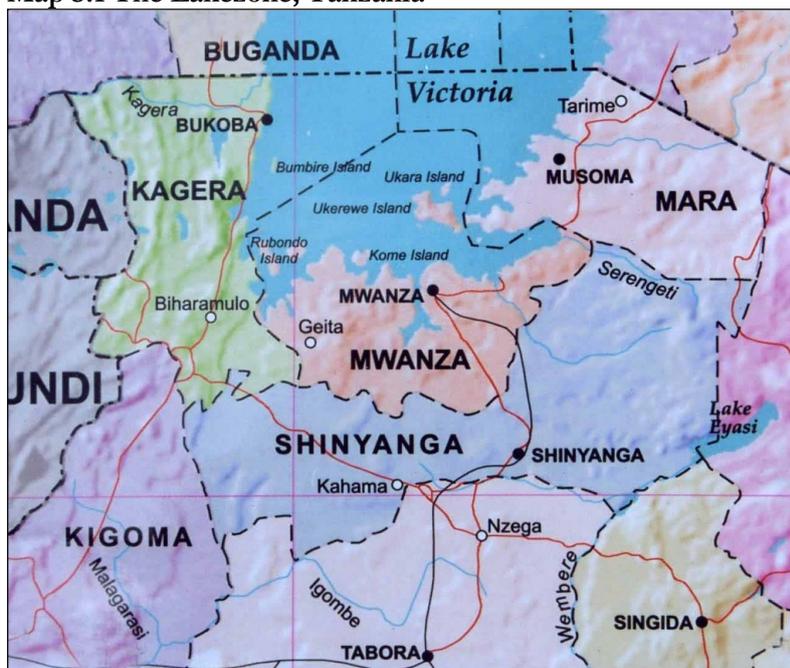


Source: Field research, 2011

### 3.3 Research area: The Lakezone

The fieldwork of the study ‘Livestock for Development’ has been carried out in the Lakezone, located in the North of Tanzania. The Lakezone consists of four regions; Kagera, Mwanza, Shinyanga and Mara region. Each region, in turn, consists of different districts. Map 3.1 shows the Lakezone and the different regions it consists of.

**Map 3.1 The Lakezone, Tanzania**



Source: Tools For Self Reliance CYMRU, 2012

The starting point of the field research conducted for this study is the secondary livestock market Igoma, located in Mwanza city. Each region has its own secondary market; however, the primary markets that (officially) supply to it are not necessarily located in the same region. The primary markets that are sources of cattle to Igoma can potentially be spread out throughout the four regions of the Lakezone.

The field research aimed at identifying the primary markets that deliver cattle to Igoma secondary market. Primary markets in two out of four regions in the Lakezone have been visited to determine which primary markets are sources of cattle for Igoma market. Igoma market itself has also been visited a few times in order to create a complete picture of livestock trade at and around the secondary market. Hence, not all primary markets that are sources of cattle to Igoma market have been visited. On the other hand, markets that are not delivering cattle to Igoma market have also been visited in order to identify differences between different markets and areas.

The visited markets are all located in Mwanza and Shinyanga region. Field research at Igoma secondary market turned out that all cattle sold at Igoma market originates from primary markets in those two regions. The visited primary markets are; Sengerema, Katoro and Kasamwa market (located in Mwanza region, West of Mwanza city); Misasi and Nassa market (also located in Mwanza region, though East of Mwanza city); and Bariadi and Dutwa market (located in the Eastern part of Shinyanga region).

### **3.4 Applied methods: assessing the livestock sector**

In order to assess the livestock sector in the Lakezone, extensive literature study and field research have been carried out. The field research consisted of different phases, which each embraced different activities. Multiple data gathering methods have been applied. This section explains the different phases (in section 3.4.1) and the applied methods (in section 3.4.2).

#### **3.4.1 Different phases of field research**

The data gathering process existed from three different phases, viz. an inventory study, the main field research and a feedback session. The different phases are explained below.

##### *Phase 1 – Inventory study*

The first phase of the field research comprised an inventory study on the situation regarding livestock marketing in the research area. The inventory study mainly aimed at identifying the location of different primary livestock markets and determining which primary markets deliver cattle to Igoma secondary market. It included the following activities;

- Desk study
- Interview regional officer Mwanza
- Interview Veterinary Institute in Mwanza
- Visit to Igoma secondary market
- Initial primary market visits

### *Phase 2 – Main field research*

The main field research constitutes the second research phase. During this phase, the largest share of the data has been collected. It aimed at gathering as much information as possible about the characteristics of and the affairs taking place at the different livestock markets. The following activities were part of it;

- Second visit to Igoma secondary market
- Remaining primary market visits
- Second interview regional officer Mwanza

### *Phase 3 – Feedback session*

Finally, when the majority of research findings were gathered, a feedback session was organized to share initial research findings with some of the stakeholders. It aimed at receiving input on which interventions are needed to improve the position of livestock producers. The feedback session encompassed a;

- Focus group discussion (FGD)

## **3.4.2 Applied research methods**

Different methods have been applied to collect the research data. This section provides an overview of these different methods.

### *Literature review*

Both before the actual fieldwork took place and afterwards, multiple theories have been studied extensively. The result is the theoretical framework provided in the first chapter of this study. It serves as the foundation for other chapters to build upon. Chapter 5 is linking back to the theoretical framework and assesses the extent to which the theories and research findings overlap or mismatch. Also, different models and strategies discussed are applied to the research findings. Moreover, geographical data and statistics have been studied and served as input to chapter 2.

### *Semi-structured interviews*

Multiple short interviews and several extensive interviews have been conducted, mainly during market visits. At each of the visited markets, at least one key actor and several producers and traders have been interviewed. Key actors are District Livestock Marketing Officers and Livestock Extension Officers. When present, the interviews were often conducted at their offices, before the researcher carried out the actual research at the marketplace. At the marketplaces, many producers, traders and middlemen have been interviewed. Moreover, two key informants have been interviewed as well; these interviews were conducted in their offices in Mwanza city. Table 3.1 provides an overview of the number of people interviewed.

A list of example interview questions is provided in appendix I. The interviews were semi structured, which implies that each interview was different and other questions were often included as well.

**Table 3.1 Number of interviewees**

Livestock producers – interviewed at home	5
Livestock producers, middlemen and traders – interviewed at markets	20
Livestock officers	8
Key informants	2
<b>Total</b>	<b>35</b>

Source: Field research, 2011

It is important to note here that a producer, middleman or trader is, conveniently, always referred to as 'he' in this study. However, during field research, several female traders have been encountered and it is thus quite possible for a woman to be a producer, middle(woman) or trader as well.

#### *Focus group discussion*

A focus group discussion has been organized in order to receive feedback on the field research carried out. Initial research findings were shared with a total of thirteen male participants. Out of these thirteen, eight participants were livestock producers and/ or traders and five were livestock officers. During the FGD a presentation was provided on the findings of the study. Subsequently, the attendees were asked several questions on how livestock sector performance can be improved and how the position of livestock producers and traders can be strengthened.

#### *Observation*

Observations constitute an important share of research findings in this study. Observations have been especially useful during five visits to the homes of producers and multiple visits to livestock markets. Important tools were a photo camera and a notebook; many pictures were taken and notes were made about important characteristics of homes and markets. Several of these are included in chapter 4 of this study. An overview of the different markets visited, where observations have been made, is provided in table 3.2.

**Table 3.2 Overview of visited livestock markets**

<b>Region</b>	<b>Primary markets</b>	<b>Secondary market</b>
Mwanza region	Sengerema Katoro Kasamwa Misasi Nassa	Igoma market
Shinyanga region	Bariadi Dutwa	

Source: Field research, 2011

### 3.5 Limitations of research

Doing development research is a challenging job; understanding a local context and at the same time making yourself understandable may be a great challenge in a country so different from the one of residence. However, it is a very informative challenge at the same time.

The researcher of this study carried out research activities in close cooperation with a young professional of Tanzanian origin, working for SNV. This was not a limitation, but rather an opportunity for both to learn from each other and exchange ideas. Combining different backgrounds often resulted in interesting new insights.

However, some limitations were encountered as well. The biggest limitation was, not surprisingly, composed by language. Although the colleague of the researcher spoke the local language Swahili, it was difficult for the researcher to get involved in interviews. It turned out to be too complicated to both involve in conversations with interviewees and translate at the same time for the young professional. Therefore, the researcher was often informed about the content of a conversation afterwards. Fortunately, interviews with key actors, like officers, often took place in English. Besides, a translator accompanied the researcher sometimes. However, even in the presence of a good translator, some data will always get lost in translation.

Another challenge was posed by transportation; this was often rather difficult and time consuming. Most of the time public transport was used to go to livestock markets; many hours have been spent in small, crowded buses and on the back of a (motor)bike. As a result, a relatively limited number of markets and households could be visited.

## 4. RESEARCH FINDINGS

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This morning I went on my first fieldtrip and visited the primary livestock market in Sengerema. I entered the market on the back of a motorbike, driven by the District Livestock Marketing Officer who we visited in his office earlier today. The traders at the market must have been surprised to see a white girl at their market, and so was I. What an amazing experience to find myself in an African village, in the heart of a business district that a livestock market represents to me. There were people, cattle and goats everywhere, food was being prepared on the sides of the market and people were negotiating on prices of cattle. What sticks to my mind the most are the buzz and the particular smell that surrounded the marketplace.

Personal diary – February 2011

African livestock markets are lively places where lots of things are happening. This chapter elaborates on the system of livestock markets in the research area. The information presented is based on market visits as described above and interviews with livestock producers and traders and key actors. Several questions rise when elaborating on livestock marketing: What are the main characteristics of livestock marketing in the Lakezone? What do livestock marketing structures look like? Which different trade channels are used and are these official or unofficial? What is happening at producer level and how does this influence livestock trade? What do primary markets look like and how are they functioning? What is the difference between primary and secondary markets? What are the characteristics of cattle being traded throughout the Lakezone? This chapter is taking the bull by the horns and aims to address all of the above questions.

Section 4.1 at first explains livestock marketing structures; it presents an overview of all the aspects of livestock marketing and the different channels that cattle is traded through. The following sections then zoom in to the different levels of livestock marketing that have been studied during field research; the producer level is assessed in section 4.2, the primary market level in section 4.3 and the secondary market level in section 4.4. Section 4.5 presents the case study of Igoma secondary market and its primary market supply. Section 4.6, finally, provides the chapter's conclusion and discusses challenges and opportunities of livestock marketing in the research area.

### 4.1 Livestock marketing structures in the Lakezone

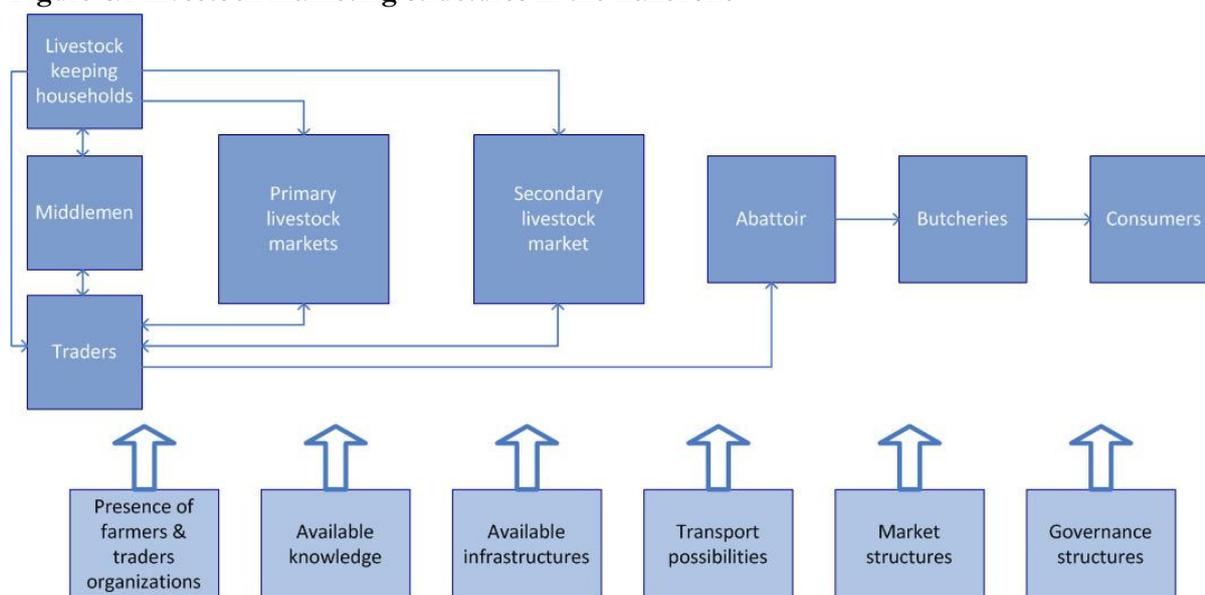
One of the economic functions of livestock is to provide cash income to cattle keepers. Livestock can provide cash income when it is sold or traded. Livestock trade officially takes place through a system of primary and secondary markets in the research area and can thus be referred to as livestock marketing. This section explains livestock marketing structures and clarifies this system of primary and secondary livestock markets (4.1.1). Moreover, it looks at the different characteristics of official and unofficial trade (4.1.2).

### 4.1.1 Livestock marketing structures

Figure 4.1 presents an overview of all different aspects of livestock marketing in the Lakezone. It illustrates the different channels that are used to trade cattle through and the actors that are involved. At the bottom it shows the factors that are influencing overall livestock trade, such as the available infrastructures and governance structures. This overview is also used to clarify the structure of this chapter; at the start of sections 4.2, 4.3 and 4.4 the overview is presented again (in respectively figure 4.4, 4.5 and 4.6) and the part of it that is discussed in the particular section is marked.

