Livestock Product Value Chains in East Africa
A Scoping and Preliminary Mapping Study

Kilimo Trust
regional solutions to local problems
EXECUTIVE SUMMARY

1) An extensive assessment of poverty in East Africa, conducted by ILRI in 2002 found out that areas where livestock raising is the main livelihood activity are often the ones with highest incidences of poverty in East Africa. In Tanzania, for example, agro-pastoral and pastoral areas account for 95% of the cattle population, yet most agro-pastoral and pastoral households live below the poverty line of US$1 per day. At the same time, estimates made using available statistics of livestock, average rates of off-take and world prices gives a total value of annual trade in livestock and livestock products in East Africa at about US$ 5 billion. If realized, this would be about 12% of the reported GDP of the EAC member countries combined. Given that there are case studies which show that the current statistics on livestock could be an under-estimate, it is clear that a significant proportion of wealth in East Africa is held in the form of livestock.

2) The purpose of this scoping study was to assess, confirm and articulate what the stakeholders consider to be the most critical gaps with respect to information and evidence they need to strategize on trade in livestock and livestock products in East Africa. The findings were then to inform Kilimo Trust’s process of designing a strategic study that will contribute to the availability of the demanded information and evidence. The scoping study was therefore designed to undertake the following:

   a) **Analysis of Value Chains and Key Stakeholders** - starting with the key livestock types and products followed by preliminary mapping of the main value chains as well as the stakeholders/actors in these chains.

   b) **Articulation of Issues of the different Stakeholders** – through key informant interviews with individuals and focus groups; and

   c) **Validation of Identified Issues** – by assessing which of the issues identified by stakeholders represent opportunities that warrant further Strategic Studies.

3) To deliver these outputs, data collection included review of existing documents and stakeholder interviews. Documents reviewed included published materials and grey literature obtained from different stakeholders in the public and private sector. Interviews of stakeholders were conducted through e-mail, telephone and personal interviews guided by a checklist developed for this purpose. The interviews covered all relevant stakeholders in the livestock sector/value chains including input suppliers, producers and their associations, processors and their associations, traders and their associations, consumers, livestock boards, NGOs involved in livestock development, local government officials and government ministries responsible for livestock development.

4) The findings show that, stakeholders are concerned by four clusters of issues:

   a) **Productivity issues**: which were mainly raised by traders, processors, retailers, and consumers, whose principal concerns related to volumes, timing and quality of livestock and livestock products available in the market. On the other hand, the producers presented productivity issues in terms of poor incentives to invest in the improvement of productivity due to low returns, drought problems, and unavailability and high costs of necessary inputs.
b) Handling and processing issues: there was a strong contradiction between the views of producers on one hand, and other actors on the handling and processing issues. The producers mainly identified inadequate facilities for handling and processing of livestock products, while processors considered the main problem to be the inadequate and low quality supply of raw material to fully utilize installed capacity. The main consequence has been a vicious cycle where few investors are attracted to invest in handling and processing facilities for fear of low capacity utilization, while producers are reluctant to increase production because of perceived low off-take.

c) Marketing and trade issues: Both productivity, and handling and processing issues were perceived as factors limiting marketing and trade. Other issues raised included the informality of livestock trade, high transaction costs, inadequate supportive infrastructure, heavy taxation, lack of classification and grading systems, poor hygiene of most outlets (the main issue raised by consumers), unfair competition from imported products, and limited business management capacity along the value chain. Interestingly almost all issues focused on national and regional trade, and rarely on international export trade. It is also notable and informative that nearly all the actors along the chain raised the issue of limited demand for livestock products as a major constraint.

d) Cross-cutting institutional and policy issues: nearly all stakeholders were of the opinion that most of the constraints facing the livestock sector are not being addressed due to a weak institutional framework, mainly caused by limited implementation of policy.

5) The findings also show that there have been many projects and programmes in the region designed to deal with these issues. However, most of these interventions have not succeeded for three main reasons: firstly, the poor quality of data for planning, underscoring the fact that collection and analysis of statistics is an area that has long been neglected by all stakeholders in the livestock sector. Therefore, unreliability (or even the unavailability) of baseline statistics has resulted in the pursuit of wrongly or inadequately identified objectives in many interventions. Secondly, there has apparently been poor integration of different projects and programs leading to duplication and gaps. Thirdly and most importantly, is the poor vertical integration of the value chains. For example, there is very little knowledge of the dynamics of markets and the acceptable grades and standards for livestock and livestock products.

6) In view of these findings, it is recommended that a Strategic Study should be commissioned to quantify the final markets (national and regional) for livestock and livestock products in East Africa and develop baseline data for planning. The specific objectives will be to:

- a) Identify the most important segments of the markets of final products for major livestock products. For example, for traditional chicken they comprise live birds, dressed meat, fast cooked meat, certified organic meat or eggs, and so on.

- b) Determine and quantify the distinctive characteristics of each of these market segments such as market size and growth projections.

- c) Determine the Critical Success Factors (CSFs), such as price, quality, differentiation, branding and volatility, for each segment.
d) Benchmark chain efficiencies, with respect to the ability of the chain to meet the CSFs which it confronts in its final markets.

e) Identify priority investments needed to facilitate the performance of various value chains for the livestock products with the brightest future in terms of market size and growth.
ACKNOWLEDGEMENTS

This document is a result of studies and consultations with several stakeholders in Tanzania, Kenya, Uganda, Rwanda and Burundi. We are grateful to all Government Officials, individuals and institutions that contributed information and data through interviews, discussions and valuable suggestions on how the livestock sector can be improved to benefit the poor in East Africa. We are very grateful to the research Assistants Mr. Issack Isae, Mr. Venuste Rusharaza, and Ms. Carol Mtui for a commendable job of collecting all the valuable grey literature and information from all countries.

We wish to thank Mr. Stephen Kimani and the rest of the Kilimo Trust staff for the invaluable support and patience. Finally, we wish to express our sincere thanks to all our partners and associates who in one way or the other contributed to the success of this assignment.
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>ACP</td>
<td>Africa Caribbean Pacific</td>
</tr>
<tr>
<td>A.I.</td>
<td>Artificial Insemination</td>
</tr>
<tr>
<td>ASAL</td>
<td>Arid Semi Arid Lands</td>
</tr>
<tr>
<td>ATD</td>
<td>Pg 19</td>
</tr>
<tr>
<td>AU/IBAR</td>
<td>African Union/ Inter African Bureau for Animal Resources</td>
</tr>
<tr>
<td>BCK</td>
<td>Pg 15</td>
</tr>
<tr>
<td>BPN</td>
<td>Pg 23</td>
</tr>
<tr>
<td>CAHW</td>
<td>Community Animal Health Worker</td>
</tr>
<tr>
<td>CBO’s</td>
<td>Community Based Organizations</td>
</tr>
<tr>
<td>CBPP</td>
<td>Contagious Bovine Pleuropneumonia</td>
</tr>
<tr>
<td>COTAGIRWA</td>
<td>Pg 19</td>
</tr>
<tr>
<td>CRSP</td>
<td>Collaborative Research Support Program</td>
</tr>
<tr>
<td>CSF</td>
<td>Critical Success Factors</td>
</tr>
<tr>
<td>CYMMIT</td>
<td>International Maize and Wheat Improvement Center</td>
</tr>
<tr>
<td>DFID</td>
<td>Department of International Development</td>
</tr>
<tr>
<td>DASIP</td>
<td>District Agriculture Investment Project</td>
</tr>
<tr>
<td>DRC</td>
<td>Democratic Republic of Congo</td>
</tr>
<tr>
<td>EA</td>
<td>East Africa</td>
</tr>
<tr>
<td>EAC</td>
<td>East African Community</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>FBO’s</td>
<td>Faith Based Organizations</td>
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<tr>
<td>FMD</td>
<td>Foot and Mouth Disease</td>
</tr>
<tr>
<td>GBK</td>
<td>Pg 17</td>
</tr>
<tr>
<td>HPI</td>
<td>Heifer Project International</td>
</tr>
<tr>
<td>ICRAF</td>
<td>The International Centre for Research in Agroforestry</td>
</tr>
<tr>
<td>IFPRI</td>
<td>The International Food Policy Research Institute</td>
</tr>
<tr>
<td>ILRI</td>
<td>International Livestock Research Institute</td>
</tr>
<tr>
<td>KCC</td>
<td>Kenya Creameries Company</td>
</tr>
<tr>
<td>LAT</td>
<td>Leather Association of Tanzania</td>
</tr>
<tr>
<td>LGA</td>
<td>Local Government Authority</td>
</tr>
<tr>
<td>LINK</td>
<td>Livestock Information Network and Knowledge System</td>
</tr>
<tr>
<td>LISSA</td>
<td>Livestock Self-Help Association</td>
</tr>
<tr>
<td>LTMS-K</td>
<td>Livestock Traders Society of Kenya</td>
</tr>
<tr>
<td>MINAGRI</td>
<td>Ministry of Agriculture and Animal Resources, Rwanda</td>
</tr>
<tr>
<td>MOET</td>
<td>Multiple Ovulation Embryo Transfer</td>
</tr>
<tr>
<td>MT</td>
<td>Metric Tons</td>
</tr>
<tr>
<td>NAIC</td>
<td>National Artificial Insemination Centre</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non Governmental Organization</td>
</tr>
<tr>
<td>PAAP</td>
<td>Policy Analysis and Advocacy Programme</td>
</tr>
<tr>
<td>PINGOs</td>
<td>Pastoralist Indigenous Non-Governmental Organization</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RTTDC</td>
<td>Regional Programme on Ticks and Tick-borne Diseases</td>
</tr>
<tr>
<td>SACCOs</td>
<td>Savings and Credit Associations</td>
</tr>
<tr>
<td>SMEs</td>
<td>Small and Medium Enterprises</td>
</tr>
<tr>
<td>SNV</td>
<td>Netherlands Development Organisation</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
</tr>
<tr>
<td>TAD's</td>
<td>Transboundary Animal Diseases</td>
</tr>
<tr>
<td>UHHT</td>
<td>Ultra High Temperature processed milk</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
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1 INTRODUCTION

1) Before the recent global economic crisis, all projections were pointing towards a rapid increase in the demand for livestock products. These projections were based on the rapid rate of population growth as well as the proportion of people with higher incomes. For example, in 2007 IFPRI estimated that by 2050, consumption of meat per capita will double in Sub-Saharan Africa, increase by 82% in Asia, and increase by 65% in the Middle East and North Africa, compared to the consumption rates in year 2000 (Figure 1a). Recently there was an extraordinary increase in the world prices of many food commodities, and the prices of livestock, especially dairy products mirrored those of grains such as rice, wheat and maize. This proved beyond doubt that livestock products are now key food staples. Figure 1b, from FAO show that in a period of ten years (between Jan 1998 and December 2007), the price of whole milk powder rose by a factor of 2.5 and the price of butter doubled. Price of some meat products also increased.

Figure 1a: Expected per capita meat consumption (2000 vs 2050)
Source: IFPRI, 2007

Figure 1b: Price of dairy whole milk powder, dairy butter, bovine meat, poultry meat (1998 – 2008)

2) The current economic crisis will slow down, but is not expected to reverse the nutrition revolution driven by millions of new entrants to the middle class status, especially in Asia and the Middle East. Therefore, the world will continue to see a shift away from traditional staples such as roots and tubers, and a corresponding increase in the consumption of livestock products particularly meat and dairy products. For example, by 2007, Chinese annual average (per capita) meat consumption had risen to 50 kg from a level of just 20 kg in 1985. For this reason China alone accounts for 57% of the rise in total meat consumption in developed countries.

3) The trends described above indicate expanding market opportunities for the livestock sector, except for the fact that barriers (especially food safety requirements) to international markets for livestock products are more stringent than for crop products. Because of frequent outbreak and endemic nature of livestock diseases, livestock products from Sub-Saharan Africa (SSA) cannot compete with other major exporters in the developed world which meet food safety standards. The difficulties in disease
control and the near impossibility of eradication due to high costs means that the livestock sector in SSA has few options for tapping into the expanding global market. For this reason it is important to focus on national and regional markets.

4) This scoping study was therefore designed to identify most promising livestock value chains for livestock trade within and among the five countries that are members of the East African Community; namely Burundi, Kenya, Rwanda, Tanzania and Uganda. In this region it is estimated that between 80 and 90% of the poor keep livestock of some type. In Uganda, Tanzania and Kenya most of the livestock (over 60%) is found in the arid and semi-arid areas, where livestock constitute the major asset for more than 90% of the population.

5) History shows that development of the livestock sector since the start of economic liberalization programmes has included programs to expand and support livestock production in the long-run. Through liberalization there has been an overall policy shift towards privatization and substantial effort has been focused on putting into place appropriate and conducive policy frameworks for the private sector to operate. In almost all the countries in the region, reforms have been undertaken in research, extension, veterinary services, credit services and trade. Research has been reformed either through centralization or decentralization of research organization while extension and veterinary services have been reformed through allowing the private sector to participate in the delivery of these services. In marketing and trade, countries in the region have increasingly opened their markets and willingness to satisfy international sanitary standards to be able to access international markets.

6) The purpose of the study was to confirm demand by stakeholders and to articulate what they consider as the most critical gaps with respect to information and evidence they need to strategize for improved trade of livestock products in the region. The main output of the study is a detailed situation and stakeholder analysis regarding trade in livestock and livestock products in the region and an articulation of preliminary issues that require further detailed assessment.

7) Data collection methods employed to achieve the objectives of the study included review of existing documents and stakeholders interviews. Documents reviewed included published materials and grey literature obtained from different stakeholders in the public and private sector. Interviews of stakeholders were conducted through e-mail, telephone and personal interviews guided by a checklist developed for this purpose. The interviews covered all relevant stakeholders in the livestock sector/value chains including inputs suppliers, producers and their associations, processors and their associations, traders and their associations, consumers, livestock boards, NGOs involved in livestock development, local government officials and government ministries responsible for livestock development (See Appendix 1).

8) The report is organized into five chapters with chapter 2 providing a preliminary evaluation of the market opportunities and prospects. Chapter 3 describes the major livestock value chains in the region as well as the key actors in those chains. Chapter 4 presents; key issues of concern to stakeholders, evaluates what has already been done or is being done by governments and other projects to deal with these issues, and then deduces the genuine knowledge gaps. Chapter 5 discusses and provides recommendations on the scope of a strategic study that should be commissioned to deal with the identified knowledge gaps. The report is supported by the following appendixes:

a) Appendix 1: Stakeholders/Institutions Consulted
b) Appendix 2: Livestock Value Chains and Key Actors in East Africa
c) Appendix 3: Summary of Key issues, causes, knowledge gaps and possible actions
LIVESTOCK OPPORTUNITIES AND PROSPECTS IN THE EAC REGION

9) The most important elements in turning livestock or any asset potential to incomes and development are the production potential, market opportunities, and the means of linking the potential and the opportunities. This section presents a review of literature and discusses two questions:
   a) Does the livestock asset provide a potential for poverty reduction?
   b) Are there opportunities that the livestock keepers can exploit to transform their livestock assets into incomes and other forms of wealth?