Officially, livestock trade is taking place through a system of primary and secondary markets. When livestock keepers decide to sell cattle, they take the number of animals they want to sell to the primary markets in or near their village. Primary markets are defined as meeting places for livestock producers. At primary markets then, the animals are sold to traders. Traders take the animals to the secondary (regional) market to sell it again. From there on, cattle is brought to the abattoir to get slaughtered right away and is sold to butchers and consumers subsequently.

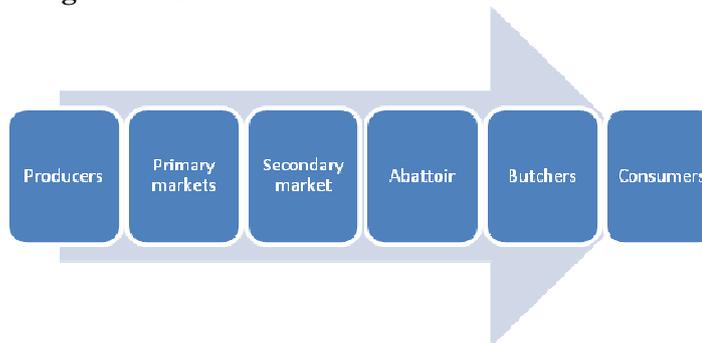
**Figure 4.1 Livestock marketing structures in the Lakezone**



Source: Field research, 2011

Official livestock trade is represented by figure 4.2, which is a simplification of figure 4.1. Except from the producers, the other actors involved are left out in this figure. As mentioned before, the only actors involved are livestock producers (who take cattle to primary markets) and traders (who take cattle from

**Figure 4.2 Official trade of livestock in the Lakezone**



Source: Field research, 2011

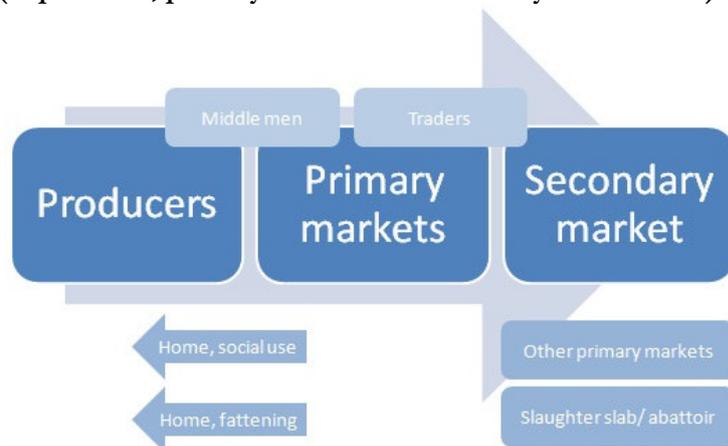
primary to secondary markets). Official livestock trade takes place in a very straightforward way.

According to the Livestock Officers interviewed for this study 99 percent of cattle trade takes place through these official trade channels. However, fieldwork results show that more actors are involved and other channels are used as well; this implies unofficial trade. The following section discusses the difference between official and unofficial livestock trade and the different ways in which unofficial livestock trade takes place.

#### 4.1.2 Official vs. unofficial trade

Unofficial livestock trade can be defined as all trade that does take place outside of the system as presented in figure 4.2. As mentioned before, fieldwork has shown that livestock is often not traded through these official channels. The different unofficial trade channels being used in the Lakezone are presented in figure 4.3 and are elaborated below.

**Figure 4.3 Unofficial livestock trade in the Lakezone (at producer, primary market and secondary market level)**



Source: Field research, 2011

that producers often do not have good knowledge on prices. Middlemen thus have a major impact on the way livestock trade operates.

Second of all, livestock is not always traded through the official channels of livestock trade; more steps can be involved. Livestock can change hands multiple times, which means that it can be taken back to the homes of producers, or to another primary or secondary market. Also, traders can choose to fatten cattle before selling it again. Traders who do business like this are referred to as fatteners. Moreover, cattle can be slaughtered at so-called local slaughter slabs or abattoirs. Even though all cattle are supposed to be slaughtered at one central place in order to regulate livestock trade and to control the quality of cattle, cattle are also slaughtered locally in many villages. Box 4.1 provides more information on this phenomenon.

Third and last, cattle can also not pass through markets at all. It can be traded through the different channels and by the different actors mentioned above. One notable example of unofficial trade that is bypassing the market is illustrated by photo 4.1. Just outside the site of Igoma secondary market in Mwanza city, some traders are already trying to sell some of their cattle before the market has started to operate; obviously in order to avoid the fees that have to

First of all, producers hardly take their cattle to primary markets themselves; middlemen are often involved. The role of the middleman is that of broker between producers and traders. A producer is often familiar with a certain middleman who he considers to be reliable and thus the preferred buyer of his cattle, even so when this middleman does not pay the highest price. This is also explained by the fact

be paid at the market. At first, during the conversation that we are having, they do not want to admit that this is what they are actually doing, but after a while they do.

The question rises why most Livestock Officers claim that livestock trade almost exclusively takes place through official trade channels and unofficial livestock trade hardly exists. However, it obviously does exist to a large extent. This phenomenon can possibly be explained by the fees that are related to the use of markets. In addition, not only are livestock keepers, middlemen and traders trying to avoid paying these fees, but also officers themselves may not report all the fees they collect on a market day. The system of fee collection at livestock markets is further discussed in section 4.3.2.

**Photo 4.1 Unofficial trade outside Igoma market**



Source: Field research, 2011

**Box 4.1 Semi-abattoirs and slaughter slabs in the Lakezone**

Many villages in the Lakezone have their own slaughter slab or even a semi-abattoir that is being used frequently. The government stimulates to slaughter all cattle at one central place, viz. the abattoir in Mwanza city, but this is often not happening. Informal trade is taking place for several reasons and livestock producers and traders frequently decide to avoid markets and to slaughter cattle themselves.

Photo 4.2 presents the slaughter slab in Katoro, at 7 am, when it is in use. Every day at least six cattle are slaughtered here. The slaughterers do not seem to have the proper equipment and use ropes, small knives and man power mainly. The Livestock Extension Officer is present to inspect the meat; when he considers the quality of meat to be bad he takes away the affected parts of the animal. His eyes are the only instrument he uses to perform the daily inspection.

Photo 4.3 illustrates the semi-abattoir in Sengerema, where on average ten cattle are slaughtered every day. The picture is taken in the afternoon and the site looks very neat and well organized. The tiles make it seem a lot more hygienic than the slaughter slab in Katoro. The DLMO of Sengerema states that this has a positive impact on the quality of meat.

**Photo 4.2 Slaughter slab in Katoro**



**Photo 4.3 Semi-abattoir in Sengerema**



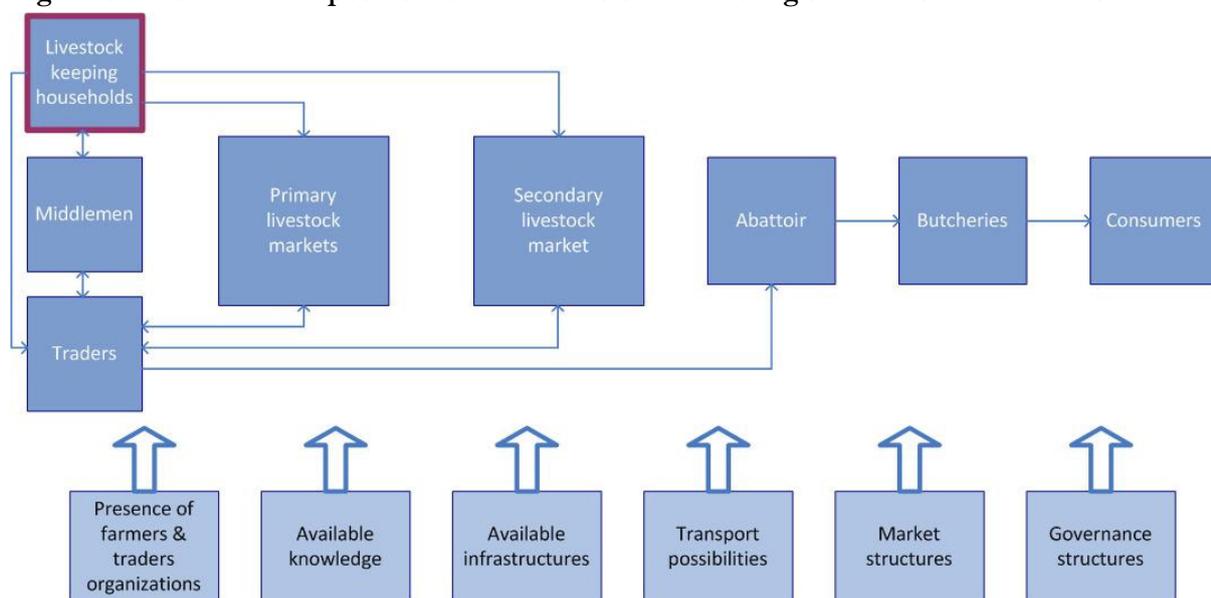
Source (both pictures): Field research, 2011

## 4.2 Producer level

All livestock originates at producer level, where livestock keeping households operate. This section assesses the characteristics of the producer level and attempts to seek an answer to the following questions; What are the main reasons for households to keep livestock and which methods do they apply (4.2.1)? How can behaviour of livestock producers be characterized (4.2.2)? Are producer organizations present, and, if so, what is their role (4.2.3)? What are the challenges and opportunities of livestock keeping in the research area (4.2.4)?

Figure 4.4 presents the overview of livestock marketing structures again, whereby the aspects studied in this section are accentuated, viz. the livestock keeping households.

**Figure 4.4 Producer level positioned within livestock marketing structures in the Lakezone**



Source: Field research, 2011

### 4.2.1 Subsistence vs. commercial livestock keeping

A large majority of the population living in the research area is keeping livestock; for different reasons and by using different methods. Livestock keeping can vary from having just a few cows to provide dairy products to keeping a large herd of cows, bulls and calves for commercial purposes. A distinction can thus be made between subsistence and commercial livestock keeping.

Keeping livestock for (semi-)subsistence purposes is, like in most developing countries, very common in Tanzania. Even when a household owns only one or two cows, these can be of major importance for the provision of milk and other dairy products to feed the family. Also, every once in a while a cow or preferably a bull can be slaughtered, at home or at a local slaughter slab, to sell or consume the meat. Together with the cultivation of crops, livestock can contribute to the self-sufficiency of households.

Commercial livestock keeping on the other hand has a single purpose; the provision of cash income. The ultimate aim of keeping livestock for commercial purposes is to maximize profits from livestock products. A big difference compared to keeping livestock for subsistence purposes is the scale at which livestock keeping takes place; commercial livestock producers keep large herds of different types of cattle. Moreover, they can carry out additional activities, like breeding and fattening. These additional activities have the aim of creating certain herd structures and enhancing the quality of cattle.

Livestock marketing is an important aspect of keeping livestock for commercial or business purposes and has a major impact on the amount of cash income it can generate. Marketing constraints can pose huge barriers to effective livestock trade. Observed marketing constraints in the research area are; 1) a lack of information and knowledge, 2) the distance to markets, 3) transport difficulties and 4) a lack of security. These constraints are further discussed in section 4.2.2 on selling behaviour.

Most livestock keeping households in the research area are keeping livestock while combining both purposes; livestock will always provide dairy products to families to a certain degree on the one hand, and provide cash income through the sale of cattle every once in a while on the other. Obviously, the relative importance of each of the purposes varies to a wide extent.

Out of a total of 25 producers and/ or traders interviewed approximately eleven say to keep livestock for subsistence purposes mainly; meaning that they do not ever or only on occasional basis sell cattle. Ten interviewees keep livestock for a combination of purposes. They keep livestock at home in a traditional way and prefer not to sell any cattle from home, unless really felt necessary. Besides, they also trade cattle for business purposes. The two types of activities are very much separated from each other. An example of a livestock keeper who keeps livestock for both subsistence and commercial purposes is presented in box 4.2. Only four of the interviewees only trade cattle for business purposes. Three out of these own or sell cattle to butcheries. The other one is a middleman and often buys cattle at one market to sell it again as soon as possible; sometimes even the same day. These numbers are also presented in table 4.1.

**Table 4.1 Purposes of livestock keeping in the Lakezone and their absolute importance**

Purpose of keeping livestock	Interviewed producers and/ or traders
Subsistence only	11
Combination of subsistence and commercial	10
Commercial only	4
Total	25

Source: Field research, 2011

The numbers of cattle kept by livestock keeping households vary to a large extent. The lowest number of cattle found is 10, the highest 2,400. From the research findings can be derived that the majority of livestock keeping households keep between 60 and 300 bovines. In addition, it is very common for a trader to keep 200 cattle at home and trade cattle as a side-business. Like subsistence livestock keepers, this trader also prefers not to sell any cattle from his herd. Selling behaviour is explained in more detail in section 4.2.2.

**Photo 4.4 Fences where cattle are kept at night, Katoro**



Source: Field research, 2011

**Photo 4.5 Cattle herding by child, Bariadi**



Source: Field research, 2011

**Photo 4.6 Cattle on the road**



Source: Field research, 2011

Besides providing dairy products and cash income, livestock can be kept for several other reasons. Livestock can be used as a source of draught power and thus serve as an important tool for the cultivation of arable land. Also, it can be used during ceremonies where cattle are slaughtered for ceremonial purposes.

For some livestock producers keeping cattle is their main source of income, while for others the cultivation of crops is more important and keeping cattle is just a side activity which provides for some extra income to the household. The main type of purpose of keeping livestock helps determine which types of cattle are preferably kept and which livestock keeping methods are applied.

The livestock producers visited during the fieldwork for this study all had limited facilities and infrastructures to carry out livestock keeping activities. At night, cattle are usually kept inside a kraal, i.e. within fences built from branches (see photo 4.4). During the day, the animals are taken out for grazing (see photos 4.5 and 4.6). Since grazing land is becoming increasingly scarce these days, it is a big challenge to find suitable grazing areas every day.

#### **Box 4.2 Case study: the story of a little boy**

**During one of our primary market visits, we talked to a little boy. He is fourteen years old and came to Nassa market with his father, who is keeping 600 cattle at home. The boy tracked the cattle that have to be sold today to the market, which took him one day. He tells us a bit more about his family. His family is very traditional; his father has three wives and is not educated. He is keeping a high number of cattle, just like his father did; the boy's grandfather. The boy, contrary to his father, does attend school and does not understand the way his father does business. He explains that there is a huge problem of droughts and that he himself would therefore choose to keep a lower number of cattle, like 50.**

**Photo 4.7 Two boys at a primary livestock market**



Source: Field Research, 2011

**The boy's father calls himself a businessman. He does not sell cattle he keeps at home; he only sells cattle he buys at other places. Therefore he is both a producer and a trader and both a subsistence and a commercial livestock keeper. The contradiction here is that the father wants to make profits from livestock by doing business and keeps a high number of cattle for prestige reasons at the same time. Although his son is only fourteen years old, he already seems to understand some of the most important problems within the livestock sector. The presence of children at primary markets is very common; photo 4.7 shows an example.**

#### **4.2.2 Livestock keeping and selling behaviour**

##### *Livestock keeping behaviour*

As indicated in the previous section, a large majority of households in the research area is keeping livestock; some for subsistence purposes mainly, others for business purposes as well. Five livestock keeping households could be visited at their homes during the fieldwork of this study and general conclusions on the standard of living of these livestock producers should therefore be avoided. Hence, two case studies are provided below.

## Case study 1 – Robert Maduka and family, Sengerema village

**Photo 4.8 Houses case study 1**



Source: Field research, 2011

They acknowledge the lack of grazing lands and know that it would be easier to have a smaller herd, but they are afraid that lowering their number of cattle will lead to bad luck. Therefore, they choose not to sell some of their cattle and store money on a bank account, but to maintain their large herd of cattle.

Photo 4.8 shows the houses of Robert Maduka's family. In total they have eight houses like this. They are small, none of them are built from bricks and crops are stored inside these houses as well. The family seems to have a pretty low standard of living. The question rises, with a large herd of 150 cattle, why does the family not choose to sell some of its cattle and invest money in better quality housing and thus a higher standard of living?

## Case study 2 – Lucas Luchanganya and family, Sengerema village

Lucas Luchanganya is 71 years old, has eight children and ten grandchildren. All of his children attend school or already completed education.

The household owns a relatively small herd of 61 cattle and cultivates crops like cassava, maize and rice. They do not sell cattle on a regular basis; only when problems need to be solved or when high expenses need to be made, for things like school fees, chemicals or food. For example, in February 2011 they sold two cows. Ultimately, Lucas Luchanganya would like to have a large herd of two hundred cattle. However, when prices are high he would also like to sell some of his cattle and buy a car.

**Photo 4.9 Houses case study 2**



Source: Field research, 2011

Photo 4.9 illustrates the houses of Lucas Luchanganya's family. They have seven houses in total; most of them build of bricks and with proper roofs. Also they have separate buildings to store their crops. There seems to be a big difference between the standards of living of both families. Lucas Luchanganya obviously invested more money in the quality of his families' housing than Robert Maduka did. Also, he owns a smaller herd of cattle and he thus seems to prefer a higher standard of living over a larger herd of cattle, contrary to Robert Maduka and his family.

Due to the relatively limited number of households visited during the fieldwork for this study, it is not possible to make general statements about the importance attached to the sheer number of cattle kept by livestock producers. However, in this socio-cultural context, it seems very likely that large herds of cattle still represent wealth and social status. On the one hand, this assumption is based on observations of the low standard of living of livestock producers in combination with high numbers of cattle kept. On the other, multiple producers, traders and Livestock Officers argued that social status is still a very important aspect of livestock keeping. None of the interviewees at producer or market level denied the importance of the social aspect of keeping cattle. Several people even brought up a discussion on this topic spontaneously.

Different aspects relate to the phenomenon of keeping cattle for social status or prestige. First of all, owning a large herd of cattle equals having a lot of power in decision making. The larger a herd of cattle, the more intelligent a livestock keeper is considered to be. Therefore, a large herd of cattle yields economic and social security. Moreover, an important reason for keeping cattle for prestige to such a large extent is the fact that it is a tradition to do so; it has been done like this for ages. This is illustrated by the following quote;

Cattle are our product. Cattle are the only product we have. A person without cattle is useless; not having cattle means not being a person. If you do not have cattle, you basically do not have anything. That is the general opinion of people. Everything starts with cattle. If you want to do anything, like getting married or buying a car, you need cattle.

– Mussa, livestock producer and trader (Field research, 2011)

Several other reasons for keeping cattle for the purpose of prestige imply that cattle are an important tool to represent wealth. Cattle is often claimed to be of greater value than cash money. The majority of the livestock producers interviewed for this study does not own a bank account. Many producers indicated a lack of trust in banks, which is why they do not feel assured that their money would be in good hands. In contrast, they believe that the value of cattle is fixed; rather than the value of money is. That is why cattle often serve as insurance and provide economic security. Whenever a producer has to solve a problem that occurs to his family, he will sell some animals and use the money to, for example, buy medicines in case of sickness or buy building materials in case of damage.

It seems interesting to question why livestock producers seem to maintain their low standard of living, despite their potential wealth in terms of the possession of cattle. One possible explanation is the low level of education of livestock producers; most of them never received any type of education. Therefore, they lack the entrepreneurial skills to improve their practice and better compete with other producers. This also explains that producers are still

keeping livestock for prestige purposes, rather than for making higher profits. Younger livestock producers who did attend school already seem to be more business oriented than their parents. Another explanation often claimed to be valid is the lack of exposure to other ways of keeping livestock and other ways of living in general. People simply do not know better than the lives they are living at the moment, which is of course related to the lack of education.

### *Livestock selling behaviour*

Now that the different reasons for households to keep cattle have been discussed, the reasons to sell cattle also need to be addressed. In general, livestock keepers prefer not to sell cattle at all. The previous section on livestock keeping behaviour has made clear that tradition is still an important aspect of livestock keeping and many livestock keepers therefore aim to have large herds of cattle.

All of the producers who have been interviewed at their homes pretend to only sell cattle when money is really needed, for example when big expenses need to be paid for or when problems need to be solved. Frequently mentioned examples are payments for school fees or medicines for a diseased family member. This means that, in the best case, a family sometimes may not sell a single bovine throughout the year.

It would appear that livestock producers would decide to sell cattle when prices are high; however, since they only sell in case of emergency, this is not happening very often. Consequently, prices are often much lower than they potentially could be. This is also explained by the fact that producers often do not have good knowledge on prices and regularly sell cattle to middlemen, who tend to keep prices low.

Whenever a producer decides to sell cattle, he can either take the number of cattle he wants to sell to a primary market himself, or sell to a middleman. As explained before, a middleman serves as a broker between producers and traders. A producer is often familiar with a certain middleman who he considers to be reliable and thus the preferred buyer of his cattle, even when this middleman does not pay the highest price.

The decision to either sell at the primary market himself or sell to a middleman is influenced by several observed marketing constraints; 1) a lack of information and knowledge, 2) the distance to markets, 3) transport difficulties and 4) a lack of security.

As mentioned, livestock producers often did not receive education and do not have proper knowledge on prices. The distance to markets can be very high. In some cases, producers have to walk up to four days to reach a primary market, which poses a great barrier to them. Sometimes trucks are available to transport cattle, but in the vast majority of cases cattle are transported by walking. When someone takes cattle from one place to the other, he is named a tracker. Producers often appoint their sons to track cattle to a market or can decide to pay someone to do so if they are not able to do it themselves. A lack of security, along the road or at markets, is often mentioned as a reason to sell cattle to a middleman rather than at a primary livestock market. Sometimes a trade transaction at a livestock market can result in a conflict between seller and buyer, which is avoided when cattle is sold to middlemen. If barriers, such as distance and costs, are too high to overcome, a producer will decide to sell his cattle to a middleman, even if this means lower profit.

### **4.2.3 Producer organizations**

Livestock producers and traders, operating in the research area, sometimes organize themselves in order to collaborate on solving the issues they have to deal with. Since producers are sometimes traders as well, and traders are most of the time producers as well, the organizations of producers and traders are overlapping quite often and therefore discussed as one and the same in this study.

Although most producers indicated a willingness to be part of an organization, in practice an estimated large majority is not. The answers to the question ‘are you part of an organization?’ vary to a wide extent. Some producers answered that they are not, because it is deemed difficult to establish an organization. Others answered that they are part of an informal network; they discuss their issues with other producers every now and then and in some cases they even have a joint bank account. For most however, it remains difficult to meet on a regular basis and to maintain an active organization.

Many producers and traders interviewed argue that organizing themselves is very useful; however, they find it very difficult at the same time. When producers organize themselves they have the opportunity to discuss the issues that they have to deal with and think about solutions together. Examples of issues are the difficulties of vaccination and diseases and the increasing lack of grazing lands. They can collaborate to solve these issues and become motivated to change their behaviour when they share their stories. Vaccination will also be less expensive when carried out jointly. Another benefit of organizing is the fact that groups can easier obtain information than individuals. For example, Livestock Officers can more easily instruct producers on how to solve problems when they are gathered in groups, rather than when they have to visit each individual producer.

The perceived difficulties lie in issues like a lack of motivation and a lack of government support and finances. Producers do not always believe that their business has the potential to change for the better and therefore they lack the motivation to actually take the necessary steps towards improvements. The lack of government support and funds make it very hard to establish strong and active organizations. At least some money is needed to start up and facilitate the organization and, for example, to enable the process of vaccination.

### **4.2.4 Challenges & opportunities**

Several challenges and opportunities related to livestock keeping activities can be derived from the research findings so far. Some major challenges are constraining producers in carrying out their activities and complicate the economic exploitation of the livestock sector.

#### *Challenges*

A big challenge often mentioned by livestock producers themselves is a lack of suitable grazing lands (also known as pastures). Since droughts are occurring more and more often in Eastern Africa these days, the problem of grazing lands is expected to worsen over the next years. Together with livestock keeping behaviour and the tendency of producers to keep large herds of cattle, the situation might soon become untenable.

However, it is highly unlikely that the situation will change soon, because another challenge poses a constraint to a shift in livestock keeping methods; tradition still plays a very important role and it is a great challenge to convince livestock producers to change their behaviour. Most livestock keepers aim at increasing their herd size rather than lowering their numbers of cattle in order to reduce the pressure on resources.

The majority of livestock producers did not receive any type of education. They often lack the entrepreneurial skills to improve their business and increase economic benefits from their activities. Together with the importance of livestock keeping traditions, this results in missed opportunities for livestock sector development.

Other challenges that livestock producers are facing are the occurrence of diseases and the lack of proper facilities to prevent or treat diseases. Diseases pose a major threat to the livestock sector. They can easily be prevented through the use of cattle dips, however, most of the available dips are not functioning. The level of government support is low as well. Livestock officers do provide information on how to deal with challenges, however, their capacities to reach out to producers throughout the research area are not sufficient. Producers also lack facilities to carry out livestock related activities at home.

Marketing constraints constitute a major challenge to livestock producers as well. Several marketing constraints are identified within the research area; 1) a lack of information and knowledge, 2) the distance to markets, 3) transport difficulties and 4) a lack of security. As a consequence, producers are often forced to sell cattle to middlemen. This implies a lower price for their cattle.

### *Opportunities*

The challenges are obviously great, but some opportunities can be identified as well. Training of producers could provide a suitable tool to improve economic performance of livestock keeping activities. Entrepreneurial skills of livestock keepers could be developed through training. Moreover, when the economic potentials of livestock related activities become clear to producers, they might also recognize the urge to change their behaviour and lower their numbers of cattle.

Another opportunity embraces the organization of producers or traders. When producers organize themselves they have the opportunity to discuss the challenges they are facing and come up with solutions together. They can collaborate on solving these issues and become motivated to change their behaviour when they share their stories. Training can also more easily be provided to groups of livestock producers, rather than to individuals.

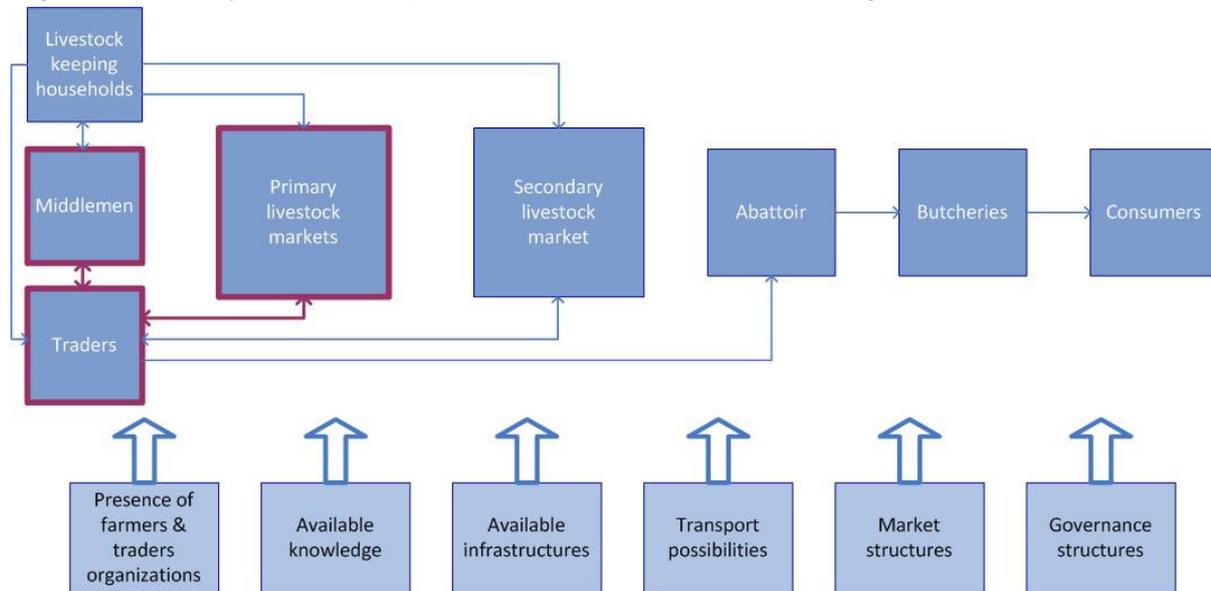
## **4.3 Primary livestock market level**

As explained in section 4.1 of this chapter, cattle are traded through a system of primary and secondary livestock markets in the Lakezone. Now, what is happening at these markets and what do these markets look like? This section assesses different aspects of primary markets; the physical characteristics and the characteristics of cattle are discussed in section 4.3.1, the actors

that operate at the markets are explored in section 4.3.2 and section 4.3.3 finally, summarizes the challenges and opportunities occurring at primary livestock market level.