10) If there is potential it is important to understand how big it is in terms of cash income that farmers can generate and utilize to get out of poverty. If indeed there is substantial potential what factors contribute to low contribution of livestock to poverty reduction in the traditional livestock sector in the EA region? Are the market opportunities for livestock and livestock products (national, regional, international markets) large enough to drive the growth of the livestock sectors in the EA region and sustain livelihoods of the poor?

2.1 Livestock and Reduction of Poverty in East Africa: the potential

11) There is evidence in the literature that livestock often generates higher and more reliable income compared to most of the traditional agricultural activities and thus offers a genuine potential for livestock keeping households to increase their incomes through improved production, processing and marketing of livestock and livestock products (Staal, 1997, MoAC/SUA/ILRI, 1998, Mdoe, et al., 2002). We will come back to this discussion in section 1.2, but let us look at whether the potential is actually real.

12) In trying to assemble statistics of the actual number of livestock in the region, one of the main findings of this scoping study is that there is a large paucity of correct and up-to-date statistics on the number of livestock in the region. For example, an appraisal conducted in Kenya by the Smallholder Dairy Project, found out and concluded that the size of the dairy herd in Kenya could be twice that given in official statistics (Republic of Kenya, 2006). Efforts have been initiated in Uganda to conduct livestock census, and it is expected that reliable statistics will be available to correctly gauge the real size of this key asset for the rural households.

13) Figure 2 provides statistics assembled from different sources for the two main types of livestock, namely ruminants and poultry. These statistics show that the size of livestock asset in the region is estimated at 41 million cattle heads, 33 million goats, 14 million sheep, 900,000 camels, and 130 million poultry. There are also other livestock such as pigs (3 million). Statistics also show that bee-keeping is an important undertaking by the smallholders in East Africa.

14) To gauge the potential of the livestock sector in poverty reduction, there is a need to assess the extent to which the livestock assets, as depicted in Figure 2, are converted into income per year. Despite the large livestock population in the region, the production of different livestock products for the market is very low (Tables 1 and 2). On average beef production is estimated as just below 800,000 MT. A high proportion of this comes from cattle raised mainly for beef in the arid and semi-arid areas. A small proportion comes from dairy cattle. Off take from small ruminant livestock is estimated at an average of 130 MT which could be a gross under-estimation because majority of goats and sheep are consumed within the producing households. Similarly the estimated average production of 108 MT of poultry meat could be a gross under-estimation because majority of the poultry and poultry products are consumed within the producing households. However, the free-range poultry is one of the most important assets of rural poor households. Pig meat production in the EA region is estimated at 111 MT per annum of which about 70% is produced in Uganda. For hides and skins, available statistics
show that 5.71 million pieces of hides and 12.31 million pieces of skins (goats and sheep) are produced annually in the EA region. These are equivalent to 129,070 MT.

![Livestock population in East Africa (est. 2005)](image)

**Figure 2: Livestock population in East Africa (est. 2005)**
Source: FAOSTAT Data (2004) and National Statistics
Table 1: Estimated annual production of products from slaughtered animals

<table>
<thead>
<tr>
<th>Country</th>
<th>Beef (MT)</th>
<th>Goat and Sheep Meat (MT)</th>
<th>Poultry Meat (MT)</th>
<th>Pig Meat (MT)</th>
<th>Hides and Skins ('000 pieces)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hides</td>
</tr>
<tr>
<td>Burundi</td>
<td>9,000</td>
<td>4,000</td>
<td>5,000</td>
<td>5,000</td>
<td>36</td>
</tr>
<tr>
<td>Kenya</td>
<td>290,000</td>
<td>53,000</td>
<td>20,000</td>
<td>12,000</td>
<td>2,420</td>
</tr>
<tr>
<td>Rwanda</td>
<td>19,000</td>
<td>3,000</td>
<td>1,000</td>
<td>3,000</td>
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<tr>
<td>Tanzania</td>
<td>370,000</td>
<td>40,000</td>
<td>41,000</td>
<td>13,000</td>
<td>1,980</td>
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<td>Uganda</td>
<td>97,000</td>
<td>31,000</td>
<td>41,000</td>
<td>78,000</td>
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<tr>
<td>Total</td>
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<td>131,000</td>
<td>108,000</td>
<td>111,000</td>
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</tr>
</tbody>
</table>

Source: National Statistics

Table 2: Estimated annual production of products from live animals

<table>
<thead>
<tr>
<th>Country</th>
<th>Milk (MT)</th>
<th>Eggs (Numbers)</th>
<th>Wool (MT)</th>
<th>Honey (MT)</th>
<th>Beeswax (MT)</th>
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</thead>
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<td>19,000</td>
<td>3,000</td>
<td></td>
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<td>Kenya</td>
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<td>1,500</td>
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<td>Rwanda</td>
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<td>Tanzania</td>
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<td>Uganda</td>
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</table>

Source: National Statistics

15) Figure 3 shows a rough estimate of the value of major livestock products harvested each year in the region. These estimates have been made using average world prices and it is estimated that these values could be realized in the city markets in East Africa.

16) Livestock also plays an important role in the production of crops by providing manure for soil fertility improvement. However, to calculate the value of manure is complicated and will not be attempted here. It is therefore clear that a significant value is held in the form of livestock.

There are case studies which show that the current statistics on livestock could be an under-estimate, it is clear that a significant proportion of wealth in East Africa is held in the form of livestock. The total value of the total annual production from live animals adds to about US$ 5 billion. If realized this would be about 12% of the reported GDP of the EAC member countries combined.
Figure 3: Estimated annual value of selected livestock products total for the EAC @ world prices

17) Given the size of wealth held in the form of livestock, it is frustrating that poverty is so widespread in livestock keeping areas (including agro-pastoral and pastoral areas with large livestock numbers). In Tanzania, for example, agro-pastoral and pastoral areas account for 95% of the cattle population, yet most agro-pastoral and pastoral households live below the poverty line of US$ 1 per day (Mdoe et al., 1998). Figure 4 presents a summary of the extensive assessment of poverty in East Africa, conducted by ILRI. The assessment found out that areas with the highest incidences of poverty in East Africa are those where livestock raising is the main agricultural activity without a major cash crop.
2.2 Livestock and Reduction of Poverty in East Africa: the market opportunities

2.2.1 Estimated demand and supply gaps in the East African Market

18) Figure 5 presents broad brush projected demand and supply differences by 2010 for meat and milk, in each country and the region. These projections provide an important scenario and justification for promotion of regional trade.

Figure 4: Poverty in East Africa – Uganda, Tanzania and Kenya. After Thornton et al. 2002
19) Regional level: Projections based on the current levels of per capita consumption of meat and milk (which are significantly lower than the recommended levels of FAO of 50 kg of meat and 200 litres of milk per year) shown that the region as a whole has a net deficit of both meat and milk products (Figure 5). This deficit is likely to widen with increase in per capita consumption that may result from improved incomes, urbanization and the initiatives currently being taken to promote consumption of livestock products.

20) Burundi and Rwanda: Figure 5 shows that Burundi and Rwanda will continue to have deficit in both meat and milk products confirming national statistics which show that Burundi and Rwanda have a deficit of almost all livestock products. For example, because of dependency on imports, Burundi experienced a serious shortage of chickens and chicken products (eggs/meat) after the flights into the country from Europe were suspended during the period of civil war.

21) Like Burundi, Rwanda is generally a net importer of livestock and livestock products as national demand for most livestock products outstrip domestic supply. According to Rwanda’s Ministry of Agriculture and Animal Resources (MINAGRI) data, the unmet demand is more than 60%. The gap between demand and supply is filled by imports from other countries within the region and outside the region. For example, 10,958 metric tons of meat were imported in 2004 alone, with a total of 28,813 MT imported between 2000 and 2004. In the case of milk, local production of 121,137 metric tons in 2004 was able to cover only 41% of the demand estimated at 483,693 metric tons. The balance was furnished through imports from Uganda and overseas countries in the form of powder milk. About 720,000 litres of milk were imported in 2005 compared with 2,930,000 litres imported in 1991 (MINAGRI).

22) Kenya: Figure 5 shows that Kenya will continue to register a deficit in meat, and will continue to produce a surplus of milk and milk products. Currently Kenya exports milk and milk products to almost all other countries in the region.

23) Tanzania: Figure 5 indicates that Tanzania will have a deficit of both meat and dairy products by the year 2010 with the deficit of milk being significantly higher than meat deficit. National statistics show that Tanzania is a net importer of dairy products as evidenced by different types of imported dairy products being sold in supermarkets and shops in urban areas.
24) Uganda: National statistics indicate that Uganda is a net importer of meat. Projections for 2010 as shown in Figure 5 indicate that the country will continue to have a deficit of both meat and milk.

25) The above evidences suggest that there are still opportunities for expanded trade in livestock and livestock products within each country and between the countries in the region. It is expected that demand will continue to increase because of continuing positive trends in the most important factors that influence demand: 

a) **Income and urbanization:** most of the demand for livestock products arise from urbanization and increase in income in urban areas. In this new and expanding market for livestock products, apart from livestock products consumed in urban households there is higher consumption of livestock products away from home in hotels, restaurants and fast food businesses.

b) **Supermarket culture:** an important aspect of urbanization is trade through supermarkets which offer opportunities for increased trade in high quality livestock products. Supermarkets are spreading rapidly in the region and have registered significant presence in major cities and are now spreading into smaller towns.

c) **Tourism:** The increasing trend in the number of tourists offers an opportunity for expanded internal trade through increased consumption of livestock in hotels and restaurants. For example the number of tourists who visited Kenya and Tanzania in 2006 was 1.7 million and 0.75 million, respectively. This number was expected to double by 2012 (http://www.africa news.com).

2.2.2 **Opportunities for export beyond the EAC**

26) There is great potential for the EA region to export livestock and livestock products to the Middle East and North Africa (Figure 1a). The market for live animals and meat in this market is estimated to be 6,377,776 MT equivalent per year (estimated using 2006 population figure of 311,111,026 and per capita consumption of 20.5 kg per year). According to AU-IBAR (2006) if all exports from SSA to external markets for the different meat types, were exported to the Middle East, they would only meet 48.5% of beef and veal meat, 21.6% of goat meat, 3.4% of fresh sheep meat and 1.9% of mutton and lamb demand. This implies that there is high export potential for meat from EAC in the Middle East. At the moment the main African players in this market are Ethiopia, Somalia and Sudan, who mainly deal in live animals. Therefore, the Middle East is a potential meat market for the EAC member states, but this market has hardly been explored.

27) Currently, the Middle East countries are sourcing meat imports from the European Union, Australia, New Zealand, Argentina and Brazil, all countries can meet the stringent requirement for food safety, because of their superior disease control systems. The current standards governing international trade in livestock trade are extremely difficult to implement as they are based on geographical origin of the product, which demand expensive investments in creating, maintaining and certifying disease free zones. There are proposals to adopt a “commodity-based approach”, which will make it easier for African countries to compete. Since most of the meat from EAC is produced on natural rangelands, there is an increasing opportunity in the demand for products from “animals that have not been fed with ruminant meat and bone meal and were not treated with growth factors”. Southern African countries such as South Africa, Namibia, Botswana, and Swaziland are already exploiting this opportunity due to well developed meat processing facilities and certified as of export standard.

28) There are also other countries in SSA with a demand for livestock and livestock products that the EAC can exploit. For example, Kenyan dairy products are currently being exported to Zambia and Democratic Republic of Congo and these countries have the potential of importing more dairy products. Demand for dairy products is also high in North and West African countries which currently depend on dairy imports from the EU.
2.3 On-going Trade in the East Africa Region

2.3.1 Meat Products

Beef cattle and beef

29) Substantial unofficial cross border trade of cattle is reported to take place between the EA countries. Kenya imports about 25-30% of its beef cattle through unofficial movement of cattle from neighbouring countries. In Tanzania, Ministry of Livestock Development statistics show that among the EA countries, Kenya is the main trading partner in live cattle traded informally. It is estimated that 300,000 heads of cattle cross the Tanzania border every year to neighbouring countries (Ministry of Livestock Development, 2006). Official exports of cattle from Tanzania to Comoro and Burundi in 2006/07 totalled 2,542 cattle heads compared to 1,706 cattle heads in 2005/2006 (Ministry of Livestock Development, 2007).

30) In addition to export of live animals, there is export meat from the region. Unfortunately there is paucity of information on external trade of meat. The available information for three countries indicates the region exported insignificant quantities of beef and small ruminant meat relative to the livestock resource in the region.

Table 3: Export of meat (MT) from EA countries

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beef</td>
<td>Ovine*</td>
<td>Beef</td>
<td>Ovine</td>
<td>Beef</td>
</tr>
<tr>
<td>Tanzania</td>
<td>223</td>
<td>1</td>
<td>4,300</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td>Uganda</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kenya</td>
<td>1,001</td>
<td>27</td>
<td>1,828</td>
<td>102</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>1,224</td>
<td>28</td>
<td>6,128</td>
<td>102</td>
<td>83</td>
</tr>
</tbody>
</table>

* Ovine is goat and sheep
Source: FAO (2005)

Small ruminant meat

31) Internal trade of small ruminants especially in rural areas is mainly informal between households that raise them and those which do not keep small ruminants. Animals are also traded for the urban and export markets. Like cattle, live small ruminants trade taking place between the EA countries is largely informal cross border trade and data are not available. Available data on exports from the EA countries show that Kenya and Tanzania export goats beyond the EA region. In Kenya, LTMS-K exported 8,200 goats to Mauritius. In Tanzania, official exports of live goats to Comoro and Burundi in 2006/07 totalled 1,852 goats valued at TShs 1.03 billion compared to 800 goats valued at Tshs 675.9 million in 2005/2006. Exports of small ruminant meat from the East African countries are small (Table 3).

Poultry and poultry products

32) Countries in East Africa with inadequate hatcheries import day old chicks from other member states. For example, Rwanda with one hatchery with a capacity of producing about 20,000 chicks, imports day old chicks from Uganda, Belgium and France. Uganda imports about 20,000 day-old-chicks from Kenya every week. Tanzania has 13 hatcheries producing about 1.7 million chicks every three weeks but imports day old chicks mainly from Zambia while Burundi imports day old chicks from Uganda. Stakeholders are of the view that the problem of inadequate supply of day old chicks can be solved by promoting trade within the East African region as is the recent practice of importing day old chicks to Tanzania from Uganda. However, they say that the long term solution is to establish parent and grand parent stock farms in these countries. The implementation of the above solution is being
held back by lack of funds and harmonized veterinary and trade regulations in the East African countries (The East African August, 2008)

33) In some EA countries substantial chicken bird trade takes place on the road side. In all the five East African countries, 60% of the local chicken trade is in the hands of small traders. Eggs from indigenous poultry are traded by small traders mainly in rural areas where most of the production takes place and involves both small traders and wholesale traders. Beside internal trade in each EA country, there has been substantial trade in poultry meat between the EA countries but the trade was hampered by the outbreak of Bird Flu in South East Asia in 2006. For example, Uganda was exporting poultry and poultry products to Kenya before a ban imposed by Kenya on Ugandan poultry and poultry products following the Bird Flu scare. The ban was lifted in September 2008 but trade had not resumed. There is also trade of poultry meat between Uganda and Rwanda with Uganda exporting poultry to Rwanda although available official statistics from FAO do not capture this (Table 4).

Table 4: Export of poultry products from EA countries

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Poultry meat (MT):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td></td>
<td>2</td>
<td>0</td>
<td>182</td>
<td>0</td>
</tr>
<tr>
<td>Uganda</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Kenya</td>
<td></td>
<td>58</td>
<td>14</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
<td>14</td>
<td>187</td>
<td>8</td>
</tr>
<tr>
<td>Eggs (MT):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td></td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Uganda</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kenya</td>
<td></td>
<td>69</td>
<td>21</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>69</td>
<td>21</td>
<td>34</td>
<td>31</td>
</tr>
</tbody>
</table>

Source: FAO (2005)

Live pigs and pig meat

34) Small traders dominate the trade of live pigs in the EA region, with pig meat mostly consumed in urban areas. The trade in live pigs takes place between small producers in rural areas and wholesale traders who sell them to buyers in urban areas. For pig meat, most of it is traded through wholesalers who supply pork to retailers such as pork butchers, supermarkets and hotels especially tourist hotels. In terms of exports, available statistics show that Kenya exports significantly more pork and pork products than her counterparts in the region (Table 5).

Table 5: Export of pig meat (MT) from EA countries

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td></td>
<td>0</td>
<td>0</td>
<td>53</td>
<td>44</td>
</tr>
<tr>
<td>Uganda</td>
<td></td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>Kenya</td>
<td></td>
<td>356</td>
<td>37</td>
<td>605</td>
<td>508</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>356</td>
<td>37</td>
<td>673</td>
<td>552</td>
</tr>
</tbody>
</table>

Source: FAO (2005)

Dairy cattle and dairy products

35) Two types of trade of dairy cattle take place in the region. There is trade between individual smallholder dairy farmers, and between livestock multiplication units and medium/large scale dairy producers and smallholder dairy producers. The second type is culled dairy cows trade for meat between dairy producers and meat traders. Apart from internal trade in dairy cattle, there is informal
and formal trade in dairy cattle between the EA countries particularly for breeding stock. Raw milk is the predominant internally traded dairy product in each of the EA countries. For example, much of the milk marketed in the Dar es Salaam milk shed is either unprocessed or informally processed liquid milk. Raw fresh milk constitutes the most traded item followed by fresh boiled warm and cool milk. In Kenya, Uganda, and Tanzania for example, pasteurised milk which passes through the formal sector accounts for only an estimated 20%, 10%, and 2% of the internally traded milk in each country, respectively (MAAIF/NARO/ILRI, 1996; MOAC/SUA/ILRI, 1998; MOA/KARI/ILRI, 1998; Mbiha, 2008). In Rwanda, only 23% of the milk produced in the country is traded on local markets and the rest consumed by dairy producing households. Overall, small traders account for most (80%) of the milk and milk products traded in the EA region.

36) Kenya is the only country with a well developed dairy industry that produces milk that meets its domestic consumption and with surplus for export. All the remaining countries in the EA region are net importers of milk and milk products. Kenyan dairy products are currently being exported to all other EAC members’ states (Burundi, Rwanda, Tanzania and Uganda). In addition, Kenya exports milk products to Zambia, Democratic Republic of Congo and Saudi Arabia. Table 6 shows the quantities of dairy products exported from three countries in the region with Kenya accounting for the largest share of the exports. At the moment, New Kenya Co-operative Creameries and Brookside Dairies are the two main exporters. However, Kenya also imports dairy products from the European Union and limited amounts from within the East African region.

Table 6: Export of dairy products (MT) from EA countries

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td>1980</td>
<td>453</td>
<td>0</td>
<td>2422</td>
<td>135</td>
</tr>
<tr>
<td>Uganda</td>
<td>1990</td>
<td>0</td>
<td>4725</td>
<td>2844</td>
<td>1887</td>
</tr>
<tr>
<td>Kenya</td>
<td>2000</td>
<td>2,378</td>
<td>2,844</td>
<td>1,887</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2002</td>
<td>2,831</td>
<td>6,262</td>
<td>2,183</td>
<td></td>
</tr>
</tbody>
</table>

Source: FAO (2005)

Hides and skins

37) Most of the hides and skins from rural slaughter slabs/butchers, slaughter houses and abattoirs pass through wholesale agents. The rest are collected by small traders and then sold to wholesalers/tanners for processing/export (See export volumes in Table 7). Apart from internal trade in unprocessed hides and skins, there is a substantial informal cross border trade between the EA countries. Official statistics show that on average more than 50% of the hides and skins are exported in unprocessed form. This proportion varies across the EA countries. For example, exports of unprocessed hides and skins in Kenya represent 40-50% of total production while in Tanzania and Uganda exports of unprocessed hides and skins represent about 80% of total production.

38) Semi processed wet blue leather forms relatively larger proportion (60%) of the processed hides and skins products. However, this proportion varies across the region. For example, most (90%) of the processed leather in Tanzania is wet blue leather while in Kenya wet blue leather account for about 48% of the processed leather.

Table 7: Exports of Hides and Skins/leather from East Africa, 2000-2005

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td>2000</td>
<td>7,117</td>
<td>17,784</td>
<td>20,100</td>
<td>25,583</td>
<td>25,786</td>
<td>26,749</td>
</tr>
<tr>
<td>Kenya</td>
<td>2001</td>
<td>13,470</td>
<td>13,877</td>
<td>11,515</td>
<td>18,808</td>
<td>27,186</td>
<td>-</td>
</tr>
<tr>
<td>Uganda</td>
<td>2002</td>
<td>13,015</td>
<td>12,857</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>2003</td>
<td>33,602</td>
<td>31,661</td>
<td>44,472</td>
<td>44,391</td>
<td>32,972</td>
<td>26,749</td>
</tr>
</tbody>
</table>

39) In general most (80%) of the leather produced in the EA region is consumed abroad with only about 20% consumed locally. For individual countries the actual consumption varies across the region. In Tanzania, for example, less than 10% of the locally produced leather is used to make leather products for local consumption. Kenya used to utilize a substantial proportion of locally processed leather for making leather products such as shoes but the proportion of locally produced leather utilized locally has declined due to the collapse of the leather industry including poor performance of the famous Bata Factory (Kenyan shoe manufacturing company).
3 LIVESTOCK VALUE CHAINS AND KEY ACTORS IN THE EAC REGION

3.1 Overview

40) A value chain is a sequence of target-oriented combination of specific actions in order to create a marketable product or service for final consumption by a specific client. It is the process of moving products from the point of production to the point of consumption. Therefore, the producers and consumers are key actors in these chains. However, in between these two actors, there are tens of individuals, groups, businesses and other actors, each making an input in moving and converting the product on its way to the consumer. There are transporters, processors, wholesalers and retails. There are also institutions that support this process, such as suppliers of input, finance and information services, and public sector regulators who sets and enforce rules and regulations. Figure 6 provides a simplified schematic presentation of a typical agricultural value chain. Most of these also apply to the livestock sector. This model is used to describe the characteristics and actors in the value chains of the major livestock sub-sectors in the EAC region. Schematic presentations of specific livestock value chains are shown in Appendix 2.

![Figure 6: Schematic presentation of typical livestock value chain](image_url)

3.2 Meat Value Chain

41) The main meat value chains in East Africa, for all types of meat are summarized in this section. All the major components of a value chain shown in Figure 6 are important in the supply and consumption of meat in East Africa.
3.2.1 Production

42) The primary production of beef cattle is dominated by pastoralists and agro-pastoralists mostly located in arid and semi-arid areas. Ranches and fattening farms account for very small proportion of the beef cattle in the region and most of the ranches are owned by governments. Private ranchers and beef cattle fatteners are few and are just emerging. Similarly, the primary production of small ruminants for meat is dominated by pastoralists and agro-pastoralists. However, the number of households keeping small ruminants in the various production systems is slightly less than those keeping beef cattle. In Tanzania for example, 37% of the agricultural households raise cattle compared to 30% reported to raise small ruminants for meat. The main characteristics of actors in the production component are:

a) Pastoralists/Agro-pastoralists: It is estimated that there are about 3,863,964 pastoralist/agropastoralist households in East Africa accounting for about 93-95% and 99% of the beef cattle and small ruminants, respectively. They are mainly located in arid and semi-arid areas such as the Masai steppe (Tanzania), Karamajong (Uganda) and Arid and Semi Arid Lands of Northern Kenya.

b) Ranchers and fattening farms: Private and public commercial ranches and fattening farms total about 682 in the region and account for 5-7% and 1% of the beef cattle and small ruminants, respectively. The most important of these include:

i) In Kenya – Olpejata ranch, Loisaka ranch, Sosian ranch, El Karama ranch and Sale ranch.

ii) In Tanzania – NARCO ranches, SAAF ranch, Tanzania Meat Pride ranch and Manyara ranch.

iii) In Uganda – Nakitima ranch, Ndorokwai ranch, and 434 hectares developed and leased to private investors in ranching.

43) There are no ranches in Burundi and Rwanda. In Rwanda, there are initiatives to establish ranches in the near future.

44) Despite the large cattle population in the pastoral and agro-pastoral systems, the annual off take rate of 8-10% is lower than annual off take rate of about 12-15% in commercial ranches. Moreover, cattle in the pastoral and agro-pastoral systems are slaughtered at the age of 6-7 years with mature weight of 200-300 kg compared with slaughter age of 2-3 year with mature weight of 350-400 kg in commercial ranches.

45) Majority of poultry (mainly chicken) is indigenous produced by smallholders, and it is estimated that 70% of households in the rural areas raise some sort of poultry. The production of exotic poultry (mainly broiler chicken) is done by medium and large scale producers. These producers supply about 30% of the poultry meat in the region. They include:

a) In Burundi – NASA Poultry Farm

b) In Kenya – KenChick Limited which is the largest poultry farm in East Africa. Others are Alpha Fine Foods Ltd, Unga Feeds Ltd, and Meat Processors Ltd.

c) In Rwanda – Kanombe Poultry Cooperative Farm and Kinyinya Poultry Farm

d) In Tanzania – A to Z farm; Interchick, Ideal chick, Tanzania Poultry Farms and Mkuza chicks

e) In Uganda – Ugachick Farm and Binyizika Enterprises Farms.

46) About 65% of pig production is carried out by smallholders using traditional methods. Commercial pig farmers are very few in the region, but this is increasingly becoming important in peri-urban areas. In the traditional pig production system, pigs are mainly fed on forages and supplemented with food leftovers and rarely with concentrates. They are sometimes left to free range rather than being stall fed. On the other hand, commercial pig producers obtain feed supplies from feed shops and directly from feed millers.

3.2.2 Bulking

47) Bulking of live animals normally occurs in rural livestock markets organized about twice per week. Individual producers bring the livestock they want to sell to these markets where traders who bulk assemble and normally buy through an auction. The buyers include traders who then transport the
livestock and re-sell either to large exporters, meat processors, or small-scale owners of butcheries. In
the rural areas, butcheries often purchase directly from these rural markets, while those in urban areas
purchase from re-sale auction markets located near the town. Therefore, bulking of livestock for meat
is done by two categories of traders:

a) **Small traders**, who purchase about 4-10 animals at a time directly from producers, and re-sell
either to large traders/exporters (wholesalers), butchery owners or, in the case of small ruminants
and poultry, to retailers in urban areas. They handle about 60% and 90% of the trade in live cattle
and small ruminants, respectively.

b) **Wholesalers/exporters** who normally buy from the small traders or ranches. Most of the
fattening farms also act as wholesalers. The wholesalers/exporters handle about seventy livestock
units at a time. Some of the wholesale traders of live animals operating in the region include:

i) In Burundi – Nzorigenda enterprise of Bujumbura.
ii) In Kenya – Livestock Stakeholder Self-Association (LISSA)
iii) In Tanzania – Mr. Rafael Kafu
iv) In Uganda – Uganda Meat Industries

### 3.2.3 Wholesale and transportation

48) The same group described in the previous section deals with both bulking and wholesaling. The only
different players are transporters who provide trucks to transport livestock for long distances.
However, most of the cattle and small ruminants are transported on hoof.

### 3.2.4 Processors

49) Most (85%) processing of beef and small ruminants meat is conducted by community owned slaughter
slabs, and abattoirs. There is limited process by large scale slaughter and meat packing factories.
Slaughter slabs are linked to butcheries in the rural areas and small towns. Abattoirs or slaughter
houses are located in large towns and cities. In Uganda, there are 8 modern slaughter houses. In
Tanzania, there are 21 slaughter houses spread across the regional headquarters. However, only 2 of
them are modern slaughter houses each handling about 200 cattle and 200 small ruminants per day,
although they operate below capacity (Kabuje, 2008). In Burundi, the Bujumbura slaughter house
handles 100 heads cattle/day and 125 goats/day. In Kenya, the Athi River abattoir with capacity to
slaughter 1000 animals is operating below capacity while the Mombasa plant slaughters 100 animals
out of a potential full capacity of 250. In Rwanda, there are two modern abattoirs namely SABANS
(Nyabugogo) slaughtering between 100 and 200 heads of cattle/day, and about 60 goats/day, and
SATRA (Kicukiro), slaughtering between 50-70 heads of cattle/day

50) The main processors mostly handle beef and in the region they include the following:

a) In Kenya – Kenya Meat Commission with 2 meat processing plants located in Athi River and
Mombasa. The installed capacity of these plants is 625 MT per day. Others include Dandora,
Nyonjoro, Hurligham, Dagoretti, Kayole and Kiserian.

b) In Tanzania – Dodoma , with a processing plant with installed capacity of 75 MT per day.
Tanzania Pride Meat Company located in Morogoro and it has an installed capacity of 75 MT
per day. Other high quality meat processing units are planned for Ruvu, Arusha and Mbeya to
supply quality meet to the urban centres.

c) In Uganda – Uganda Meat Industries, Lubowa Investments Ltd and Meat Process (U) Ltd with a
total capacity of 198 MT per day.