Figure 4.5 presents the overview of livestock marketing structures again, with the aspects discussed in this section accentuated.

**Figure 4.5 Primary market level positioned within livestock marketing structures in the Lakezone**



Source: Field research, 2011

### 4.3.1 Physical characteristics of primary markets

Because physical infrastructures are often lacking at the markets, the best way to describe a primary market might be a ‘meeting place’. According to the Regional Livestock Officer of Mwanza a primary market is a place where livestock keepers and producers are meeting each other. In reality middlemen and traders are also involved in trade at primary markets. The physical characteristics of primary markets are studied in this section; the available infrastructures and the characteristics of cattle are elaborated on.

In order to characterize the livestock markets visited in the Lakezone and to provide the reader with a clear idea of the dynamics at these markets, at first some observations are described;

The market is very well structured and organized, because of the fences and the use of two entrances with two persons who control permits and health at each entrance. Even though some parts of the fences are missing, it appears that they are still functioning very well. There is a reasonable high number of supporting actors. The market is very busy; that is to say, there are a high number of people. However, the number of cattle seems to be very low, especially compared to the number of people present. The office and the public toilets look very nice and seem to be brand new.

– Observation at Nassa market (Field research, 2011)

The market used to be fenced all around. You can still see parts of the fencing, but other parts are stolen and as a result the fences are not functioning anymore. We also observe some dilapidated infrastructure of an auction ring, which is not in use anymore. The office is also not used anymore. The market is very lively. There are many supporting actors and we even hear music at some parts of the market. You can see that people are doing business and many transactions are taking place here.

– Observation at Kasamwa market (Field research, 2011)

### *Infrastructures*

In general, primary markets have few infrastructures. As mentioned before, primary markets are not much more than meeting places in open areas. Photos 4.10 and 4.11 provide a general impression of two primary markets, viz. Nassa market and Misasi market.

Primary markets often have an office from where the livestock officers (DLMOs and LEOs) can do their work. However, some of the markets visited are operating without an office. The absence of an office makes it very difficult for Livestock Officers to do their job, especially when there is heavy sunshine or rainfall. Photo 4.12 shows a brand new office at Nassa market and photo 4.13 shows a dilapidated office that is not in use anymore at Kasamwa market.

Some of the markets are fenced, but most of them are not. Even if fences are in place, most of the time they are not complete and therefore not functioning optimal. Nassa market is a nice example of a very well organized and structured market. The market is fenced all around, which makes it relatively easy to control both the condition of cattle and whether people have the right permits or not. Also, the market has a proper office and public toilets. Contrary, Bariadi market is an example of a badly organized market; there are no infrastructures in place at all.

Most of the markets have some fenced area where cattle that has been checked on health can be kept; photo 4.14 shows the example of Katoro market. Often, livestock officers and traders are complaining because these fenced areas are too small to function properly.

The majority of markets visited have dilapidated infrastructures of an auction ring and a weighing bridge (see photo 4.15 for the example of Sengerema market). However, these infrastructures are not being used anymore. There are several reasons for this, the most important one being security. In the 1980s it has been decided that cattle would no longer be sold through auctioning. People were not safe if everybody knew they had bought or sold cattle at a certain price; at the end of a market day, they could be visited at home by people who wanted their money or their cattle back. Nowadays, negotiations take place more hidden. Another reason for not using the auction ring anymore is the fact that selling cattle by auction is consuming too much time. The fact that most infrastructures are damaged, due to theft or to the rainy season, also plays a role.

### *Cattle characteristics*

The quality of cattle varies hugely between different primary markets visited during field work. The quality of cattle sold at Sengerema, Katoro and Kasamwa market is very high, compared to the quality of livestock sold at Misasi, Nassa, Bariadi and Dutwa market. This can easily be observed by the eye of an amateur; the cattle at the former markets are large and fat, while the cattle at the latter markets are much smaller and thinner. This is illustrated by the examples of cattle at Katoro market (photo 4.17) and cattle at Misasi market (photo 4.18).

**Photo 4.10 Impression of Nassa primary market**



Source: Field research, 2011

**Photo 4.11 Impression of Misasi primary market**



Source: Field research, 2011

**Photo 4.12 Brand new office, in use, Nassa market**



Source: Field research, 2011

**Photo 4.13 Old office, not in use, Kasamwa market**



Source: Field research, 2011

**Photo 4.14 Fenced area, Katoro market**



Source: Field research, 2011

**Photo 4.15 Dilapidated infrastructures, Sengerema market**



Source: Field research, 2011

Besides the observed difference, the difference in quality of cattle can also be derived from the differences in prices at the visited markets. Cattle at Sengerema, Katoro and Kasamwa market can be sold for a maximum price of 900,000 TZS, while the maximum price of cattle sold at Misasi, Nassa, Bariadi and Dutwa is 400,000 TZS. The average prices at the latter markets lay between 200,000 and 250,000 TZS. These differences are elaborated on further in section 4.5.

Table 4.2 provides an overview of the numbers of cattle brought to and sold at the primary markets visited during the fieldwork of this study. A distinction has been made between high and low season. These are the numbers per market day; most of the markets operate every week, some of them operate once every two weeks. The numbers give an idea on the size of primary markets and the large quantity of cattle in the research area.

**Table 4.2 Numbers of cattle brought to and sold at primary markets**

Market	Number of cattle in high season		Number of cattle in low season	
	<i>Brought</i>	<i>Sold</i>	<i>Brought</i>	<i>Sold</i>
Sengerema	600	450	500	300
Katoro	900	600	600	300
Kasamwa	800	500	500	200
Nassa	500	400	300	200
Misasi	400	300	400	300
Bariadi	900	800	650	550
Dutwa	700	600	600	500

Source: Field research, 2011

### **4.3.2 Actors at primary markets**

The most important actors at primary markets are, of course, traders and middlemen. Traders and middlemen are often producing livestock themselves as well, and therefore they have already been discussed in section 4.2. This section assesses the different officers who are involved with livestock trade at primary markets. DLMOs and LEOs may be referred to as livestock officers elsewhere in this study.

At every market, a District Livestock Marketing Officer (DLMO) is in charge. Other actors at the primary markets are Livestock Extension Officers (LEOs). Together, the District Livestock Marketing Officer and the Livestock Extension Officers can be referred to as Livestock Officers in this study. In most cases, the Livestock Officers have been very willing to provide information and support during the fieldwork conducted for this study.

The main responsibilities of the DLMO are 1) to do the health and quality checks of cattle and 2) to collect the revenues for the central government. The health of animals is checked to make sure cattle is not diseased. The health checks are done by vision purely. It can be questioned whether it is sufficient to examine the condition of cattle by using your eyes only. Also, the health checks are being done by a small number of people. At some markets the DLMO has to check the health of all cattle on his own; at other markets LEOs can assist him.

The District Livestock Marketing Officers have some other tasks as well. They are looking at the affairs between buyers and sellers to make sure that everything proceeds well. Some of the

DLMOs, for example the DLMOs of Bariadi and Dutwa market, also do treatment of diseased animals themselves. Another task of DLMOs is to provide producers with advice on things like production methods. Almost all of them try to visit the producers in the villages as often as possible, but due to the lack of money for transport most of them can only make these visits once or twice per month. Only the DLMO of Katoro and Kasamwa does not do the visits himself; the Livestock Extension Officers do.

The Livestock Extension Officers support the work of the DLMO. They do the inspections of meat at the slaughter slabs in the districts, they advise livestock keepers and they visit livestock keepers at their homes. Photo 4.19 shows a Livestock Extension Officer during the daily inspection of meat he performs in Katoro village.

### *Challenges*

DLMOs are facing several challenges in their work. A challenge that is mentioned by all the DLMOs is the lack of government support, the lack of money and the lack of facilities. Especially transport is difficult, because there is no money for fuels. Another challenge is the control of cattle leaving the market without a permit and the prevention of theft. Cattle get stolen often, according to the DLMOs of Katoro and Kasamwa.

At Bariadi and Dutwa market, the biggest challenge is the lack of an office or any type of shelter. In Misasi, the DLMO is also the LEO. The biggest problem he is facing is the fact that people have difficulties to adapt to changes. It is a big challenge to organize people and to make them change their behaviour. For example, it is relatively easy to use livestock dips; however, most livestock keepers do not use these. Box 4.3 provides more information on the existence and use of livestock dips in Tanzania.

#### **Box 4.3 Livestock dips in Tanzania**

**Livestock dips provide an effective and relatively easy to use tool to prevent cattle from frequently occurring diseases like tick-borne diseases (TBD) and East Coast Fever (ECF). In Tanzania a large number of 2,014 livestock dips are in place, however, only 121 (6.1%) out of these are functioning (Herforth, 2010).**

**Nico Herforth (2010), a former IDS student, explored the issues related to livestock dip management in Tanzania and unraveled multiple reasons for the failure of disease prevention through the use of dips. Local governments handed over responsibilities of livestock dip management to communities; however, they declined to provide them with the right guidelines and tools to do so.**

**Consequently, communities often lack the entrepreneurial and veterinary skills needed to effectively manage the dips. Communities hardly receive any institutional support of the government. Moreover, a lack of accountability and transparency result in mistrust and weak relationships between stakeholders. Finally, a proper legal framework is not in place, which reinforces some of the problems (Herforth, 2010). Photo 4.16 shows an example of a non functioning livestock dip; the chemicals are missing and the facilities are dilapidated.**

**Photo 4.16 Dilapidated livestock dip in Katoro**



Source: Field research, 2011

**Photo 4.17 High quality cattle at Katoro primary market**



Source: Field research, 2011

**Photo 4.18 Low quality cattle at Misasi primary market**



Source: Field research, 2011

**Photo 4.19 Inspection of meat in Katoro**



Source: Field research, 2011

Photo 4.20 Food stalls at Bariadi market



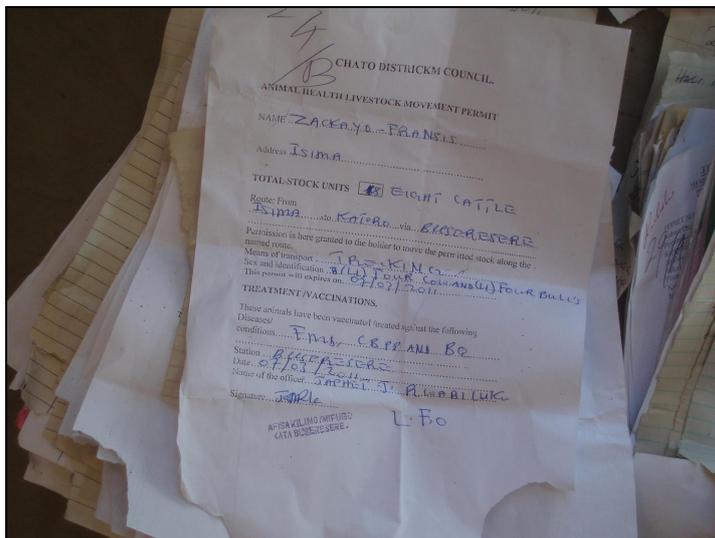
Source: Field research, 2011

Photo 4.21 Clothes market at Misasi market



Source: Field research, 2011

Photo 4.22 Animal Health Livestock Movement Permit



Source: Field research, 2011

Supporting actors play an important role at primary livestock markets. The number of supporting actors varies greatly at different markets; from just a few people selling food and drinks at Bariadi market (see photo 4.20) to an entire clothes market next to the cattle market at Misasi market (see photo 4.21). The presence of supporting actors has a major impact on the liveliness of primary markets.

#### *Fees*

Everybody who buys cattle at a primary market has to pay fees to both the central government and the local government. The fee for the central government is collected through the sale of Animal Health Livestock Movement Permits. Every animal has to receive a health check and subsequently permission to be transported after it has been sold. The price for this permit is agreed on at national level. When an animal stays within the district the costs of the permit are 600 TZS. When it is transported outside the district, but stays within the region the costs are 1,000 TZS. When cattle are taken out of the region the permit costs are 1,500 TZS. Photo 4.22 shows an example of an Animal Health Livestock Movement Permit. The picture is taken at Katoro market.

Besides the fee for the national government, most markets charge a fee for the local government as well. This Market Fee varies widely from 1,000 – 2,000 TZS per animal to 3,000 TZS per herd. Special revenue collectors are employed at the markets to make sure that everyone pays the Market Fee.

At some markets it is difficult to make sure that everybody buys the right permit, due to a low number of staff or a lack of fencing. Outside the markets, checkpoints are in place at different locations throughout the Lakezone to make sure that no person transports cattle without holding of the right permit. A fine is in place for people who do not own the right permit; however, this is not happening often according to the Livestock Officers.

National governments are supposed to reinvest part of the money they have collected through the sale of permits into the markets, for example into the improvement of infrastructures at the markets. According to Livestock Officers, this is hardly ever happening.