51) There are generally no major processing activities for small ruminant meat as in the case of beef. Most
of the slaughtering activities take place in small slaughter slabs both in rural and urban areas. Few
urban abattoirs are involved in slaughtering small ruminants. Factory packers for small ruminant meat
are not common in the region.
Similarly formal processing units are almost non-existent for traditional poultry. For broilers, formal processing is done by large scale producers themselves who raise, slaughter, dress and pack the chicken. Examples of poultry processors include:

a) In Kenya - The major processor in Kenya is KenChick Limited which supplies about 5000 birds per day. Others are Narok Poultry Farm, Kijimbi Poultry Farm, Gesi Enterprises Ltd, Mountain Region Poultry Farmers Co. Ltd, Poultry Farm Mtwapa, Taj Poultry farm, KIM’s Poultry Farm and Muguku Poultry Farm. It is estimated that the total installed capacity for the processing of poultry meat in Kenya total to about 198 MT per day.

b) In Tanzania - The major processor in Tanzania is Mkuza Chicks Ltd. who supplies about 32 MT per week. Others include Inter-chick Co. Ltd and Mbarali NAFCO found in Dar es Salaam and Mbeya which produce 9 MT per day, Tanzania Pride Meat Company located in Morogoro with an installed capacity of 100 MT per month. The total installed capacity for the processing of poultry meat in Tanzania is estimated at 141 MT per day.

c) In Uganda - Ugachick Farm and Binyizika Enterprises

3.2.5 Retailers

Retailing is the service that provides products to the final consumer. For meat products in East Africa, retailing occurs in four types of enterprises: (i) local markets (for retail selling of live birds and small ruminants), (ii) butcher shops (iii) supermarkets of all types, and (iv) cooked meat outlets, such as for “nyama choma” as roasted meat is popularly called.

a) Local markets: Most consumers in rural areas and even in urban areas prefer to purchase live birds or small ruminants, and undertake own processing and preparation. In this case the value chain is very short, often non-existent since the producer and consumer is one and the same. It is estimated that in the rural areas, about 60% of poultry is consumed by producers themselves. The longest chain in this mode of retailing includes the smallholder producers, a trader who bulk the live animals, normally at a rural market and then transport (using hired transport) often to an urban or a rural market town and re-sale to retailers. “Live poultry corner” is a standard aspect of all urban food markets.

b) Butcher shops: Most of the beef retailed in the region is handled through butcher shops which supply both to home consumers as well as the informal fast food outlets. A significant proportion of meat from small ruminants and pork is also handled by butcher shops. However, very little poultry meat is available through these retail outlets. The butcher shop industry is common in both rural and urban areas and it is estimated to handle 2,192 MT of meat per day on average. The value chain will normally involve four or six major chain components:

i) The four components chain includes: smallholder producers, rural auction markets, slaughter slabs and butcher shops.

ii) The six components chain will include: smallholder producers, rural auction markets, wholesale traders including transporters, urban re-sale auction markets, slaughter slabs or abattoirs, then butcher shops.

c) Supermarkets: These are increasingly becoming important retail outlets of meat for the hygiene conscious consumers especially in the urban areas. There are three major big names in supermarkets with significant meat sections. These are Nakumat and Uchumi of Kenya, with existing or plans for franchises in other countries; and Shoprite of South Africa with a dominant presence in Tanzania and Uganda. In Kigali there is Nakumat, BCK, Simba and Athenee.

Box 1: Informal “fast meat” Retail

A study conducted in Arusha Tanzania, in 2005, indicated that there were more than 600 “fast food” outlets for meat with products such as nyama choma, mchemsho, supu ya utumbo, trupa, zingaloo, kiti moto and supu ya dawa. The study also showed that the amount of meat traded just as nyama choma was between 8 kg to 260 kg of meat per day per business unit. In terms of employment it is estimated that 18,949 people in Arusha are directly employed in this value adding business, with an estimated turnover of 5 billion Tshs (USD 4 million) per year.

Source: Letara et al. (2006)
supermarket whereas in Bujumbura there is Nzorigenda supermarket. However, the supermarket concept is widely applied by many other smaller businesses in the major cities of Kampala, Dar es Salaam and Nairobi. It is estimated that annually major supermarkets handle about US$ 750 million worth of meat of different types.

d) **Cooked meat outlets:** As already illustrated in Box1, retailing of meat in a cooked form has become the most important outlet for meat in the region. For example, it is estimated that most (40%) of the traded small ruminant meat is sold to the final consumer as cooked or barbecued meat in hotels, restaurants and fast food businesses. A similar figure is estimated for poultry meat, while about 30% of the pork is retailed in this form in urban areas.

e) Key actors in this component of the meat value chain include:
   i) Tourist hostels, of which there are about 650 tourist hotels in East Africa with an estimated annual expenditure of US$ 2,661,039 million on meat.
   ii) Restaurants and formal fast food enterprises, of which there are about 760,000 with an estimated annual expenditure of US$ 3,525,900 on meat.
   iii) Informal fast food outlets, of which they are more than 380,000 with an estimated annual turnover of about US$ 1,525,000 million.

### 3.2.6 Consumers
53) These are divided into two major categories; (i) consumers at home in both rural and urban areas where it is estimated that 80% of beef is consumed, and (ii) consumers away from home including tourists, business travellers and ‘fast food’ consumers in both rural and urban areas. This component of the value chain is almost uniform for all types of meat. However, for poultry, pig and small ruminants’ meat, consumption away from home could be more than 50% especially in urban areas. We need to note that these figures applies only to marketed meat, and would change if that consumed directly by producers was taken into account.

### 3.2.7 Discussion – number of participants in the meat value chain and potential for poverty reduction
54) The meat value chains comprising the cattle, small ruminant, poultry and pig meat chains has the greatest potential for poverty reduction among the livestock value chains in East Africa. This potential does not only stem from the potential to generate income from meat sales but also from the number of participants who earn income at the different stages in the meat chain including production, bulking, trading, processing and retailing of raw meat and cooked meat in hotels, restaurants and fast food outlets. In almost all the meat value chains the majority of the participants at the production stage are resource poor smallholders. For example in the poultry meat value chain about 70% of the producers are smallholder farmers in rural areas while in the beef cattle and small ruminant meat value chains most of the producers are resource poor pastoralists and agro-pastoralists in arid and semi-arid areas. In addition to increased income of smallholder producers that reduce income poverty, the meat value chain the potential of reducing poverty among smallholder livestock producers through increased consumption of meat. At the bulking, wholesale, processing and retailing stages of the meat value chain the greatest potential for poverty reduction is through increased employment of the poor.

### 3.3 Dairy Value Chain

#### 3.3.1 Production
55) Dairy production is dominated (75%) by smallholders who keep 1-5 dairy cattle per household in rural and peri-urban areas. Smallholder dairy production is organized around zero-grazed animals in the highlands regions such as West Uganda, Central and Rift Valley in Kenya, Kilimanjaro and Southern highlands in Tanzania. The total number of dairy cattle held by this group of producers in East Africa is estimated to be 3.06 Million. Producers of milk from dairy goats are mainly smallholder producers.
keeping few dairy goats ranging from 1 to 10 per household. There have been several projects in the region to improve the quality and productivity of dairy goats. These include for example, the dairy goat trust scheme spearheaded by Heifer Project International in Tanzania, FARM Africa Dairy Project Mbale-Uganda, Meru Dairy Project and Animal Health care in Kenya, FARM Africa Goat Dairy Project-Rwanda, Heart of Africa Goat Dairy Project -Rwanda.

56) Medium and large scale dairy producers are few, accounting for only 25% of the milk produced in the region. The most known operators in the region are:
   a) In Kenya - Agricultural Dairy Corporation, Eldovile Farm, Asalk Livestock Ranches and Dairy Farms, Lukenya Ranching and Farming (ranches and dairy farms)
   b) In Tanzania - Kibbebe Farms Ltd (Iringa), Christopher Dairy Farm (Dakawa) and Kitulo Dairy Farm (Iringa), Phillips Farm.
   c) In Uganda - Jessa Dairy Farm, Mbarara Dairy Farmers and Mr. Kezekia Rwabuhenda Dairy Farm

3.3.2 Bulking and Transportation
57) Bulking of milk normally occurs at processing plants and in milk collection and cooling centres owned by dairy producer associations or processors. Milk is transported on head, bicycles or vehicles depending on the quantity of milk and distance to the collection centres. Trucks or cooled tankers are used to transport milk from the collection/cooling centers to processing plants.

3.3.3 Processing and wholesale
58) Dairy processors in the EA region can be divided into informal and formal processors. Informal processing takes place at household and village levels involving unregistered small processing units. Most of the milk (about 82%) produced in the region is informally processed. Formal processing accounts for about 18% of the total milk marketed in East Africa. Key players in this sub-sector include:
   a) In Kenya: There are 45 milk processing plants in Kenya with the largest ones being Kenya Creameries Company (KCC), Brookside Dairies, Spin Knit Dairies Ltd, Limuru Milk Processors, Meru Central Farmers Union, Kilifi Plantations, Premier Dairies Ltd, Aberdare Creameries Ltd and Delamare Estates. The installed processing capacity in the country can handle about 2,163,000 litres of milk per day to produce the following products: pasteurized milk, UHT milk, cultured milk, yoghurt, cream, cheese and butter.
   b) In Rwanda: There are 5 milk processing plants, namely, Nyabisindu with a capacity of 15,000 l/day; Inyange (10,000 l/day), Inyange (under construction for UHT milk – 50,000 l/day); Nyagatare (UDAMACO) (35,000 l/day); and Rubirizi (8,000 l/day).
   c) In Tanzania: There are 25 operating registered dairy processors with a total capacity of processing 313,000 litres of milk per day (Ministry of Livestock Development, 2006, Mbiha, 2008). This number excludes 10 processing plants which are not in operation. Brookside Dairies of Kenya has recently acquired one of the plants located in Arusha, Tanzania with a capacity of producing 45,000 litres daily.
   d) In Uganda: There are 12 formal processors in the dairy value chain. This includes the Sameer Agriculture and Livestock Limited which entered the dairy sub-sector in 2006 by purchasing the assets of the Uganda Diary Corporation. The company is setting up processing facilities that include a plant for the production of milk powder. The overall capacity will be up to 500,000 litres of raw milk per day, and will produce 20 MT of powder milk. Other processors of milk in Uganda are: Country Taste (U) Ltd, Dairy Bell Ltd, Dairy Corporation, GBK Dairy Products, Jessa Dairy Farm, Paramount Dairies Ltd and Alpha Dairy Products.
c) **In Burundi**: No formal processing of milk is taking place in Burundi except informal/domestic processing for sour milk sold in kiosks/joints/milk bars in Bujumbura and other urban centers of Burundi.

### 3.3.4 Retail

59) Most of the milk in the EA region is handled by small traders who account for almost 80% of the milk and milk products traded in the region. The retail business, especially in urban areas is conducted by enterprises that include milk kiosks, shops, supermarkets, and hot beverages outlets such as milk bars, restaurants, and fast food joints.

60) There is also trading of live animals for breeding (heifers) that takes place between individual smallholder dairy farmers, and between livestock multiplication units and medium/large scale dairy producers and smallholder dairy producers. Apart from heifer trade, there is culled dairy cows trade for meat between dairy producers and meat traders, as discussed in section 2.1

### 3.3.5 Consumption

61) The consumers of milk products away from home in hotels, restaurants, kiosks and milk bars account for about 30% of the milk consumed in the region. Consumption at home accounts for the bulk (70%) consumption of dairy products which include the following products: Raw milk, pasteurized milk, UHT milk, butter, cheese, ghee, fermented milk, yoghurt, cream, full cream milk with additives and concentrated milk.

### 3.3.6 Discussion – number of participants in the dairy value chain and potential for poverty reduction

62) Like the meat value chain the potential for poverty reduction in the dairy value chain lies on its ability to generate income for smallholder producers and increased consumption of dairy products by the dairy producing households. Smallholder resource poor dairy producers amounting to more than 3.2 million constitute the largest proportion of the participants in the dairy cattle value chain in East Africa whose livelihoods depend on milk. In the dairy goat value chain which is increasingly being developed by NGOs, almost all the participants are smallholder resource poor farmers. The greatest potential for poverty reduction in the dairy value chain is at the processing stage. As indicated above there are several processing plants in the region which have the potential of providing employment to the poor if they operated at their full capacities.

### 3.4 Eggs Value Chain

63) The components and key actors of the poultry for eggs value chain are similar to those participating in the poultry for meat value chain except for the following:

a) In commercial poultry production the type of breeding stock, day old chicks and feeds used for broiler production in poultry for meat value chain are different from those used for layers in the poultry for eggs value chain.

b) Whilst local or indigenous poultry producers account for a larger proportion of the poultry meat produced, exotic poultry (mainly layers) account for significantly larger proportion (>90%) of eggs produced in the region. In the traditional poultry production, a large proportion of eggs are hatched as the poultry in this system are dual purpose. The main large scale egg farms in the region include:

i) In Burundi – NASA Poultry Farm

ii) In Kenya – Muguku Poultry Farm, Lekchick and Kenchick,

iii) In Rwanda – Kanombe Poultry Cooperative Farm and Kanyinya Poultry Farm

iv) In Tanzania – Amadori Farm, Intechick, Ideal chicks and Mkuza chick

c) In the poultry for eggs value chain, live birds trading involves culled poultry layers instead of broilers. The actors involved in marketing culled layers are the same as those involved in the poultry for meat value chain. However, there is no assembling of live birds from rural areas as most of the production of layers is undertaken in urban and peri-urban areas.

d) In the poultry for eggs value chain, processing applies to slaughtering of culled poultry birds; mainly culled layers. Like the poultry for meat value chain, processing of culled layers is largely informal. While there is formal processing of the poultry for meat value chain, there is no formal mechanized processing plants for culled layers. Processing of eggs is limited to grading and packaging mainly by medium and large scale producers of layers.

3.5 Hides and skins

64) Hides and skins are by products from the cattle and small ruminants value chains. They are recovered from cattle and small ruminants slaughtered for meat. Therefore, the first key actor in the hides and skins value chain is the cattle and small ruminant producers. Other actors are slaughter slabs owners, abattoir owners, butcheries, small traders, wholesale traders/exporters, tanners/exporters and consumers. Figure 7 shows the value chain for hides and skins in East Africa. The percentages in brackets indicate the relative importance of the actors at each stage in the value chain.