#### **4.3.4 Challenges & opportunities**

At the end of this section, several challenges and opportunities can be summarized. Obviously, the lack of facilities and infrastructures poses a huge barrier to both producers and livestock officers. As a result, producers have difficulties to control diseases and livestock officers have difficulties to control overall cattle trade at primary markets. An important aspect of this control is a check of health status and quality of cattle. This is done by vision purely. Another aspect is the sale of permits to move cattle throughout the research area. The absence of proper facilities like an office or fences at primary markets complicates this.

As a result, a large share of cattle is traded unofficially; the right permits are not possessed or cattle are traded outside the marketplace. A lack of government support is also indicated as a major challenge. Although revenues are collected at the markets through the sale of permits, none of this money seems to be invested in the improvement of market facilities. Moreover, the quality of cattle is very poor at some of the markets.

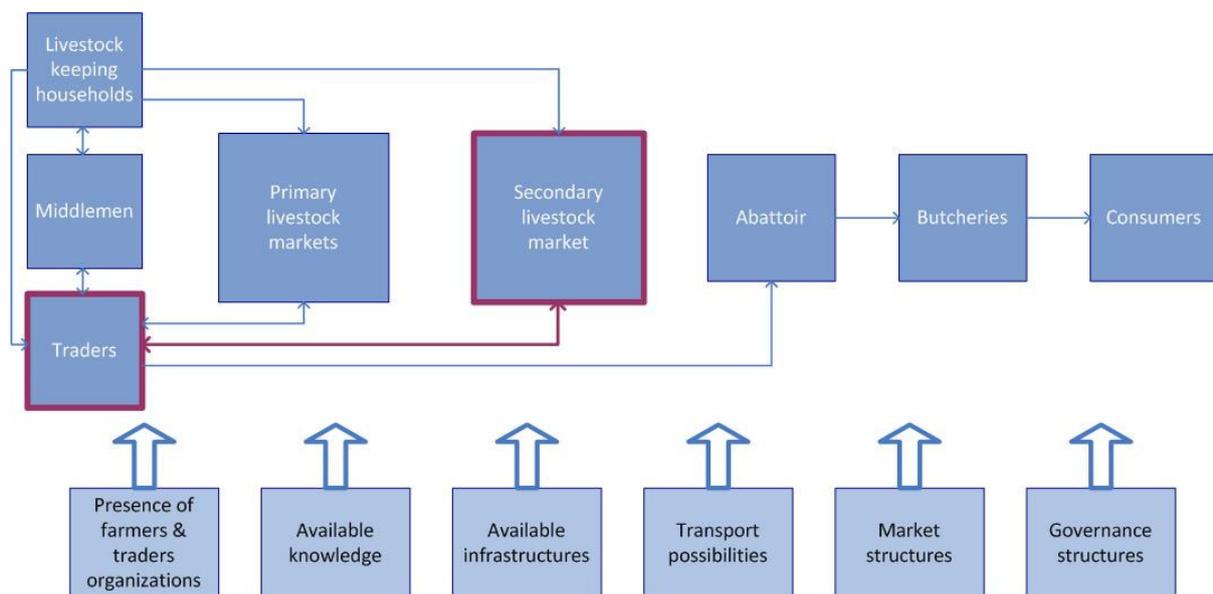
Some opportunities for improvements at primary livestock market level may thus include the improvement of facilities in order to enhance both the quality of cattle and the share of livestock that is traded through official channels. Greater government support is essential to realize and maintain these improvements.

## 4.4 Secondary livestock market level

The secondary livestock market is, officially, the regional node where traders meet to exchange cattle purchased at different primary markets throughout the region. During the fieldwork of this study, Igoma secondary livestock market in Mwanza city has been visited several times and the research findings presented are thus based on these visits. The secondary market is not so much different from the primary markets visited and therefore this section does not elaborate on every detail extensively, however, some differences are definitely present.

This section subsequently elaborates on the infrastructures, the characteristics of cattle, the actors, fee collection and the challenges and opportunities encountered at Igoma secondary market. Figure 4.6 illustrates the livestock marketing structures in the research area one more time; the aspects studied in this section are marked.

**Figure 4.6 Secondary market level positioned within livestock marketing structures in the Lakezone**



Source: Field research, 2011

### *Physical characteristics & infrastructures*

Idem to primary markets, Igoma secondary market lacks proper infrastructures. The only facilities present are a small fenced area and an office that seems dilapidated but is still in use. Both are visible in photo 4.23. Some supporting actors are present as well, as illustrated by photo 4.24.

**Photo 4.23 Fenced area and office, Igoma market**



Source: Field research, 2011

**Photo 4.24 Supporting actors, Igoma market**



Source: Field research, 2011

**Photo 4.25 City Livestock Marketing Officer, Igoma market**



Source: Field research, 2011

Compared to the different primary markets visited, Igoma market seems rather quiet. The market is not as lively as many other markets encountered. The numbers of people and cattle present seem relatively low. Also the availability of supporting actors is limited. Perhaps this can be explained from the fact that Igoma market operates every day, as opposed to primary markets that only operate once every week or every two weeks. Moreover, Igoma market is located in Mwanza city; where facilities are relatively widespread. Primary markets on the other hand, are located in villages that do not have many facilities. Markets may therefore play a more extensive and important role within villages. To many people, primary markets do not only serve as marketplace for cattle, but also as a marketplace for many other goods and a weekly meeting place. Igoma secondary market seems to serve other purposes like this to a lesser extent.

#### *Cattle characteristics*

As mentioned before, Igoma market operates every day. The numbers of cattle traded at Igoma market are presented in table 4.3. The numbers provide an example of an average week in low season. In the same week, 527 cattle were slaughtered at the abattoir in Mwanza city. It is not possible to conclude that the large majority of cattle sold at Igoma market thus goes to the abattoir directly, because some cattle at Igoma market have other destinations and some cattle arriving at the abattoir do not originate from Igoma market. Again, a lot of cattle trade takes place through unofficial trade channels.

When comparing the numbers in table 4.3 to the numbers of cattle brought to and sold at different primary markets visited (see table 4.2), it immediately becomes clear that only a minority of livestock traded at different livestock market throughout Mwanza region ends up at Igoma market. The sources of cattle clarify this further; they are located in Eastern parts of Mwanza region only and in parts of Shinyanga region. Section 4.5 elaborates on this further and presents a map on the different sources of cattle to Igoma market.

The prices of cattle differ according to season, but may also depend on the market day. For example, when a few people only bring cattle to Igoma market on a certain day, while demand is high, prices can suddenly be rather high. However, in general, prices are low at Igoma market.

**Table 4.3 Numbers and sources of cattle brought to Igoma market per day**

Market day	Source	Number of cattle	Total number per market day
Monday	Mwasamba (Magu)	15	67
	Nyasimwa (Magu)	10	
	Mhangu	42	
Tuesday	Maswa	90	90
Wednesday	Bungulwu	50	50
Thursday	Misasi	90	150
	Meatu	60	
Friday	Bariadi	90	120
	Sanga	30	
Sunday	Muhunze	30	115
	Dutwa	45	
	Bilishi	40	
<b>Total</b>			<b>592</b>

Source: Field research, 2011

During one of our visits to Igoma market, we meet a trader who brought seven cattle to the market. He brought them from Dutwa village and it took him three days to track his cattle to the market. We only observe five cattle at his side. When we ask him where the other two are, he explains to us that two of his cattle became pretty much exhausted from the long journey. They are still too weak and tired to be sold for a proper price, and therefore he has left them outside the marketplace for now.

– Observation at Igoma market (Field research, 2011)

The observation illustrates the severe circumstances that traders sometimes have to deal with in order to earn money from livestock. Distances to markets are high and facilities to transport and take care of cattle are often absent.

#### *Actors*

Officially, only traders are involved in trade at Igoma market. Producers should be involved in trade at primary markets only. However, in reality it is not that easy to make a clear distinction between producers and traders; the two businesses often overlap. Also, when Igoma market is the most convenient market, a producer may also buy or sell cattle at Igoma market.

The person in charge at Igoma market is a woman named Ashura R. Maguha; she is the City Livestock Marketing Officer (see photo 4.25). Her responsibilities are to keep track of affairs at the market and to make sure that everybody buys the right permit.

#### *Fees*

The system of fee collection at Igoma market is different from that at primary markets. In contrast to primary markets, everybody present at Igoma secondary market has to buy a permit, regardless whether he buys or sells cattle or not.

Moreover, everybody is supposed to have a transport permit, which can be purchased at primary markets.

#### *Challenges & opportunities*

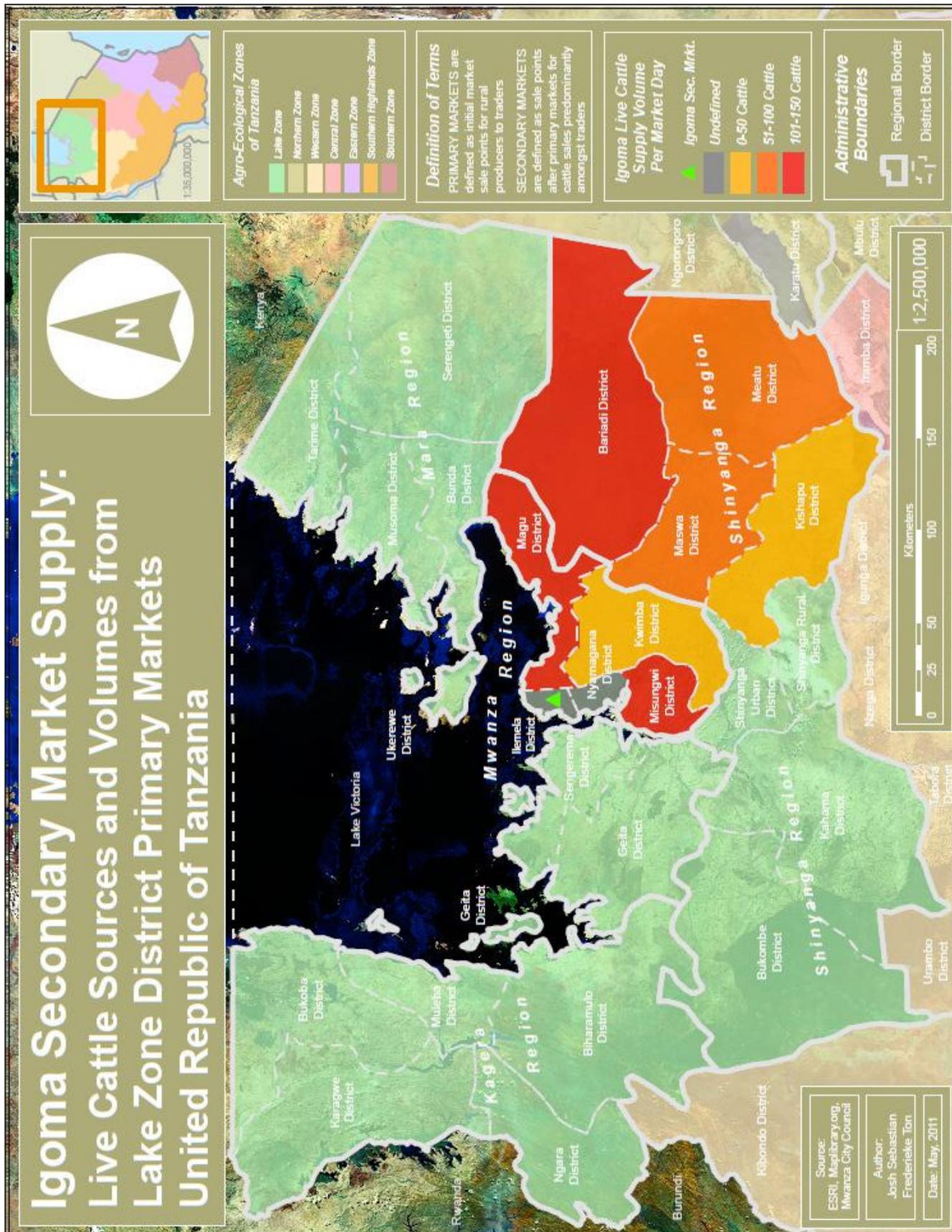
The challenges identified at primary market level also apply to the secondary market level. Summarized; a lack of proper facilities, the poor quality of cattle, a lack of government support and the large extent to which unofficial livestock trade takes place constitute major challenges.

An opportunity to strengthen capacities at secondary market level thus also embraces the improvement of facilities. A prerequisite is government support.

## **4.5 Case study: Igoma secondary market supply**

As explained before, Igoma secondary market was at the core of the field research carried out for this study. One of the objectives of SNV was to identify sources of cattle to Igoma market. Based on the information gathered, a map on Igoma market supply has been created (see map 4.1). The map is created with use of numbers of cattle that are delivered to Igoma market per market day from each primary market. These numbers can be found in the table in appendix II.

Map 4.1 Igoma secondary market supply



The map shows that cattle, sold at Igoma secondary market, originate from two out of four regions in the Lakezone, viz. Mwanza and Shinyanga region. Only some districts within these regions deliver to Igoma market; all of them are located East and Southeast of Mwanza city. The cattle sold at primary markets in other districts are most likely taken to the secondary market in Shinyanga town or not taken to a secondary market at all. The primary markets visited that are delivering cattle to Igoma secondary market are Nassa, Misasi, Bariadi and Dutwa. The other markets visited (Sengerema, Katoro and Kasamwa) are not sources of cattle to Igoma market.

Map 4.1 also illustrates the relative importance of different districts as sources of cattle to Igoma secondary market. Especially Magu, Bariadi and Misungwi district are delivering high numbers of cattle, between 100 and 150, to Igoma market every week. Even though relatively far from Mwanza city, Maswa and Meatu district are also important suppliers of Igoma market; they deliver between 50 and 100 cattle to Igoma market each week. Kwimba and Kishapu are of relatively low importance; they deliver less than 50 cattle to Igoma market per week.

The question rises why primary markets in Sengerema and Geita district (Sengerema, Katoro and Kasamwa market are located here), both part of Mwanza region, are not delivering cattle to Igoma secondary market in Mwanza city. The distance between those markets is small and therefore it is relatively easy and cheap to transport cattle to Igoma market.

The answer to this question seems to lie in the difference of quality of cattle at the markets in these districts. The quality of cattle varies hugely between markets in different parts of Mwanza and Shinyanga region and fieldwork has turned out that this is the most important reason for markets in Sengerema and Geita district not to deliver to Igoma market. The quality of cattle at Sengerema, Katoro and Kasamwa market is a lot higher than the quality of cattle at Nassa, Misasi, Bariadi and Dutwa market. Cattle delivered to Igoma market is of low quality and therefore prices at the market are low. Igoma secondary market is thus not suitable for the sale of high quality, expensive cattle originating from Sengerema and Geita district.

One trader shared his opinion on the difference between cattle from Sengerema and from Shinyanga. He told us that the quality of cattle from Shinyanga is lower than the quality of cattle from Sengerema, because people in Shinyanga tend to keep high numbers of cattle, while there is a huge lack of grazing land and water. Sengerema also faces the problem of lacking grazing lands, but the problems are not as big in Sengerema. That is why the situation is worse in Shinyanga.

This chapter identified official and unofficial marketing channels in the Lakezone and studied different aspects of livestock marketing at producer, primary market and secondary market level. It elaborated on the challenges and opportunities encountered at each different level. Moreover, it discussed the case study of Igoma secondary market supply.

The research findings presented so far are analyzed and discussed in the next chapter, which merges the different elements of this study. Theories, geographical data and research findings discussed so far are linked to each other and the economic potentials of the livestock sector in the research area are derived from this.

## 5. DISCUSSION

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This chapter brings the different elements of this study together and results in a synthesis on the economic potentials of the livestock sector in the Lakezone of Tanzania. The following questions are addressed; do the research findings match the predictions from the theoretical framework, or do they bring up new ideas? What can be learned from the theories? To what extent can different models and strategies be applied to the specific context of the research area? What do others think about the livestock sector in general and its potential for economic development?

Section 5.1 assesses the extent to which the theories and research findings presented in this thesis overlap or mismatch. Subsequently, section 5.2 applies a supply chain model to the research findings and like that presents a characterization of the livestock sector in the research area. Section 5.3 assesses whether the different chain and LED strategies presented in the theoretical context can be applied to the specific situation in the research. Section 5.4, finally, presents the ideas of others on how to increase economic benefits from the livestock sector.

### 5.1 Merging theory and research findings

This section combines the different theories on the role of livestock presented in chapter 1.1 with the geographical data presented in chapter 2 and the research findings presented in chapter 4. The extent to which there is overlap or discrepancy is assessed. First, the multiple roles of livestock in the Lakezone are distinguished in section 5.1.1. The economic importance of the livestock sector in the research area is determined in section 5.1.2. Subsequently, theories and research findings on livestock marketing are compared to each other in section 5.1.3.

#### 5.1.1 Multiple roles of livestock

The theoretical context of this study explained that livestock can serve multiple purposes to people. Field research confirmed that livestock is often kept for many more reasons than just for provision of food or money. This is elaborated on further in this section.

##### *Food & money or security & social status?*

The different purposes of livestock mentioned in the theoretical context of this study are summarized in the left-hand column of table 5.1. Also, the occurrence of these purposes in the research area is indicated. A purpose is ticked when it occurs often and very obviously in the research area. Moreover, the rightmost column clarifies the frequency of occurrence of each purpose; often, sometimes or, when the research findings do not allow to decide on this, unknown.

People living in the research area obviously keep cattle to feed themselves, with dairy products mainly. It is hardly ever happening that cattle get slaughtered, by a household itself, for the consumption of meat. Moreover, the sale of dairy products provides a source of cash income on a regular basis to all of the households interviewed during field study. Contrary, cattle

themselves are not sold very often. The majority of people prefer not to sell any cattle, not even when this would generate high amounts of cash income; most livestock keepers rather aim to maximize their herd size. This is explained by the importance of livestock as a financial instrument and the importance of prestige and social status. The importance and reliability of a bank account are not recognized by most of the interviewed livestock keepers. Instead, livestock keepers prefer to store their wealth by means of keeping a large herd of cattle. Moreover, many interviewed livestock keepers keep livestock for security reasons. They decide to sell cattle when big expenses need to be made or when problems at household level need to be solved. Therefore, the higher the number of cattle owned, the better a household is insured. On top of this, in the socio-cultural context of the research area, it seems very likely that large herds of cattle still represent wealth and social status. A consequence of this phenomenon is the cattle complex, which, from the theories, appears to be an old-fashioned concept, but still seems to determine the status of the livestock sector in the research area.

**Table 5.1 Theoretical purposes of livestock keeping and observed purposes in the research area**

<b>Theory</b>	<b>Research findings</b>	
Food (source of nutrition)	✓	Often
Cash income on regular basis (dairy products)	✓	Often
Cash income on occasional basis (sale cattle)		Sometimes
Financial instrument (bank)	✓	Often
Financial instrument (insurance/ security)	✓	Often
Prestige/ social status	✓	Often
Hides		Sometimes
Fuel (manure)		<i>Unknown</i>
Building material (manure)	✓	Often
Fertilizer (manure)	✓	Often
Farm equipment (power)		<i>Unknown</i>

Source: Field research, 2011

### *Cattle complex*

The cattle complex is defined by different authors in section 1.1.5. Stroebel et al (2011) explain the cattle complex by emphasizing the social-economic status that results from the possession of livestock, meaning that cattle are kept for prestige and social status rather than production purposes. Field research has indeed pointed out that the importance of cattle as a cultural object might be greater than the importance of cattle as a marketable product. This poses a huge barrier to the success of policies that aim at increasing economic potentials from livestock.

### *Subsistence versus commercial livestock keeping*

Within the different purposes of livestock mentioned before, a distinction can be made between subsistence and commercial livestock keeping. As subsistence farmers aim at maintaining their standard of living, commercial farmers aim at maximizing profits from livestock related activities. While theories indicate that an important purpose of livestock is the provision of cash income, field research turned out that only an estimated half of the interviewees keep livestock for

commercial purposes to some extent. Within this share, the majority of producers keeps livestock for subsistence purposes mainly and tries to carry out some commercial activities and make some money on the side.

Summarizing, both theories as well as research findings illustrate the complex role that cattle plays in the lives of many people. According to Randolph et al (2007) and Stroebel et al (2011) livestock should therefore not be considered as a conventional, independent, isolated production activity, but rather as an important incentive in household decision making. The next section elaborates on how the complex role of cattle influences the economic importance of the livestock sector.

### **5.1.2 The economic importance of the livestock sector**

Different authors argue that livestock can be of major importance to economic development. Likewise, the research findings indicate that economic potentials of livestock sector development are large. For one thing, livestock supply and demand are both high. Moreover, potentials are not fully exploited at the moment. These statements and the challenges related to them are discussed below.

#### *Supply and demand*

The livestock sector is growing rapidly. Especially in developing countries, demands for livestock products are growing and predicted to keep growing over the next forty years (Thornton, 2010). Moreover, livestock provides to the livelihoods of 70 percent of the world's rural poor and to 20 percent of international trade of agricultural products (Stroebel, 2011).

Livestock is present in the lives of many poor people living in rural areas. This also applies to people living in the research area. The data presented in chapter 2 of this study shows that both the absolute numbers of cattle and the density of cattle per square kilometer are extremely high in large parts of the Lakezone (Ikegami, 2011 and FAO, 2012b). The idea that livestock is present everywhere throughout the research area is in line with the research findings. Observations have shown that the majority of people keep at least some cattle for a variety of reasons (as explained before in section 5.1.1). Moreover, livestock producers ultimately keep high numbers of cattle. The highest number of cattle kept by one family observed during field research is 2,400. Cattle seem to be of overwhelming importance in the lives of many people living in the Lakezone (Field research, 2011).

The fact that both supply and demand for livestock products are obviously very high creates great opportunities for livestock sector development.

#### *Economic potential*

The economic potentials of livestock are not only large because supply and demand is high, but also because opportunities are not exploited at the moment.

Section 1.1 presented different theoretical views on the extent to which livestock can contribute to economic development. The growing livestock sector can be seen as a major opportunity for economic development and poverty reduction for the rural poor, according to Delgado et al (1999). Others argue that several obstacles are in place.

Kreike (2009) and Madsen et al (2007) argue that the cultural aspect of cattle is an important constraint to economic exploitation of the livestock sector. Kreike (2009) argues that it is difficult to enlarge economic benefits because of the importance of livestock as a cultural asset. Madsen et al (2007) on the other hand, state that traditions should and can be changed in order to increase economic benefits. They claim that traditions are in fact changing more rapid than ever before thanks to better access to knowledge and information these days. Besides, they say that some of the purposes that are now, traditionally, served by livestock can easily be served by credible institutions instead.

Finally, Ly et al (2010) also consider economic exploitation of the livestock sector to be difficult, because livestock is mostly kept by poor people, who do not have the opportunities to specialize into livestock related activities only. Livestock will therefore never be a major source of income to them.

Hence, when these different opinions are linked to the research findings, what can be concluded on the economic potential of livestock in the Lakezone? Potentials obviously exist; however, several factors are challenging the improvement of livestock sector performance.

### *Challenges*

The biggest challenge seems to be the difficulty to change behaviour of livestock producers and traders. The importance of cattle as a social status symbol should not be underestimated; traditions exist for centuries and are difficult to change.

Another challenge is the lack of grazing lands. Livestock producers aim to maximize their herd size rather than the weight per animal. This is putting growing stress on resources. National policies aim to increase numbers of cattle even further, which might increasingly complicate quality improvement.

A lack of facilities also poses a great barrier to economic exploitation of the livestock sector. It is a great challenge to control livestock diseases and to transport cattle to markets where it can be sold for profitable prices. The following subsection studies livestock marketing and its constraints in more detail.

### **5.1.3 Livestock marketing**

Both theories and research findings indicate that livestock marketing is of major importance to the economic performance of the livestock sector. Different authors state that livestock trade is complex and many actors and channels are involved. Field research has shown exactly the same; cattle are often not traded through official trade channels and many different actors are involved. Several marketing constraints are identified in the theoretical context and also encountered during field research.

### *A lack of know-how and capital*

Marketing decisions are often based on household characteristics and risk avoiding behaviour, rather than on knowledge of markets and prices. Most of the livestock producers lack the entrepreneurial skills to make high profits from livestock marketing (Eskola, 2005).

This matches the research findings accurately. Many of the interviewed producers and traders did not receive education and indeed lack knowledge on markets, prices and how to improve their business. Most of the livestock producers aim at maximizing the size of their cattle herd, and only sell cattle when a problem needs to be solved, which can be explained as risk avoiding behaviour. As a consequence, they often do not receive high prices for their cattle.

### *Inadequate physical infrastructures*

The theoretical framework indicates that a lack of adequate infrastructures, such as the absence of facilities at markets and a proper road network, poses a major constraint to livestock trade as well. Physical infrastructure is especially badly developed in most countries in Sub-Saharan Africa (Eskola, 2005 and Pica-Ciamarra, 2005).

A lack of facilities at markets has indeed been indicated as a major constraint by many of the interviewees. Transport is often very challenging because of the lack of proper roads; it might take a trader up to four days to track his cattle to a certain livestock market. Moreover, a lack of facilities also complicates disease control. This poses a major threat to the sector.

### *Weak institutional framework*

The third and last identified marketing constraint is the weakness of the institutional framework regarding the livestock sector. Although institutions at national level seem to be present, they are often not able to regulate livestock trade adequately. At grass root level particularly, institutions are weak or absent at all. Producers begin to recognize the usefulness of organizing themselves; however, organizations still seem to function badly (Eskola, 2005).

Again, there is overlap between theories and research findings. Many interviewees complained about the lack of government support, which seems to pose a major barrier to the maintenance of the few available facilities and results in a lack of motivation of livestock producers, traders and officers to invest a lot of effort in improving the sector.

## **5.2 Characterizing the livestock sector in the Lakezone**

Different tools to characterize the nature of the livestock sector in a specific context have been discussed in section 1.2. The section elaborated on the difference between value chains and supply chains or agricultural chains. In a nutshell, a value chain focuses on the value adding activities within a certain production process, while a supply chain rather focuses on the input output structure of activities. The difference between supply chains and value chains is mainly expressed by their functioning. Contrary to supply chains, actors within value chains have the power to negotiate and bargain prices and therefore they are willing to invest in the chain and support other actors along the chain. Supply chains often function far less smoothly, because

farmers at the beginning of the chain lack this kind of power (Gereffi et al, 2001, Kaplinski & Morris, 2001 and KIT et al, 2006).

Cattle are an agricultural product and therefore the production of livestock can best be characterized in a supply chain. Several characteristics of supply chains indeed apply to the production of livestock in the Lakezone.

First of all, different authors claim that livestock producers, at the beginning of the chain, are in a bad position. Research findings confirm that producers lack knowledge and power to negotiate on prices effectively; in fact, prices are often decided by middlemen and traders. Moreover, they lack the knowledge and facilities to improve their business and the quality of their products.

Second, rural production and urban consumption are said to be geographically dispersed these days. Field research has shown that producers sometimes have to walk and at the same time track their cattle up to four days to reach a livestock market. This poses a major challenge to profitable livestock trade.

Thirdly, the increasing demand for high quality products that producers within supply chains are claimed to face, on the other hand, has not seemed to reveal yet in the research area. For example, most people acknowledge the fact that cattle brought to and sold at Igoma secondary market in Mwanza city is of bad quality, however, this does not seem to provide an incentive to quality improvement. Instead, prices are adjusted and when a trader wishes to buy or sell cattle of higher quality he simply visits a different market.