3.5.1 Production

65) The traditional livestock sector (pastoral and agro-pastoral systems) which account for larger proportion of cattle and small ruminants kept (>90%) in the region also account for the largest proportion of hides and skins produced. Given populations of 40,980,000 cattle, 33,360,000 goats and 13,750,000 sheep with off-take rates of 10-15% for cattle, 28% for goats and 29% for sheep, the potential annual production of raw hides and skins is estimated at 5.12 million pieces hides, 9.34 million pieces of goat skins and 3.99 million pieces of sheep skins. Despite this huge hides and skins production potential, the actual production is low due to relatively low recovery rates estimated at about 58 – 60 percent of the potential.

3.5.2 Bulking

66) Small and wholesale traders collect hides and skins from both rural and urban areas. Wholesale traders are also involved in tanning and exporting hides and skins. Most (70%) of the hides and skins from rural slaughter slabs/butchers, slaughter houses and abattoirs pass through wholesale agents. The rest (30%) are collected by small traders and then sold to wholesalers/tanners for processing/export.

3.5.3 Wholesale

67) The hides and skins are either exported in unprocessed or processed form. Traders of leather are mainly wholesalers who are also the processors and exporters of leather. Most of the leather is exported. A small is proportion of leather traded internally in the individual EA countries and between the EA countries due to low demand for locally produced leather goods resulting from high imports of second hand leather goods.

Box 2: Under-exploited Hides and Skins

Uganda produces 1.2 million hides and 2 million skins per year, but more than 90% of these are exported in the raw or semi-processed form. In the financial year 2000/01 Uganda lost revenue of nearly US$250 million through this exportation of raw hides and skins. The raw hides and skins export was valued at about US$23 million almost a third of what it would have fetched (US $68 million) as finished leather. Final products made from leather would have yielded over US$270 million for the country.

Source: http://www.myuganda.co.ug/news
3.5.4 Processing

68) As indicated in Figure 7, small scale tanners are normally found in rural areas and account for less than 10% of the hides and skins processed while medium and large scale tanners account for about 90% of the hides and skins processed. Tanneries process hides and skins to semi finished wet blue leather or finished leather. Semi processed wet blue leather forms relatively larger proportion (60%) of the processed hides and skins products. However, this proportion varies across the region. For example, most (90%) of the processed leather in Tanzania is wet blue leather while in Kenya wet blue leather account for about 48% of the processed leather. The main processors in the region include:

a) In Burundi – Ernest
b) In Kenya – Leather Industries of Kenya, East African Tanneries, Nairobi Tanneries Ltd, Nakuru Tanneries, Bata Shoe Factory, Sagana Tanneries, Aziz Tanneries, New Market Leather Factory, Zig Investment Limited, Dogborn Industries, Samnipex (K) Ltd and Alpha Rama Ltd.
c) In Rwanda – Rwanda Leather Industries, COTAGIRWA Tannery and Rwanda Leather Industries and Uruhu center.
d) In Tanzania – Africa Tanneries, Moshi Leather Industry, Kibaha Tannery of Lake Trading Company, Afro Leather Industry, ATD. Rostam and Salex Tannery.
e) In Uganda - Leather Industries (U) Ltd, Tannery and Meat Industries Ltd, Sky Fat, Balawi Hides and Skin

3.5.5 Retail and consumption

69) In general most (80%) of the leather produced in the region is consumed abroad with only about 20% consumed locally. In Tanzania, for example, less than 10% of the locally produced leather is used to make leather products for local consumption. Kenya used to utilize a substantial proportion of locally processed leather for making leather products such as shoes but the proportion of locally produced leather utilized locally has declined due to the collapse of the leather industry including poor performance of the famous Bata Factory (Kenyan shoe manufacturing company).

70) The market for finished leather products is estimated to be 42,590 MT. This market is currently supplied by imports, while the local production is left to waste or exported semi-processed.

3.5.6 Discussion – number of participants and potential for poverty reduction

71) The hides and skins value chain contributes to poverty reduction through increased income to the various participants in the value chain and increased employment of the poor who have no livestock. The majority of the participants who benefit from increased income are resource poor producers (cattle and small ruminant) amounting to more than 3,863,964 households in the region. The potential for increased employment is at the processing stage of the value chain. Currently there are 35 tanneries in the region employing about 374,000 people. However, the tanneries are operating very much under their installed capacity. Employment can be increased if the capacity of these tanneries can be fully utilized.
Figure 7: Value Chain for hides and skins in East Africa
3.6 Supporting Environment

72) As shown in Figure 6, there are three major elements of the supporting environment necessary for profitable livestock chain. In this section we provide a generalized assessment of the state of input supply, services and institutional framework.

3.6.1 Inputs supply

73) Livestock inputs such as breeding stock, livestock feeds, veterinary drugs and medicines are mainly supplied by the private who range from small scale to large scale. Large scale suppliers of livestock inputs include the following:
   a) Breeding stock suppliers include Ugachick Poultry Breeders Ltd in Uganda, Phillips Farm in Tanzania, SACR in Rwanda and HPI in almost all countries in the region
   b) Livestock feed suppliers include A to Z in Tanzania, Uganda Feeds Ltd in Uganda
   c) Veterinary drugs and medicines suppliers include Betal in Burundi, Alpha Vet Services and Allvet and Agro Ltd in Kenya, Alpha Vet Services and Veterinary Services Corporation in Tanzania, and Eram Uganda imited and Supervet (U) Ltd in Uganda.

3.6.2 Provision of services

74) Service providers are not direct actors in the livestock value chains but play a key role in the functioning of the chains through the services they provide. The key service providers in the livestock value chains livestock extension, veterinary, artificial insemination, financial service providers.
   a) Livestock extension: is mostly provided by the government but the role of the private sector in the provision of livestock extension services is increasing becoming important in livestock extension. There are several NGOs in the region that provide livestock extension services including Farm Africa, faith based organizations, Oxfarm, SACR, HPI, Land O’ Lakes
   b) Veterinary services: Veterinary doctors, para-vets and veterinary are responsible for the veterinary services including treatment of animals, disease control. Most (95%) of the veterinary doctors are government employees. Only about 5% of the veterinary doctors are private practitioners mainly providing service in urban and peri-urban area, leaving the rural areas under para-vets and veterinary assistants.
   c) Artificial insemination (AI) services: are provided by both the government and the private sector. The private sector is increasingly playing a major role in the provision of AI services especially in countries like Kenya where the livestock sector is more developed and producers demand the services at a cost. In countries like Tanzania provision of AI services by the private sector is constrained by low demand for the service. Producers prefer use of bulls than AI.
   d) Financial services are provided by banks and micro-finance institutions which are mainly operated by the private sector although governments control shares in some banks. The number of financial institutions in the region has been increasing since the start of economic reforms in mid 1980s. Despite the increase in the number of these institutions, actors in the livestock value chains are still have problems of accessing credit due to problems of collateral and high interest rates as discussed in Chapter 4.

3.6.3 Key institutions

75) Key institutions that play a role in development of the livestock value chains in the region into public sector institution and private sector institutions.
   a) Public sector institutions include Ministries responsible for livestock development, agriculture, local or district governance, Industries, Trade and Marketing, Lands, Finance, Infrastructure Development, Planning. Others are Local government authorities, Bureau of Standards and research institutions.
b) The private organizations include livestock boards, associations, non-governmental organizations (NGOs), community-based organizations (CBOs) and faith based organizations (FBOs).
4 KEY ISSUES AND KNOWLEDGE GAPS

76) In this chapter we summarize and discuss the most important issues of concern to the main actors as well as service providers and regulators of the livestock product value chains. As usual, when given an opportunity, stakeholders are quick to raise the constraints they face and are rarely able to assess what knowledge they lack to deal with these constraints themselves. Therefore, this chapter will present and discuss clusters of constraints as raised by the stakeholders, assess what has already been done or is being done about each of these clusters, and on the basis of this deduce where there is a genuine gap in knowledge.

77) The stakeholders listed many constraints and issues but they can be grouped into four main clusters. It is important to emphasize that most of the issues identified by the various stakeholders are interrelated and thus the four clusters are also interrelated. The four identified major issues are:

a) **Productivity issues:** were mainly raised by traders, processors, retailers, and consumers, concerned with the volumes, timing and quality of livestock and livestock products available in the market. On the other hand, the producers presented the productivity issues in terms of poor incentives to invest in the improvement of productivity due to low returns, drought problems, and unavailability and high costs of necessary inputs.

b) **Handling and processing issues:** there were strongly contradicting views between the producers on one hand, and other actors along the value chains regarding these issues. The producers identified inadequate facilities for handling and processing of livestock products as the main issue, while processors considered the main problem to be the inadequate and low quality supply of raw material to fully utilize installed capacity. The chief consequence has been a vicious cycle where few investors are attracted to invest in handling and processing facilities for fear of low capacity utilization, while producers are reluctant to increase production because of perceived low off-take.

c) **Marketing and trade issues:** Productivity, handling and processing issues were raised constraints to marketing and trade. Other issues raised included the informality of livestock trade, high transaction costs, inadequate supportive infrastructure, heavy taxation, lack of classification and grading systems, poor hygiene of most outlets (the main issue raised by consumers), unfair competition from imported products, and limited business management capacity along the value chain. Of significant note was the fact that almost all issues focused on national and regional trade, with little mention of international export trade. It is also notable that nearly all the actors along the chain raised limited demand for livestock products as a major issue.

d) **Cross-cutting Institutional and policy issues:** nearly all stakeholders were of the opinion that most of the constraints facing the livestock sector are not being addressed due to weak institutional framework, principally caused by limited implementation of policy.

4.1 Productivity

4.1.1 Issues

78) **Quality:** Consumers especially in urban areas identified poor quality of available meat products as an issue of concern. The producers acknowledged this and attributed it to poor quality of breeds, poor supply of feeds and water in the extensive grazing system, and lack of transportation facilities to carry animals to markets. The long distances travelled by livestock in search for feed and water, and while being delivered to the market an underlying cause of deterioration of quality of livestock delivered to markets. However, consumers and officials contend that despite the problems faced by producers,
there is no incentive to maintain quality due to lack of quality standards and grades, while the producers’ opinion is that there is no incentive to invest in quality improvement because of low-farm gate prices and thus returns to investment. Quality is also affected by the non-business approach of the producers who wait until the animals are too old before selling. Stakeholders of the leather value chain also identified low quality of locally processed hides and skins, as an important concern. This was again attributed to poor quality at the production stage as well as poor handling of hides of skins along the whole value chain (see 4.2).

79) Inadequate supply of day old chicks: Producers in all countries, especially small scale poultry keepers and medium commercial farmers indicated inadequate supply of day old chicks as a major challenge in the poultry business. They attributed this to inadequate parent stock and inadequate promotion of trade within the East African region. Although this is potential business opportunity, stakeholders are held back by the lack of funds due to inadequate access to financial services and poorly harmonized veterinary and trade regulations in the East African countries.

80) Poor quality feeds: poor quality feeds limit both production and quality of livestock products. This concern was expressed by both producers and traders of livestock. Poor feed quality is due to lack of knowledge in feed formulation among producers and feed processors, high costs of production, weak feeds associations, inadequate raw materials and lack of laws and regulations to govern the feeds sub-sector. Due to low prices of livestock products at the farm gate, there is virtually no incentive for producers to purchase high quality and expensive feeds. Many farmers have resorted to mixing feeds themselves with poor enforcement of standards and no regulation. This is particularly evident with the production of indigenous chicken that are largely left to scavenge and for which there is low management. Viability of commercial feeds sector is also limited by competition for grains for human food supply which is also facing shortages. Furthermore, inadequate supply of mineral premixes, vitamins and synthetic amino acids exacerbate the problem of low supply and quality of feeds.

81) High prevalence of diseases: Producers of all livestock types acknowledged disease as a key factor limiting production and quality of livestock products and attributed this to inadequate and expensive drugs/vaccines, inadequate extension services and poor enforcement of animal disease laws and regulations. Processors, especially in the poultry meat, eggs, skins and hides value chains noted the severe impacts of diseases on both the supply and quality of produce. Severe disease outbreaks and incidences such as Newcastle disease in poultry and BPN( in full???) in cattle reduce production and thus supply of inputs for processing.

4.1.2 What has already been done on the identified issues

82) Quality: In all the countries, long-term breeding programmes have been implemented to improve the quality of livestock and their products. Key breeds in the region include the Mpwapwa breed in Tanzania; the Kenyan Boran breed in Kenya, and the Sanga and Ankole-Watusi breeds in Uganda. However, multiplication of these improved breeds has been limited and it is not clear whether the problem is on the supply side (insufficient bulls and artificial insemination services) or the demand side (farmers’ reluctance to invest). However, one major constrain on the demand side is that inadequate enforcement of classification and grading systems limits the returns to investment from improving breeds. Furthermore, quality is not the high priority, while price is a major constraint to the majority of consumers who are poor. For the dairy industry, the following improvement programmes have been implemented in the region: Integrated Dairy Development Project in Burundi, Smallholder Dairy Commercialization Programme in Kenya, National Dairy Cattle Development Project in Rwanda, Smallholder Dairy Development Programmes in Tanga, Kagera, Southern Highlands and Kilimanjaro in Tanzania and Support to Dairy Development Authority in Uganda. Although data is not available, similar improvements have been conducted for the other types of livestock.
83) Inadequate supply of day old chicks: All countries recognise the importance of modernisation of the poultry sector through introduction of improved parent stock and supply of day old chicks. Governments in Tanzania, Kenya and Uganda have now developed policies which allow private sector investment in day old chicks. Commercial scale hatcheries have now been established in Kenya, where Kenchic serves as the foundation for the industry. It has a capacity of 400,000 day old chicks and operating at weekly capacity of 250,000, 30,000 and 6,000 day old chicks for broilers, layers and parent stock respectively. Uganda now has over 13 operational hatcheries with production levels ranging from 1,600 to 90,000 chicks per week. The main hatcheries include, Ugachic Ltd, Biyizika, and Kagodo Makindye. Tanzania has about 12 hatcheries producing 538,660 chicks per week. Rwanda and Burundi currently import most of their day old chicks from Uganda. Programmes and plans are underway in all countries to establish breeding farms (parent and grand parent farms) and hatching facilities to meet the huge demands.

84) Poor quality feeds: Various programmes have been initiated and implemented to identify improved feed sources with high protein and energy contents and to train producers to improve existing rangelands. Programmes implemented in the region include National Rangeland Improvement Programmes in almost all the East African countries, improving the value of maize cultivars as a potential dual purpose livestock feed for poor farmers in Tanzania and Kenya supported by ILRI and CYMMIT, use of leguminous and browse legumes as supplements to the low quality grassland feeds in the region supported by ICRAF and ILRI.