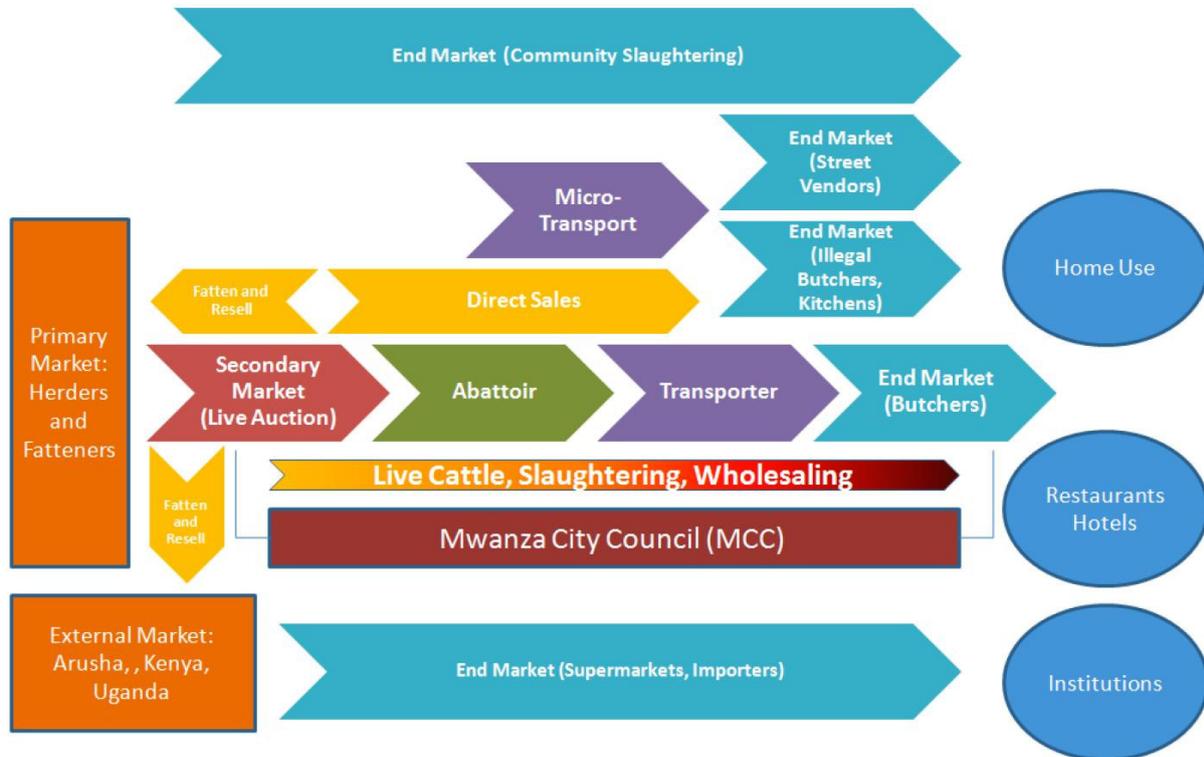
Chain governance or chain coordination is the last aspect of the livestock sector that can be clarified when making use of a supply chain characterization. However, it is difficult to determine who governs the livestock chain in the research area. For one thing, the producers do not own decision power. Nevertheless, the consumers do not seem to have a say on prices or quality either; if they would, efforts to increase quality would likely be bigger. It seems that traders and middlemen dominate livestock trade to a large extent. One could argue that livestock officers, who collect fees at the markets and aim to regulate trade of cattle, also coordinate the livestock chain to some extent. However, large parts of livestock trade take place through unofficial marketing channels and it is almost impossible for livestock officers to keep track of cattle like that.

Before the field research of this study took place, SNV (in cooperation with TSAEE) already carried out a value chain research on the red meat sector in Mwanza City. The research explored the different ways in which red meat ended up in the numerous little butcher market stalls along the road in Mwanza. It resulted in the report 'In the Red', which included a characterization of the red meat value chain (RMVC) in Mwanza city. This characterization is presented in figure 5.1.

The main conclusion from the report 'In the Red' embraces that illegal, informal livestock trade constitutes an incredibly large part of overall livestock trade. This is of major influence on the performance of the sector and results in, amongst others, bad quality of livestock products. Active participation of all actors along the chain is necessary in order to improve livestock sector performance (Sebastian, 2011).

Another conclusion at the time of the research was the discovery that the study so far did not provide a complete picture. The chain, as set out in figure 5.1, considers primary markets to be at the beginning of the value chain. Obviously, all livestock originates at producer level, where livestock keeping households operate.

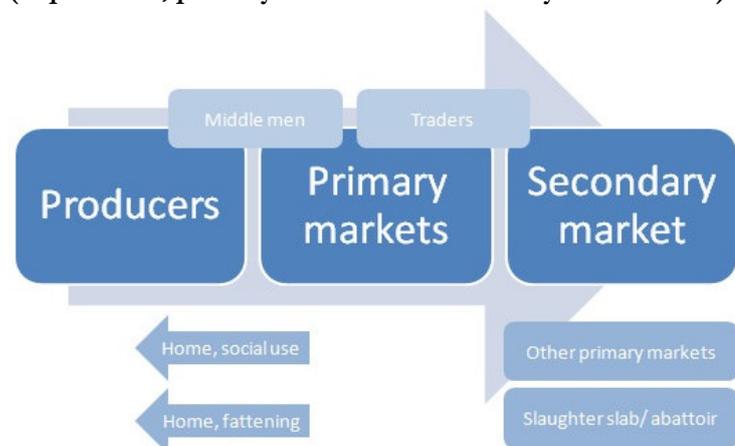
**Figure 5.1 Mwanza red meat value chain**



Source: Sebastian, 2011

As this study so far has turned out, many more actors are involved at the beginning of the livestock chain. As figure 5.2 (as presented before in section 4.1) illustrates, producers, middlemen and traders are involved in the first phases of livestock trade. Moreover, cattle is not always traded through official trade channels, viz. the primary and secondary markets, solely; more steps can be involved. Livestock can change hands multiple times, which means that it can be taken back to the homes of producers, or to another primary or secondary market. Also, traders can choose to fatten cattle before selling it again. Moreover, cattle can be slaughtered at so-called local slaughter slabs or abattoirs. Finally, cattle can also not pass through markets at all.

**Figure 5.2 Beginning of livestock chain (at producer, primary market and secondary market level)**



Source: Field research, 2011

### 5.3 Livestock sector development strategies

Several strategies to improve chain performance and to enhance local economic development (LED) have been discussed in chapter 1. At this point, the extent to which both types of strategies might be suitable to apply to the livestock sector in the research area is assessed.

#### *Chain strategies*

Three types of chain strategies are distinguished in the theoretical framework of this study;

- Agricultural value chain promotion
- Supply chain management
- Chain empowerment

Agricultural value chain promotion aims at strengthening rural and urban linkages through providing training, mobilizing farmers and other private sector players and delivering public and private services. The importance of linkages between actors and activities along the chain and the private sector are emphasized (Höffler & Maingi, 2005).

During field research, a lack of knowledge and poor facilities have often been observed as major constraints to livestock sector development in the Lakezone. Also, producers and traders indicated that organization, and hence mobilization, of farmers is a useful tool to improve business. The proposed intervention therefore seems to suit the situation in the research area very well.

Supply chain management (SCM) aims at the collaboration of companies in order to improve economic performance of the chain (Ruteri & Xu, 2009). Although the strategy benefits producers as well, it does not focus its activities on them and therefore it can not be applied to producers operating within the livestock supply chain in the Lakezone.

Chain empowerment comprises the integration of producers into a chain. A distinction is made between vertical and horizontal chain integration. Vertical integration encompasses the diversification of activities within the chain and horizontal integration, on the other hand, aims to increase farmers' involvement in management issues within the chain. When both strategies are applied simultaneously, farmers can become chain (co-)owners (KIT et al, 2006).

Both strategies could potentially enhance livestock sector development in the research area. However, some barriers have to be overcome at first. The observed lack of proper facilities might constrain livestock producers in the Lakezone from diversifying their activities. Producers often do not have the opportunities to invest in the improvement of their existing activities, let alone in the expansion of their business. Horizontal integration is probably not as easy as it seems either. Since livestock producers are part of supply chains, they are in a bad position and lack decision power within the chain. Their position should be greatly improved before involvement in management issues is possible.

Summarizing, agricultural value chain promotion seems to be the most suitable strategy to apply in the research area. It seems to tackle the challenges that livestock producers are facing pretty

well. The other two strategies, supply chain management and chain empowerment, are potentially useful tools to increase economic benefits from the livestock sector as well. However, in order for them to be successful, some of the root causes of the bad economical performance of the livestock sector may have to be tackled first.

### *LED strategies*

Several LED strategies that potentially are applicable to the livestock sector in the research area have been identified in section 1.3.2;

- Local actor strategies
- Local area strategies
- Community based economic development

Local actor strategies aim at the empowerment of local actors, for example through capacity building (Van Westen, 2010). Vertical and horizontal chain integration are local actor strategies; these strategies and their relevance have been discussed earlier in this section.

Local area strategies aim at the improvement of local areas. The formation of business clusters, in which local producers and businesses can benefit from interaction, provides an example of a local area strategy (Van Westen, 2010).

The nature of the livestock sector makes it impossible for producers to operate from clusters. However, some elements of the strategy might be useful, like the clustering of facilities and enhanced interaction between producers. Many producers and traders interviewed during field research argue that collaboration, for example from within organizations, is very useful. They can cooperate on solving problems and become motivated to change their behaviour when they share their stories.

Community based economic development aims to both enable and enhance household-based economic activities. In order to do so, the strategy aims at stimulating a sense of community, promoting empowerment, promoting (self-)employment, improving settlements by improving conditions to live and work and creating basic public services. Different activities are part of the strategy; 1) the creation of local safety nets, 2) the improvement of settlements, 3) the delivery of basic services and 4) the stimulation of the economy at community level.

All of the elements of the proposed strategy could greatly improve economic performance of the livestock sector in the Lakezone. Research findings turned out that both quality and quantity of available basic services are inadequate at the moment. Local safety nets are mostly absent. Settlements are often of poor quality, as illustrated by the photographs in chapter 4.

However, a lot of money seems to be needed to carry out the proposed activities. Furthermore, the community based economic development strategy pretty much seems to apply a top down approach. Since LED strategies are defined as locally owned and locally managed, it seems to be contradictory to apply a top down approach. The community based economic development includes useful elements; however, it seems to be one step ahead of the available opportunities within the research area.

Summarizing, all of the strategies available to promote LED contain useful elements; however, difficulties might occur when trying to implement them.

## 5.4 Synthesis: livestock sector potential

What do others think about the economic potentials of the livestock sector? Did other authors or organizations come up with ideas on how to increase economic benefits from the sector already? This section explores existing initiatives and ideas and discusses these, while considering the results of this study.

### *Netherlands-African Business Council (NABC)*

The NABC organizes trade missions to several countries in Africa to explore possibilities for Dutch companies to do business in Africa. This year, they are exploring the meat sector in Tanzania. They recognize the economic potentials of the sector and aim to connect Dutch companies within the meat sector to Tanzanian actors within the sector. At their website, they state that ‘Opportunities lie in quality improvement of the traditional livestock sector through adoption of new, advanced production and processing technology and sale of cheaper and higher quality meat products’ (NABC, 2012a).

Idem to the study ‘Livestock for Development’, the NABC acknowledges the multiple roles livestock can play to people and their livelihoods. Livestock can contribute to national food supply and food security, provide a source of cash income, create employment, serve as a financial instrument to store value and provide manure and draught power (NABC, 2012b).

However, the Business Council seems to forget about the importance of livestock as a social instrument. Livestock is still kept for prestige reasons to a large extent in Tanzania. Therefore, the change of livestock keeping practices may be much more difficult than expected at first sight. The idea that economic potentials of the livestock sector can simply be realized through the implementation of modern production technologies may thus be a miscalculation.

### *‘Better grazing practices hold key to droughts’*

David Western argues that last year’s crisis in the Horn of Africa was not caused by climate change, but rather by too much pressure on resources. He has studied the situation in Kenya and states that pastoral lands have been declining since the 1980s as a result of increasing demands for land for multiple purposes. Several dry periods have occurred before, and pastures needed more time to recover from these droughts each time. At the same time, the Kenyan population of cattle has increased tenfold in the 20<sup>th</sup> century. The author argues that land rights hold key to the improvement of grazing practices, as pastoralists will no longer be forced to move their cattle to new grazing areas all the time. Pressure on land will decline as livestock producers may be motivated to invest in the maintenance of the quality of land when they own it (Western, 2011).

His ideas match the results from this study; grazing lands are increasingly becoming scarce. In combination with traditional livestock keeping behaviour, the situation might soon become untenable. The proposed intervention might be a useful tool to reduce pressure on resources.

### *Commercial pastoralism*

During a workshop at the Afrikadag 2011, Ton Dietz advocated for the commercialization of pastoralism. According to him, climate change is not so much a problem; pastoralists are very well capable to adjust to changing situations. Other problems are more important. For example, people are keeping cattle way longer than reasonable. They are facing problems like diseases and a lack of facilities to, for example, transport cattle. Producers are not generating high profits from cattle at the moment. Livestock marketing should be promoted in order to overcome barriers and increase economic benefits from the livestock sector. The private sector should play an important role in this (Dietz, 2011).

In line with this study, Dietz recognizes the traditional ways in which many producers still keep livestock. However, the question is whether he also acknowledges the invaluable importance of cattle as a social status object and the major barrier this poses to commercialization of the livestock sector.