85) High prevalence of diseases: Livestock policies in individual countries recognise the need to prevent and control livestock diseases including Newcastle disease which is a major constraint in the development of the traditional poultry sector and trans-boundary Animal Diseases (TADs) whose control require national, regional and international cooperation through an enhanced system of early warning, early detection, coordination and harmonization of control strategies. In addition to policy, governments have established departments dealing with animal diseases in the ministries responsible for livestock development, have privatized the provision of veterinary services, subsidized some of the veterinary drugs and training more veterinary assistants. The major steps that have been implemented in the region at policy, institutional and regulatory levels include the following:
   a) Newcastle Disease Avian Control Project under Global Livestock CRSP
   b) FAO Technical Support for Contagious Bovine Pleuropneumonia (CBPP) Control
   c) AU-IBAR Regional Programme on Ticks and Tick-borne Diseases (RRTTDC)
   d) For trans-boundary Animal Diseases (TADs) initiatives to cooperate in the control of these diseases among the EA states has started with the establishment of a livestock desk at the EAC headquarters.

4.1.3 Knowledge gaps
86) As indicated in section 4.1.2, there have been some initiatives in place to address almost of the issues raised that constrain productivity in the different livestock value chain. The gaps that remain are not due to lack of knowledge but because of lack of /inadequate action by the relevant government institutions or private sector in terms of capacity building, creation of awareness, enforcement of regulations and financial support. The critical knowledge gaps identified were:
   a) Limited knowledge on fodder conservation, feedlot technologies and feed formulation among producers. Although a considerable amount of research has been conducted and is still on-going in the universities and research institutions, the transfer of know-how to producers has not been effective. Thus the knowledge has not been put into effective use to promote development of the livestock business. This is attributed to ineffective service provision systems, weak farmer’s organisations, limited access to finance and inadequate entrepreneurial skills among producers to transform knowledge into business enterprises.
b) Limited knowledge on breeding systems and management of parent & grandparent farms. Research in animal breeding is required but constrained by inadequate funding of research by governments in the region and inadequate animal breeders.

4.2 Handling and Processing

4.2.1 Issues

87) **Low hygienic standards and quality**: Consumers complained about the way butchers and local meat vendors conduct businesses in poorly constructed meat shops which lack cold storage facilities that do not meet the standards for meat storage. This contributes to the low hygienic standards and quality of meat. Stakeholders in the hides and skins value chain attributed low quality of hides and skins to poor handling at abattoirs, poor preservation methods and inadequate enforcement of the existing laws.

88) Inadequate and irregular supply, poor hygiene as well as high prices of dairy products especially milk. Low quantities and irregular supplies of milk are due to poorly organized and non functional milk collection systems and cooling centres resulting from weak farmer organizations, poor roads in rural areas and expensive transport system. Stakeholders in the dairy value chain also attributed inadequate supply of dairy products to poor nutrition resulting from inadequate pastures especially during the dry season coupled with lack of knowledge in range/pasture management.

89) Irregular availability of poultry products especially local chicken. In all the countries local chickens are becoming an important source of meat among both urban and rural consumers. However, production of local chickens is far below the demand. The low supply is attributed to poor feeding and husbandry practices, poor breeds, diseases and the prevalent subsistence mode of production of local chicken.

90) Lack of credit for investment in livestock related businesses: Meat and milk processors identified lack of credit as a constraint to investment in processing meat and milk. Both the milk and meat processors attributed it to low returns to investment, lack of collaterals and lack of awareness of existing credit windows. Most of the stakeholders in Kenya, Tanzania and Uganda are of the opinion that the problem can be solved by forming and strengthening farmer co-operatives and formation of Savings and Credit Societies. In addition processors were of the opinion that due to the costly nature of putting up meat plants and absence of incentives to attract investors, the Government should take the responsibility of constructing and there after leasing out to the private sector or running the facility as a joint venture.

91) Poor infrastructure and facilities: Concerns of wholesale traders included poor marketing facilities such as dilapidated cold chain systems, and poor road networks in rural areas. They complained of the few refrigerated trucks and railway wagons for transporting livestock products. In addition to the high cost of wagons, delays and overcrowding are important concerns to the wholesale traders. Meat processors on the other hand were concerned with poorly constructed abattoirs and slaughter slabs, lack of facilities like weigh scales, saws and cold chain equipment, lack of appropriate technology in meat cutting and packaging and unhygienic environment (Kenya Livestock Meat Company and Tanzania Meat Board). This has prompted the closure of the abattoirs like the one in Dagoreti Corner in Nairobi and Ving’un’uti in Dar es Salaam.

92) Low recovery of hides and skins is attributed to poor quality of hides leading to rejection, low awareness among primary producers on the economic value of these products, low prices and cross border trade. The informal cross-border trade in hides and skins is flourishing because of the existence of 11 tanneries out which 6 are along the Kenya side of the border. Kenya also has better prices according to the Leather Association of Tanzania. Price of hides and skins in Uganda is Ushs 1,200 ($0.7) per kg and Ushs 2,000 ($1.1) respectively, per kg of sheep and goats skins (Uganda News...
September, 2007). In Tanzania it is Tshs 900($ 0.66) per kg for hides and Tshs 600($ 0.5) per piece of goats and sheep skins. Kenya prices are usually 25% higher, hence the flourishing cross border trade. Increasing the recovery of more hides in all countries in the region is possible through capacity building, sensitization, better extension services and better prices. Funding is a major impediment to achieving a better recovery of hides and skins in the region.

93) Under capacity utilization of processing plants: (i) Meat processors attributed this to low supply of cattle for processing. In Kenya they associated this with favouritism given to commercial ranchers supplying few quality animals than pastoralists while in Tanzania it is due to poor infrastructure, lack of cutting and packaging facilities, and lack of animals, (ii) Milk processors attributed under capacity utilization to inadequate and irregular milk supply, and (iii) Stakeholders in the hides and skins value chain attributed under capacity utilization of tanneries to poor quality of raw materials, worn out machinery and equipments, outdated technology and absence of incentives to boost and attract investors.

94) Low per capita consumption rates for livestock products is due to lack of awareness, culture and taboos resulting from inadequate knowledge on health and nutritional benefits of meat and inadequate financial capacity. The constraint can be solved through capacity building and promoting the culture of meat consumption. This is however, hindered by lack of funds for promotional campaigns, seminars, workshops and short courses.

95) Inadequate supply of improved breeds is attributed to slow multiplication and supply of improved dairy breeds due to low adoption of improved breeding technologies.

4.2.2 What has already been done on the identified issues

96) Low hygienic standards and quality: In the meat value chain, several actions taken in the member states to improve the situation including the on going programme to train meat cutters, animal health specialists, butcher owners, finalizing the formulation of the meat regulations and meat standards system. Kenya and Uganda also have Meat Acts in place. Despite the above efforts, the observation is that each country is making policies, laws and regulations tailored to their own conditions resulting into extreme difficulty in doing interregional trade in livestock products (East African August, 2008). In the hides and skins value chain, actions taken in individual member states to improve quality of hides and skins include rehabilitation and construction of new livestock infrastructures including modern abattoirs and training. In Tanzania, for example, about 300 slaughterers, butcher owners, hide dressers, merchants, flayers and hide graders have been trained since the establishment of the Leather Association of Tanzania (LAT) in 2002 (URT, 2007)

97) Inadequate and irregular supply, poor hygiene as well as high prices of dairy products: The problem is being addressed in Tanzania, Kenya and Uganda by the Governments, Boards, apex farmer organizations and the private sector. The main thrust is organization of farmers into groups so that they can bulk their milk for easy collection by processors with the aim of promoting milk production. However, these efforts have failed to promote increased milk supply to meet the demand of milk processing plants due to lack of modern infrastructure such as milk collection and cooling centres. The potential of the traditional dairy stock to contribute to this demand as done in India has not been exploited. This can be attributed to lack of incentives to attract investors in this activity.

98) Irregular availability of poultry products especially local chicken: Supply of improved cocks for cross breeding with local chicken and increasing availability of New Castle disease vaccines in rural areas for control New castle disease are the main actions taken to increase productivity and production of local chicken.
99) **Lack of credit for investment in livestock related business:** In addition to micro-finance policies which are in place in some of the member states, governments and NGO in the member states are promoting Savings and Credit Societies or Cooperative for small scale enterprises to save and borrow money. The urge to form SACCOs is a big agenda in the East African Region. The current number of SACCOs in Kenya and Tanzania is about 4,000 and 4,500 respectively. Uganda is in the process of establishing one SACCOs in every sub county. Access to credit by large businesses including livestock trading and processing of livestock products is being facilitated by some government guarantees e.g. the Equity Bank in Kenya and the Private Agricultural Sector Support (PASS) in Tanzania.

100) **Poor infrastructure and facilities:** There are a number of government initiatives to improve transport infrastructure so as to reduce the high costs of livestock transportation, and to improve transport access and efficiency. Government interventions such as the privatization of the Tanzania Railways Corporation, and the Kenya and Uganda Railways Corporations are such examples. Actions towards improving processing infrastructure include promotion of private investments in processing, construction of modern abattoirs

101) **Low recovery of hides and skins:** The actions taken as indicated in c) above especially the construction of modern abattoirs and training of hides dressers, flayers and hide graders will increase the recovery of more hides in the region. The major impediment to the above is mostly inadequate government funding.

102) **Under capacity utilization of processing plants:** In the dairy value chain, low and irregular supply of milk which causes low capacity utilization of milk processing plants is being addressed through the actions indicated in b) above. Privatisation was envisaged as a means of ensuring revamping of processing equipment that was hampering the utilization of processing facilities. In the hides and skins value chain the problem of low quality and low recovery of hides and skins as causes are addressed through the actions taken as indicated in b) above. A significant gap remains of attracting investments in modern hides and skins processing technologies. Individual countries have investment policies in place which may only need to be reviewed to attract investors in tanneries.

103) **Low per capita consumption rates for livestock products:** Research has been done in different parts of the region to identify factors that influence consumption of livestock products in the region (See for example Kurwijila et al., 1995; Mdoe and Wiggins, 1996; Mwijarubi, 2007; Rumanya, 2007; Mhiha, 2008). Also actions in individual member states have been or are being taken to promote consumption of some products. There are school milk feeding programs in almost all the countries and various promotional campaigns to increase milk consumption. In Tanzania, there is an annually celebrated milk drinking week each June.

104) **Inadequate supply of improved breeds:** Actions already taken to improve supply of improved breeds include promoting private investments in livestock breeding centres and provision of artificial insemination services by the private sector. In Tanzania for example, current measures by the Government to meet the demand of improved breeds especially dairy heifers in the country include strengthening the National Artificial Insemination Centre (NAIC) and Livestock Multiplication Units which are the main sources of semen and improved breeds respectively. Hence in year 2008/09, 10 improved bulls for semen production were bought from South Africa and 35,000 doses of semen were produced. In addition 372 heifers from LMUs were distributed to smallholder farmers.

4.2.3 **Knowledge gaps**

105) As indicated in section 4.2.2 above several actions have been or are being taken by the relevant government institutions and the private sector to address the issues raised by stakeholders in section 4.2.1. However, there is limited knowledge in the following:
a) Inadequate supply of poultry products especially local chicken
   i) Although actions have been taken to improve productivity in the local chicken value chain,
      including supply of improved cocks and disease control, there is inadequate understanding of
      the whole value chain, efficiency and performance of the chain and major challenges that
      need to be addressed to exploit the increasing demand for local chicken.

b) Low consumption of livestock products
   ii) Although research has identified factors that influence consumption of livestock products
       and actions are being taken to promote their consumption, there is still lack of
       understanding of the actual size of the market (demand) for livestock products as the
       demand depends on factors that are dynamic and vary overtime. Most of the critical
       information for livestock product in the region that are reported in various documents are
       estimates that are based on multipliers of population estimates and per capita consumption.
       There is generally a paucity of reliable data and trends on livestock and livestock products.

4.3 Marketing and Trade

4.3.1 Issues

106) **Lack of clear policies on livestock trade issues:** Stakeholders in all countries were concerned about
     the lack of clear policy directives on several issues influencing livestock trade in the region. Some of
     the critical areas include taxation and tariffs, movement of live animals and other livestock products.
     Establishment of a comprehensive regional policy to address all livestock trade and information issues
     was recommended.

107) **Heavy taxation:** Livestock products, especially live animals attract many taxes including village
     government taxes, property tax, income tax and others. In Tanzania for example, recent analysis of the
     sector indicated that there are 12 different taxes levied against livestock traders. In Kenya, the Kenya
     Meat Commission has expressed great concern for high taxes and no incentives for livestock traders.
     Furthermore, Ugachick Poultry Breeders Ltd. in Uganda and other stakeholders have expressed
     concern over exorbitant fees charged on their chick export to Burundi through Jomo Kenyatta
     International Airport (The East African May, 2008). A major concern in Tanzania and Uganda
     is that Local Government Authorities charge some of these taxes at the expense of diseases control. At the
     end of the day, the high tax burden is transferred to the poor livestock farmers/producers and
     eventually the consumers through retailers, contributing to the vicious cycle of poverty and to
     inequality.

108) **Inadequate livestock market information:** Market information is critical for decision making at
     both consumers and retailer levels. Currently, information on demand and supply of animals and
     information in terms of process in various markets within and outside the region is very limited. This
     makes it difficult for traders and consumers to assess potential markets. Stakeholders suggested the
     establishment of mechanisms through the East African Community and the respective countries by
     which retailers and consumers can access relevant information on markets, products and prices.

109) **Inadequate entrepreneurship and business management skills:** Lack of business and management
     skills among livestock product retailers as mentioned by various organisations and individuals, is of
     great concern to the development of the industry. Many of the retailers lack knowledge in
     entrepreneurial and management skills which limits them from expanding their business or making
     informed trade decisions. The Kenya Meat Commission noted that many of the graduates from the
     universities in Kenya lack technical and business skills, especially in the livestock sector (Appendix 2b).
     This is a similar situation across the region. The lack of skills is attributed to the lack of effectiveness of
the training curricula used in the universities and tertiary colleges. Recent reviews of the curricula of agricultural extension officers in the Lake Zone of Tanzania clearly documented inadequacies of the curricula to build the skills required for modern business enterprises (DASIP, 2007). The curricula are often too much focused on the supply side. Other factors contributing to the lack of skills include the low capacity of trainers in business and trade and general perceptions that livestock enterprises are non lucrative.

110) **Poor financing for livestock traders:** Lack of access to finance and credit was mentioned as one of the issues of concern to retailers and small livestock traders. All across the region, small livestock traders are not considered credit worthy by financial institutions and credit providers. This denies them the financial capital they need to expand their businesses. Wholesale livestock traders’ major concern is that they are regarded as financial risk by loaning institutions rendering it difficult for them to secure loans to expand the volume of their business. The lack of financing for livestock trade makes it an unattractive investment for other potential traders.

111) **Unfair competition of local products with imported products** is due to the high preference by individuals of imported goods such as new and used footwear adversely affecting the local shoe and leather goods manufacturing industry in the whole of East Africa. Lack of enforcement of existing trade policies that support development of indigenous footwear and leather goods including antidumping was a major concern by the stakeholders.

112) **Low demand for livestock products:** Low demand for meat is attributed to low purchasing power as well as to cultural taboos and lack of knowledge on the nutritional value and health benefits of meat consumption. The per capita meat consumption rate in Tanzania is 11 kg, in Kenya it is 16.5 kg urban and 3.2 kg rural, Uganda it is 9.04 kg in urban and 6.05 kg in rural areas and Rwanda it is 5 kg against the recommended FAO rate of 50 kg per year. There is also low per capita milk consumption due to low purchasing power and culture and taboos caused by inadequate knowledge regarding health and nutritional benefits of milk. The per capita milk consumption in Tanzania is 40 l/yr, 85 l/yr in Kenya, and 12 l/yr in Rwanda compared to the FAO recommend rate of 200 l/yr. The stakeholders in Tanzania are of the opinion that the problem can be solved through capacity building, awareness creation through milk consumption promotions and school milk feeding programmes.

113) **Lack of zoosanitary protocols to harmonize inter-regional trade in processed milk**, is attributed to inadequate funds allocated by the East African Community to finalize drafting of the protocol which will facilitate movement of live animals in the region. It is the view of stakeholders that the problem can be solved by urging member countries to press for budget allocation to finalize drafting of the protocol. However, stakeholders are of the opinion that the main reason for the slow response in drafting the protocol is the delay in the establishment of the East African Common Market

4.3.2 **What has already been done on the identified issues**

114) **Lack of clear trade rules on livestock and livestock products:** Trade barriers applied to livestock products prevent millions of livestock keepers from escaping poverty. These standards need to be changed, because:

a) Most are not useful for national and regional trade where live animals are moved long distances anyway by pastoralists,

b) Some products has very minimal risk of transmitting diseases and such risk can be eliminated by processing, and

c) Most of these standards require that – for certain key diseases, an entire region should be free from the disease – this is not always necessary or useful.
115) **Heavy taxation**: Governments in East Africa have realized the effects heavy taxation on investments and revenue collection and are addressing the situation. Under its tax reform programme the Tanzania Revenue Authority is sensitizing and creating awareness to the public on different taxes and tariff regimes in the country. A partnership with its clients has now been created and problems faced by those doing cross border business have been minimized on the Tanzania side. For example, action has been taken on the issue of local government taxes through tax reform which has removed all nuisance taxes. Kenya and Uganda are also undertaking tax reforms in their own countries. What is required at this juncture is to harmonize these tax reforms and make them known to the public and investors.

116) **Inadequate livestock market information**: Actions are being taken to improve livestock market information system. For example the Livestock Information Network and Knowledge System (LINK) which aims at improving availability of livestock information in Kenya, Tanzania and Ethiopia (www.imistz.net).

117) **Inadequate entrepreneurship and business management skills**: The issue of inadequate entrepreneurship and management skills is tackled through training programmes supported by various NGOs and other development partners. There are also several training institutions in the region that can provide tailor made training courses in entrepreneurship and management.

118) **Poor financing for livestock traders**: What has already done is similar to the description in d) under section 4.2.2

119) **Unfair competition of local products against imported products**: Some governments have taken some actions to address the issue of unfair competition against imported products. These actions include increasing import duty for livestock products, reducing taxes for livestock production and processing equipment to reduce production and processing costs so as to make locally produced and processed compete effectively with imported livestock products. For hides and skins where users of leather products like leather bags and shoe maker prefer imported leather, some governments like the government of Tanzania has imposed a levy on imported leather to promote processing of hides and skins locally.

120) **Low demand for livestock products**: What has already been done is similar to (h) under section 4.2.2.

121) **Lack of zoosanitary protocols to harmonize inter-regional trade in livestock and livestock products**: National livestock policies in the region already recognize that zoosanitary inspectorate services are necessary in preventing the introduction and spread of diseases through movement of animals and animal products and that zoosanitary certification is a pre-requisite for interregional and international trade. Efforts are being made to harmonize national and regional policies on zoosanitary inspectorate services. These efforts started recently with the establishment of a livestock desk at the EAC Headquarters in Arusha.

### 4.3.3 Knowledge gaps

122) As indicated in section 4.3.2 there is adequate knowledge on what is required to address most of the issues raised by stakeholders in section 4.3.1 and several actions have been taken by relevant government institutions and the private sector to address them. However, there is limited knowledge in the flowing issues:

a) **Low demand for livestock products**: The knowledge gap in this issue is as described in section 4.2.3 since the same issue was raised by processors.
b) Limited knowledge and data on the impacts of taxation on producers and traders of livestock products is evidenced by the amount of different tariffs and taxes charged by the East African member countries on exempted items covered under the East African Customs protocol which has resulted in the interruption of normal business and trade in the region (East African August, 2008). Information on levels of taxes and tariffs that will promote livestock and livestock products trade between the EA countries is needed for the harmonization of tax reforms.

4.4 Cross-cutting Institutional and Policy Issues

4.4.1 Issues

123) **Lack of proper effluent treatment plants** is due to inadequate knowledge on the use of more sanitary and eco-friendly technologies. Consequently, often livestock processing units contribute to environmental pollution and are subject to scrutiny and even temporary or permanent closure by regulatory authorities.

124) **Social conflicts**, especially cattle rustling and conflicts between livestock keepers and crop producers and endemic insecurity are major constraints to the development of the meat sub-sector in Uganda, Tanzania and Kenya. The causes are politically and culturally originated, as well as a result of competition for scarce resources.

125) **Ineffectiveness in provision of livestock extension services** is due to several factors including (i) low levels of extension personnel at community levels. For example, in Tanzania the optimum ratio of extension officers to number of villages is 1:3; and in many districts the ratio is more than 1:7, (ii) inadequate knowledge (technical know how) in specific livestock development areas such as modern range and pasture management, meat and milk processing, meat and milk hygiene, entrepreneurship development and marketing. The issues of inadequate knowledge (technical know-how) was raised by the meat and dairy associations in Kenya and Tanzania, and (iii) inadequate support from the government in terms of inputs and facilities such as transportation facilities.

126) **Prevalence of animal diseases** is of major concern to animal health workers the main issue being inadequate supply of veterinary inputs and services, especially in the remote areas. Poor implementation of disease control regulations in all countries has resulted in endemic nature of livestock diseases in the region. As already discussed in section 3.1.1, and evidenced by the East African Community, the high mortality and low production of animals and low quality of meat and milk in all countries are attributed to the poor veterinary services and lack of disease control regulations in the region (Appendix 2). The poor performance of the health services is further attributed to low numbers of health workers, especially at district and village levels. For example, Tanzania, Uganda, Kenya and Rwanda respectively have on the average only one veterinary doctor and Para Vet serving about 300-500 farmers. Other constraints include lack of access to and high costs of inputs especially drugs.

127) **Low capital and lack of access to finance** was attributed to (i) the lack of knowledge on possible sources of credit and the requirements of the different sources, (ii) lack of collateral and credit worthiness, (iii) lack of entrepreneurship skills and knowledge to be able to develop bankable projects, (iv) availability of appropriate drugs at reasonable costs, and (v) lack of storage facilities for specific drugs and inputs such as semen (vi) lack of finance/credit products that are tailored to the specific needs and functionality of the livestock sector.

128) **Inadequate availability of inputs such as drugs and feeds.** Very often the suppliers have limited stock and some key drugs cannot be obtained in the small shops in the rural areas. Thus, farmers and
health workers have to seek inputs from distant locations, increasing cost and reducing effectiveness of response.

129) **Difficulties in complying with the numerous and varied and often duplicated laws and regulations pertaining to issues related to livestock because they are too many not harmonised across the different regulatory bodies.** Review of literature indicates that each country in the region has its own laws, regulations and regulatory bodies dealing with livestock and in some countries the laws, regulations and regulatory bodies are too many with a lot of duplication. Livestock trade in the region can be improved by harmonising cross border trade regulations and policies, improved information sharing among the countries and facilitating and encouraging farmers and other actors to organize themselves into associations for information sharing. Through these organizations, resources and information can be shared together with capacity building and promotion of policy interests that would eventually encourage better compliance.

4.4.2 **What has already been done on the identified issues**

130) **Lack of proper effluent treatment plants:** Actions which have been taken by the governments include monitoring and even closing down of livestock facilities that fail to comply with regulations and meet environmental standards. Examples of facilities that have been closed due to unmanaged pollution include Mbarara tannery in Uganda and Coastal tanneries in Kibaha, Tanzania.

131) **Social conflicts:** Various initiatives of conflict resolution and management have been established at local, country and even regional level, with varying degrees of success. Governments in the regions are also addressing this issue through land and natural resource focused initiatives including land reforms and initiatives around land planning. However, significant gaps remain!

132) **Ineffectiveness in provision of livestock extension services:** This is being addressed through training of more livestock extension officer at certificate and diploma level and provision of transport facilities to extension staff. In Tanzania for example, the aim is to have one livestock extension officer in every livestock keeping village.

133) **Prevalence of animal diseases:** Actions taken by relevant organs to address this issue are similar to those indicated under section

134) **Low capital and lack of access to finance:** Actions take to address the issue of lack of capital and poor access to financial resources are similar to those indicated in section 4.2.2.

135) **Inadequate availability of inputs such as drugs and feeds:** Incentives are provided to stockists in rural areas to stock livestock inputs through provision of loans.

136) **Difficulties in complying with laws and regulations pertaining to issues related to livestock because they are too many and under different regulatory bodies with a lot of duplication.** A number of laws, regulations pertaining to issues of production, environment, natural resources management, livestock products development and animal diseases are being reviewed by individual countries.

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**Box 3: Too many laws, regulations and regulatory bodies**

A study commissioned by Tanzania Milk Processors Association (TAMPA) in 2007 indicated that Tanzania has more laws, regulations and regulatory bodies in the dairy sector compared to the Uganda and Kenya. While Uganda and Kenya have only one primary regulator in the dairy industry (Dairy Development Authority and Kenya Dairy Board respectively), Tanzania has 16 other regulatory bodies in addition to the Tanzania Dairy Board. The legislative authority of these bodies is enshrined in 25 acts and more than 25 regulations. Source: Mchau et al. (2007).
5 CONCLUSIONS AND RECOMMENDATIONS

137) This scooping study was designed to identify most promising livestock value chains for livestock trade within and among the five countries that are members of the East African Community, and the issues that limit the exploitation of the existing potential.

5.1 Key Value Chains

138) The most important livestock value chains in the region are two: meat and dairy:

**Meat Value Chains:**

a) Dominated by beef and traditional chicken that amount to about 1.1MT. annually. Jointly Tanzania and Kenya overshadow the other countries in the production of livestock for meat, together accounting for about 74% of the reported production. Using world prices this business is valued at US$ 3.3 billion per year. Most of the trade is in the form of live animals. This especially true for poultry and small stock where often the final consumer purchase a live animal rather than dressed meat.

b) **Primary production** of cattle, goats and sheep for meat, is dominated by pastoralists and agro-pastoralists mostly located in arid and semi-arid areas. Private ranchers and beef cattle fatteners are few and are just emerging. Majority of poultry (mainly chicken) is indigenous produced by smallholders, and it is estimated that 70% of households in the rural areas raise some sort of poultry. Therefore, the available statistics show that the highest proportion of livestock production for meat is by smallholders operating in challenging environments. This fact is an underlying cause of the underdevelopment and poor commercialization of the meat value chain.

c) **Bulking** often take place in the form of live animals in rural livestock markets organized about twice per week. The bulking agents transport the livestock and re-sell either to large exporters, meat processors, or small-scale owners of butcheries. The same group dominates the wholesale trade, although processors are also involved in the wholesale trade.

d) **Processing:** Smallholder operators also dominate the processing of meat where 85% of meat is processed at community-owned slaughter slabs, and abattoirs. Slaughter slabs are linked to butcheries in the rural areas and small towns.

e) **Retailing** take place in four types of enterprises; (i) local markets (for retail selling of live birds and small ruminants), (ii) butcher shops (iii) supermarkets for all types, and (iv) cooked meat outlets, such as for “nyama choma”. The smallholder cooked meat outlets account for more than 50% of marketed meat in some urban areas.

**Dairy Value Chains:**

a) With an estimated annual value of US$ 1.6 billion, the dairy sub-sector is very important in the region. The current statistics show that the industry is dominated by Kenya, which accounts for nearly 75% of the recorded milk production in the region. All the countries except Kenya are projected to have a deficit in the supply of milk, based on the current levels of per capita consumption which are significantly lower than the recommended levels of FAO of 200 litres per person per year. This deficit is likely to grow with increase in per capita consumption that may result from initiatives currently being taken by to promote consumption of milk, especially for school children. For example in Uganda the deficit is being felt in that the newly installed Powdered Milk Plant is failing to obtain enough raw milk.

b) **Production:** Just like meat, dairy production is dominated by smallholders practicing zero-grazing in the highlands regions such as West Uganda, Central and Rift Valley in Kenya,
Kilimanjaro and Southern highlands in Tanzania. Data shows that pastoralists and agro-pastoralists produce the most milk, but this is largely consumed among their populations.

c) Bulking of milk is organized through milk collection and cooling centres owned by dairy producers associations or processors. Trucks or cooled tankers are used to transport milk from the collection/cooling centres to processing plants.

d) Processing and wholesale: Despite many years of dairy development programmes, dairy processing is largely informal at household and village levels involving unregistered small processing units. Formal processing accounts for less than 20% of the total milk marketed in East Africa.

e) Retailing: Most of the milk in the EA region is handled by small traders who account for almost 80% of the milk and milk products traded in the region. The retail business, especially in urban areas is conducted by enterprises that include milk kiosks, shops, supermarkets, and hot beverages outlets such as milk bars, restaurants, and fast food joints, which are estimated to account for about 30% of the milk consumed in the region.

5.2 Conclusions:

139) Despite the limited statistics, the analysis done by this study confirms that if the value held in the form of livestock is realized it would be about 12% of the reported GDP of the EAC member countries combined. Since it is most likely that the current statistics on livestock could be an under-estimate, it is clear that a significant proportion of wealth in East Africa is held in the form of livestock.