### *Government policies*

The Tanzanian government aims to expand the livestock industry through increasing numbers of cattle. On their website, they argue that the carrying capacity of rangelands in Tanzania is not fully utilized at the moment; the total livestock herd consists of 16 million cattle only, while available rangeland allows for up to 20 million cattle (The Tanzania National Website, 2012).

Considering the fact that one of the greatest challenges within the research area seems to be a lack of grazing lands, the central government seems to apply a rather contradictory approach to livestock sector development.

## 6. CONCLUSION

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The main objective of this study has been to enhance understanding of livestock marketing and the livestock supply chain in the Lakezone and to identify possible interventions needed to enlarge economic benefits derived from the livestock sector. Now that different theories on the topic, geographical data on the research area, research findings and a combination of these three have been assessed in the different chapters of this study, this last chapter aims to answer the research questions as provided in chapter 3.

### **1. What are the main characteristics of livestock marketing in the Lakezone?**

Official livestock trade in the research area takes place through a system of primary and secondary livestock markets. When a producer decides to sell a number of cattle, he can either take it to a primary market himself or sell it to a middleman. The trader who buys his cattle at the primary market, in turn, takes the cattle to the regional secondary market. From the secondary markets onwards, the cattle are brought to the abattoir directly to get slaughtered. The meat is distributed to small butcher shops throughout the region. These are the official channels through which all cattle is supposed to be traded, in order to regulate livestock trade and enhance quality of meat. However, in reality, a large majority of cattle is traded through other, unofficial channels.

Many more actors and activities are often involved in livestock trade; cattle can change hands multiple times, which means that it can be taken back to the homes of producers, or to another primary or secondary market. Also, traders can choose to fatten cattle before selling it again. Moreover, cattle can be slaughtered at so-called local slaughter slabs or abattoirs. In all these activities, it is also possible for cattle not to pass through markets at all. Fees have to be paid at markets and when possible, producers and traders want to avoid this.

#### *Producer level*

Livestock producers are facing several marketing constraints that complicate profitable livestock trade. They often lack knowledge and information on markets, prices and methods to improve their business, because most producers, except for the younger ones, did not receive any type of education. The large majority of livestock keepers apply traditional livestock keeping methods, which means that they aim to maximize their herd size, rather than to increase profits from livestock related activities. Livestock serves multiple purposes to people living in the research area. An important purpose, if not the most important purpose, is the representation of wealth and social status. This poses a major barrier to economic exploitation of the livestock sector.

The absence of proper facilities is often claimed to be a major challenge to livestock marketing. Infrastructures at markets are often in poor condition or not present at all. Moreover, a lack of facilities to control diseases poses a major threat to the livestock sector. A big challenge often mentioned by producers themselves is a lack of suitable grazing lands. Since droughts are occurring more often these days, the problem of grazing lands is expected to worsen over the next years. Together with livestock keeping behaviour and the tendency of producers to keep large herds of cattle, the situation might soon become untenable.

Finally, a weak institutional framework is also identified as a constraint to economic development of the livestock sector. Many livestock officers as well as traders and producers indicated a lack of government support as a great challenge, which seems to pose a major barrier to the maintenance of the few available facilities and results in a lack of motivation of livestock producers, traders and officers to invest a lot of effort in improving the sector themselves. The importance of organizing seems to be more and more recognized by producers and traders, however, it seems difficult to maintain an active organization. The lack of government support is one of the causes.

#### *Primary and secondary market level*

The differences between primary and secondary markets are not so big and therefore the two types of markets are discussed together at this place. Since infrastructures are often lacking at livestock markets, the best way to describe a market might be a 'meeting place'. The few available infrastructures at markets are often an office and a fenced area to keep cattle; however, sometimes even these are absent. Livestock markets are regulated by livestock officers, such as DLMOs, LEOs and CLMOs. They control the quality of cattle and collect fees for the central government.

Several challenges are prevailing at primary and secondary marketing level. Obviously, the lack of facilities at markets poses a huge barrier. This is complicating successful business for producers and traders and making control of cattle by livestock officers difficult. An important aspect of this control is a check of health status and quality of cattle. Another aspect is the sale of permits to move cattle throughout the research area. The absence of proper facilities like an office or fences at livestock markets complicates this.

As a result, a large share of cattle is traded unofficially; the right permits are not possessed or cattle are traded outside the marketplace. Like at producer level, a lack of government support is also indicated as a major challenge at primary and secondary market level. Although revenues are collected at the markets through the sale of permits, none of this money seems to be invested in the improvement of market facilities. Moreover, the quality of cattle is very poor at some of the markets.

## **2. What are the main characteristics of the livestock supply chain in the Lakezone?**

As discussed in section 5.2, cattle are an agricultural product and therefore the production of livestock can best be characterized in a supply chain. A supply chain focuses on the input-output structure of activities and functions different from a value chain. Applying a supply chain model to the livestock sector in the research area results in the following characterizations of livestock production;

- Livestock producers have a weak position within the chain
- Urban consumption and rural production are geographically dispersed
- Demands for high quality products are not yet resulting in efforts to improve quality of cattle
- The livestock chain is dominated by middlemen and traders

Livestock producers have a weak position within the livestock supply chain because they lack the information and power to effectively bargain on better prices for their cattle. Moreover, they lack the knowledge and facilities to improve their business and the quality of their products.

The second characterization comprises the idea that rural production and urban consumption are geographically dispersed. Distances between the homes of producers and livestock markets in the research area are high; producers sometimes have to walk and at the same time track their cattle up to four days to reach a livestock market. This is often indicated as a major barrier to profitable livestock trade.

Third, the increasing demand for high quality products that producers within supply chains are claimed to face by different authors has not seemed to reveal yet in the research area. An obvious incentive to improve the quality of cattle has not been observed.

Finally, the livestock supply chain seems to be dominated by middlemen and traders, although it is not very easy to determine who governs the livestock chain in the research area. For one thing, the producers do not own decision power. Consumers also do not seem to influence the chain to a large extent; this would likely result in enhanced efforts to improve quality. One could argue that livestock officers, who collect fees at the markets and aim to regulate trade of cattle, also coordinate the livestock chain to some extent. However, large parts of livestock trade take place through unofficial marketing channels and it is almost impossible for livestock officers to keep track of cattle like that.

### **3. Which strategies can be applied to increase economic benefits from the livestock sector in the Lakezone?**

Several strategies to improve chain performance and to enhance local economic development have been assessed in the theoretical context of this study. The chain strategy that provides the most adequate tools to improve performance of the livestock supply chain is agricultural value chain promotion. It aims at strengthening linkages between rural production and urban consumption through providing training, mobilizing farmers and other private sector players and delivering public and private services. Challenges that have been observed at different marketing levels, such as a lack of knowledge and poor facilities, seem to be tackled rather well by this strategy. Also, producers and traders increasingly recognize the importance of organizing and mobilization.

The different LED strategies identified and discussed in the first chapter of this study are local actor strategies, local area strategies and community based economic development. Local actor strategies aim at strengthening capabilities of local actors, for example through greater chain integration. Local area strategies aim at the improvement of local areas, for example through the formation of business clusters. Community based economic development aims to create opportunities for household-based economic activities. Although they all contain useful elements, difficulties might occur when trying to implement them. The strategies do not focus on the right actors within the livestock chain or are one step ahead of available opportunities within the existing context of the research area.

#### **4. What are the potentials of the livestock sector for local economic development in the Lakezone?**

Economic potentials of livestock sector development are obviously high, as can be derived from theories and research findings. Supply and demand for livestock products are high and potentials are not exploited at the moment. Livestock keepers often apply traditional, inefficient production methods. The remaining question is; how can potentials be realized?

Different sources indicate that the commercialization of livestock marketing could largely increase economic benefits from the sector. This implies a change of behaviour of livestock keepers. Instead of maximizing their herd sizes, they should aim at increasing the quality of their cattle and keeping a lower number of cattle, in order to reduce pressure on resources. Instead of storing their wealth in a large herd of cattle, they could open a bank account. This also enables producers to sell cattle when prices are high, rather than when money is needed quickly. It seems reasonable and in the advantage of the producer to change behaviour like this, however, the difficulty lies in the fact that cattle is still of invaluable importance for social status and prestige. Suggesting to change behaviour is useless as long as the importance of cattle as a cultural object is greater than the importance of cattle as a marketable product. Since it is not possible to impose a change of traditions and behaviour, is the situation hopeless then? It is not; in fact, some changes in lifestyles have already been observed.

One trader, interviewed at Igoma market, explained that things are changing slowly, because more and more children receive education these days. A difference can be observed between young livestock keepers, below the age of 35, and older livestock keepers. Many young livestock keepers actually maintain relatively high standards of living, as opposed to older livestock keepers who keep cattle for prestige purposes and aim to increase their number of cattle only. Education actually makes a difference; younger livestock keepers keep cattle for commercial purposes as well. The quote at the beginning of this study, 'Pastoralists should consider livestock keeping as an economic activity. Not only as a matter of lifestyle and prestige' originates from a 23 year old, recently graduated economist from Kenya. When the droughts started to occur in Kenya last year, Ramadhan Abdullahi told his pastoralist family to sell a large share of their cattle and store money on a bank account. As a result, the family was able to cope with the crisis rather well; they could buy food supplies and pay for school fees. It can be concluded that education is of great potential to increasing economic benefits from the livestock sector in the research area.

#### **Main question: Which interventions are needed to enlarge economic benefits from the livestock sector in the Lakezone?**

The applicability of several chain and LED strategies to the livestock sector in the research area has been assessed in chapter 5. It turned out that especially chain strategies might be useful in the short term. Agricultural value chain promotion seems to provide the most suitable tools to strengthen rural and urban linkages. Activities include;

- Training
- Mobilization of farmers and other private sector players
- Delivering basic public and private services

The importance and usefulness of establishing producer's organizations is more and more realized these days. Research findings turned out that livestock producers, traders and officers believe that organizing is very useful and can contribute to better performance of the livestock sector to a large extent. Mobilization and motivation of farmers can be accomplished through;

- The establishment of producer organizations

Strengthening of institutions at national and local level are also much needed interventions, as indicated in the literature and by many actors within the livestock sector in the research area. Important elements are;

- Increased visibility of the state
- Increased reliability of financial institutions

The lack of facilities, and a lack of suitable grazing lands in particular, is indicated as one of the greatest challenges by many actors along the livestock supply chain in the Lakezone. Interventions that aim at reducing pressure on resources are therefore very important. Examples are;

- The formalization of land rights
- The introduction of a grazing fee per cattle

Although the change of behaviour of livestock keepers itself is not an intervention that can easily be implemented, all of the above mentioned activities may contribute to commercialization of the livestock sector in the Lakezone. Education will also play a very important role in this.

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## Appendix I – Interview questions

### *Guiding questions semistructured interviews livestock officers*

- 1) What are your key responsibilities?
- 2) What are your responsibilities at the market?
- 3) What are the challenges you are facing in your work? And at the market specific?
- 4) What are the sources of cattle, brought to and sold at this market?
- 5) What is the regulatory framework you use in your work?
- 6) Who are you reporting to?
- 7) What is your relationship with the livestock producers?
- 8) Do you visit the households of the livestock producers?
- 9) Where do the producers live? What is the average distance to the houses of producers?
- 10) Are livestock keepers organized?
- 11) What are, according to you, the challenges that livestock keepers are facing?
- 12) What can you say about the quality of life of the producers?
- 13) How do you think the lives of producers can be improved?
- 14) What is your relationship with livestock middlemen and traders?
- 15) Are traders organized?
- 16) What are, according to you, the challenges that middlemen and traders are facing?
- 17) What kind of fees do buyers and sellers have to pay at the market?
- 18) What are the fees used for?
- 19) Who are the employees at the market?
- 20) Who are the other actors involved at the market?
- 21) What is the number of cattle brought to the market per market day?
- 22) What is the number of cattle sold at the market per market day?
- 23) Where do cattle go to after being traded at the market?
- 24) What is the number of cattle going to Igoma secondary market?

### *Guiding questions semistructured interviews livestock producers & traders*

- 1) What is the number of cattle you own?
- 2) What types of cattle do you own? (Specify...)
- 3) What are the purposes of these different types of cattle?
  - Production, fattening, selling, dairy products, social use, etcetera.
- 4) How many children do you have?
- 5) Do your children attend school?
- 6) How many wives do you have?
- 7) How is your wife (or are your wives) involved in the business of livestock keeping?
- 8) How often do you sell cattle?
- 9) How many cattle do you sell on average (per month or per year)?

- 10) Why do you sell cattle (or not)?
- 11) If you choose to sell cattle, how do you do this?
- 12) Do you sell at the primary market or to middlemen or traders? Why?
  - Good prices versus security?
- 13) What is the distance to the primary market?
- 14) Does this influence your decision?
- 15) Do you have a bank account or SACCOs?
- 16) Do you have a cellphone?
- 17) Do you use this for business purposes? For example to acquire knowledge on prices?
- 18) Do you feel like you have enough knowledge about the livestock sector?
- 19) How did you acquire this knowledge?
- 20) What is the business like at the moment?
- 21) How are the prices at the moment?
- 22) What are, according to you, the factors influencing the prices of cattle?
- 23) Can you influence prices yourself?
- 24) Are you member of an organization of livestock producers?
- 25) What are the challenges you are facing in livestock keeping?
- 26) Are you satisfied with your standard of living?
- 27) Do you think that your business could be improved? How?

## Appendix II – Sources of cattle Igoma market

*Table – Sources and numbers of cattle to Igoma market*

<b>Market day</b>	<b>Source (primary markets)</b>	<b>Number of cattle</b>
Monday	Mwasamba (Magu)	15
	Nyasimwa (Magu)	10
	Mhangu	42
Tuesday	Nassa	90
Wednesday	Bungulwu	50
Thursday	Misasi	90
	Meatu	60
Friday	Bariadi	90
	Sanga	30
Sunday	Muhunze	30
	Dutwa	45
	Bilishi	40
<b>Total</b>		<b>592</b>