140) The key actors in the meat and milk value chains, including retailing of marketed products, are smallholders. However, due to the poor quality of statistics it is estimated that figures of both the number of livestock, the quantities of products being harvested and the value of these products are grossly under-estimated. For example, meat from local chicken is the most important in the local market but most of it does not register in the national statistics. Projections based on the current levels of per capita consumption of meat (which are significantly lower than the recommended levels of FAO of 50 kg per person per year) show that the region as a whole has a net deficit. This deficit is likely to increase with increase in per capita consumption that may result from increased income and urbanization. Therefore, there is large potential for expanding trade in meat products as long as the issues identified by stakeholders are addressed.

5.3 Articulation of Issues by Stakeholders

141) All the stakeholders tended to present issues in the form of constraints impeding development of market-led livestock sector in the region. All stakeholders agreed that low productivity in quantity and quality is the major issue facing the sector. However, the assessments also show that it is in productivity improvement that most desired expected results. This emphasizes the need for the full integration of the value chain to address bottleneck constraints that are hampering increased production in terms of quality and quantity.

142) Physical, financial and organizational capacity of traders to move live animals and products (meat, milk, hides and skins and other by-products) from production areas to points (local and export) of consumption is the most important limiting factor in the marketing of livestock products. Value chains with vertical integration, contracting and standardization are virtually missing in the livestock sector in the region. Other constraints identified include poor financing and lack of insurance; difficulties in meeting SPS regulations and requirements; and competition from subsidized imported livestock products.
143) At the same time, producers attributed low productivity to poor supply of inputs, services and infrastructure. The most dramatic consequences of this is the high prevalence of diseases that causes very high mortality rates among smallholder livestock herds. Key issues identified by stakeholders concerning handling and processing, include low hygienic standards of most of the processing facilities. This is attributed to poor infrastructure development for the processing and handling of livestock products. However, it is interesting to note that under utilization of the capacity of processing plants, also came up as one of the key issues. The main consequence has been a vicious cycle where few investors are attracted to invest in handling and processing facilities for fear of low capacity utilization, while producers are reluctant to increase production because of perceived low off-take. At the same time both producers and processors are concerned by the size of the market because of the low per capita consumption rates for livestock products. These are perhaps the most important three issues: they are interlinked, but have no clear cause and effect relationship, which poses a challenge for design of suitable interventions.

144) The main conclusion is that there are four major issues that are interrelated. These are low productivity, poor handling and processing; inadequate marketing and trade; and weak policies and institutions. At the same time there have been many projects and programmes in the region designed to deal with these issues. Why have they not succeeded? There are two main explanations. First is the poor quality of data for planning. Collecting and analysis of statistics is an area long neglected by everybody in the livestock sector. Therefore, poor reliability (or even the availability) of baseline statistics results in many projects pursuing wrong or skewed objectives. Second, is poor integration of different projects and programmes.

5.4 Validation of Knowledge Gaps

145) The findings show that knowledge is available for dealing with almost all the issues with respect to productivity. The main gap lies with coordinated investments to promote up-take of proven technologies and practices, especially by the smallholders. The underlying cause for the low level of coordinated planning and implementation is the little sharing of knowledge among the different stakeholders, and/or complete misunderstanding of each other’s problems and requirements. Thus, projects and programmes designed to deal with problems are often built upon wrong assumptions and inaccurate information.

146) There is a genuine gap in the understanding of the relationship between productivity (in quality and quantity) on one hand, and markets (in terms of high consumption rates) and marketing, on the other. There is no conclusive evidence of which triggers the other. Does increased availability (as a result of improved productivity and increased production) lead to higher demand or should the emphasis be put on expanding markets and improving marketing with the hope that these will stimulate investments to improve productivity? These two positions have not been reconciled because while a lot of programmes and investments have been made to boost productivity, no equivalent efforts have been made to improve the strength, cohesion and efficiency of value chains of those actors who deal with live animals, livestock products as well as animal inputs and services. This is where a lot remains to be done.

147) Most stakeholders complained about low demand in the final market, despite data showing that the demand is expected to expand. However, what most of these stakeholders missed is the fact that demand is driven by the purchasing power of the consumers. This means that programs of promoting the consumption of livestock products can only have a limited effect, since the upper limit is determined not by awareness but by purchasing power. One good example is the dramatic drop in the demand for organic (healthily!) food in Europe during the current economic and financial crisis. However, it is important to emphasize that the marketing system should be efficient enough to remove unnecessary transaction costs so that price demanded from the consumer is within what the majority...
can pay, and the prices offered to the producers and other actors in the value chain, are profitable enough to stimulate investments to improve productivity and processing.

148) Therefore, the main conclusion of this scooping study is that the constraints facing the livestock sector as identified by the stakeholders, have not been solved not because of little efforts, but because of poor vertical integration of the value chains. There is very little knowledge of the dynamics of markets and the acceptable grades and standards. Figure 8 shows recently proposed new programs for livestock development in Kenya. Out of the three programs only one, the dairy development one, is putting more emphasis on the development of markets, while diseases control is very prominent in the other two. It is not however clear what the funds set aside for market development will do. To guide such activities better, Kilimo Trust could commission a Strategic Study that quantifies the national and regional markets.

Figure 8: Proportional distribution of funding of different aspects of new livestock development programs in Kenya.

After: MOLD Kenya
5.5 Proposed Scope and Objectives of the Required Strategic Study

149) To develop a sustainable market-driven livestock sector, the producers need to achieve the highest possible (farm-gate) price-to-cost ratio while producing quality livestock and livestock products, whereas the consumers are looking for high quality products at competitive prices. This should be the guiding principle in all the livestock development programmes. To support the development of such programmes the region desperately need studies that can improve the data and analyses available for planning.

150) The first priority should be in the development of quality and reliable baseline data on which programs can be based. This should include information on the needs and behavior of producers, traders, processors and consumers. Therefore, one of the objectives of the proposed strategic study should be to define the type of livestock data that should be collected and analyzed on a permanent basis, so as to support the development of value chains and trade in livestock and livestock products. However, the most important issue requiring rigorous attention at this moment where everybody is interested in value chains, is the production of market demand projections that will help to correctly set the focus and objectives of new programs.

151) In a “market-pulled” system the characteristics of the market for the final product is the most important driver of every chain, and should be studied fully to support all other efforts to develop value chains. At the very least this requires a critical mapping of market size and its growth trends. Therefore, the main objectives of the proposed study will be to quantify the national and regional markets for livestock and livestock products in East Africa and develop a baseline data for planning. The specific objectives will be to:

a) Identify the most important segments of the markets of final products for major livestock products. For example, for traditional chicken they comprise live birds, dressed meat, fast cooked meat, certified organic meat or eggs, and so on.

b) Determine and quantify the distinctive characteristics of each of these market segments such as market size and growth projections.

c) Determine the Critical Success Factors (CSFs), such as price, quality, differentiation, branding and volatility, for each segment.

d) Benchmark chain efficiencies, with respect to the ability of the chain to meet the CSFs which it confronts in its final markets.

e) Identify priority investments needed to facilitate the performance of various value chains for the livestock products with the brightest future in terms of market size and growth.
6.0 DOCUMENTS CONSULTED


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The Guardian (September, 2008). Non tariff barriers still hampering trade in EA


Kilimo Trust: regional solutions to local problems
Appendix 1: Stakeholders/Institutions Contacted for Information

**BURUNDI**
1) IFAD supported Livestock Rehabilitation Support project
2) Meat Retailers/Butcherie Nzorigenda, Bujiabura
3) Poultry and pig producers - Bujiabura
4) Skins/Hides exporters
5) Roadside traders of live chickens, rabbits, eggs
6) Milk selling kiosks/joints.

**KENYA**
1) Kenya Meat Commission
2) National Environment Management Authority
3) Global Livestock Traders (Mohamed Mursal & Abdi Ibrahim)
4) Slaughter houses
5) Ministry for Livestock Development – Mr. Samuel Yegon
6) Kenchick Ltd
7) Livestock Stakeholder Self-Help Association (LISSA)
8) Pastoralists
9) ILRI – Targeting Program (Dr. Ade Freeman).
10) Eastern and Southern African Dairy Association - Dr. Kipkirui Arap Lang

**RWANDA**
1) Rwanda Animal Resources Development (RARDA), Ministry of Agriculture & Animal Resources
2) National hatchery at Rubirizi
3) Rwanda Bureau of Standards (RBS)
4) Nyagatare Milk Processing factory
5) Rubirizi Milk Processing factory
6) SABAN Slaughterhouse/abattoir, Nyabugogo, Nyarugenge district
7) SATRA Slaughterhouse/abattoir, Kicukiro district
8) National Dairy Cattle Development project, PADEBL
9) Send-A-Cow Rwanda (SACR)
10) Heifer Project International (HPI)
11) Support Program for Agricultural Transformation (PAPSTA)
12) Meat retailers cooperative (TUBUNGABUNGÉ UBUZIMA), Nyabugogo
13) National Agricultural Extension Support Project (PASNVA)
14) Rwandan Leather Industries (Nyabugogo)
15) Hides & Skins processors cooperative (COTAGIRWA), Gisenyi

**TANZANIA**
1) Ministry of Livestock Development and Fisheries
2) Inter chick-Tanzania
3) Tanzania Livestock Traders Association
4) PINGOs Forum –Co-coordinating Survival Efforts of Marginalized Indigenous Communities of Tanzania
5) Land O’Lakes, Inc.
6) Heifer International Project - Tanzania
7) Shambani Graduates Enterprise Ltd.
8) Tanzania Milk Producers Association
9) Namaratisho Livestock Co-operative Ltd.
10) National Ranching Company Mkata
11) National Ranching Company Ruvu
12) Lake Trading Company Ltd., Kibaha tannery
13) Tanga Fresh/Tanga Dairy Co-operative Union

UGANDA
1) UGACHICK,
2) The Poultry Association of Uganda
3) Dairy Development Authority
4) Sameer Agriculture and Livestock Ltd
5) Jinja Dairy Traders Association
6) National Agricultural Research Organisation (NARO)
7) Jinja Diocesan Development Coordinating Organization
8) Uganda Crane Creameries Co-operative Union
9) National Livestock Productivity Improvement Project
10) Heifer International - Uganda
11) World Vision Country Director
12) Dealers in Ankole cattle horns
## Appendix 2: Livestock Value Chains and Key Actors in East Africa

**Figure 2.1: Beef Cattle Value Chain in East Africa**

<table>
<thead>
<tr>
<th>Consumption</th>
<th>Retailing</th>
<th>Beef Trading</th>
<th>Processing</th>
<th>Live animal trading /transportation</th>
<th>Production</th>
</tr>
</thead>
</table>
| Household consumers
  80%
  (Rich urban, Poor urban, Rural) | Consumers away from home
  20%
  (Tourists, Poor urban, rich urban) | Butchers
  70%
  (Rural, urban) | Supermarkets
  10%
  (Large, small) | Abattoirs/Slaughter slabs
  85%
  (Rural slaughter slabs 35%, Urban abattoirs 50%) | Meat packers
  15%
  (Small scale 3%, Medium scale 5%, Large scale 7%) |
| Butchers
  70%
  (Rural, urban) | Supermarkets
  10%
  (Large, small) | Cooked/barbecued beef retailers
  20%
  (Hotels/Restaurants 10%, Fast food business 10%) | Wholesalers/Distributors/Exporters
  40% | Small traders
  60% |
| Wholesalers/Distributors/Exporters
  40% | Small traders
  60% | Meat packers
  15%
  (Small scale 3%, Medium scale 5%, Large scale 7%) | Abattoirs/Slaughter slabs
  85%
  (Rural slaughter slabs 35%, Urban abattoirs 50%) | Small traders
  20% |
| Meat packers
  15%
  (Small scale 3%, Medium scale 5%, Large scale 7%) | Wholesalers/Distributors/Exporters
  40% | Ranchers/Fatteners/Feedlots
  10%
  (Government, Private) | Wood fuel traders
  15% | Agro-pastoralist
  55%
  (Small scale cattle herd, Medium scale cattle herds, Large scale cattle herds) |
| Abattoirs/Slaughter slabs
  85%
  (Rural slaughter slabs 35%, Urban abattoirs 50%) | Wholesalers/Distributors/Exporters
  40% | Cooked/barbecued beef retailers
  20%
  (Hotels/Restaurants 10%, Fast food business 10%) | Small traders
  20% | Pastoralists
  35%
  (Small scale cattle herd, Medium scale cattle herds, Large scale cattle herds) |
| Wholesalers/Distributors/Exporters
  40% | Wholesalers/Distributors/Exporters
  40% | Wood fuel traders
  15% | Wood fuel traders
  15% | Pastoralists
  35%
  (Small scale cattle herd, Medium scale cattle herds, Large scale cattle herds) |
Figure 2.2: Value Chain for Small Ruminants for Meat in East Africa

<table>
<thead>
<tr>
<th>Category</th>
<th>Small traders</th>
<th>Butchers</th>
<th>Supermarkets</th>
<th>Financial services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breeding stock suppliers</td>
<td>(Small scale farmers, multiplication centres 20%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veterinary services</td>
<td>(Government 90%, Private &lt;10%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed suppliers</td>
<td>(Feed millers 40%, Shops 60%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AI services</td>
<td>(Government 50%, Private 50%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension services</td>
<td>(Government &gt;95%, Private &lt;10%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial services</td>
<td>(Banks 60%, SACCOSS and others 40%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Wholesalers/Distributors/Exporters</th>
<th>Small traders</th>
<th>Urban slaughter slabs</th>
<th>Urban abattoirs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption</td>
<td>40% (Rich urban, Poor urban, Rural)</td>
<td>90%</td>
<td>50%</td>
<td>20%</td>
</tr>
<tr>
<td>Butchers</td>
<td>30% (Rural, urban)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supermarkets</td>
<td>10% (Small, Large)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooked/Barbecued meat retailers</td>
<td>60% (Hotels/Restaurants 20%, Fast foods 40%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Small traders</th>
<th>Wholesalers/Bulk buyers/Transporters/Auctioners</th>
<th>Exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing</td>
<td>40%</td>
<td>50%</td>
<td>10%</td>
</tr>
<tr>
<td>Rural slaughter slabs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban slaughter slabs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban abattoirs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Butchers</th>
<th>Supermarkets</th>
<th>Financial services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption</td>
<td>40% (Rich urban, Poor urban, Rural)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butchers</td>
<td>30% (Rural, urban)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supermarkets</td>
<td>10% (Small, Large)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooked/Barbecued meat retailers</td>
<td>60% (Hotels/Restaurants 20%, Fast foods 40%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Small traders</th>
<th>Whole sale traders/Bulk buyers/Transporters/Auctioners</th>
<th>Exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>40%</td>
<td>50%</td>
<td>10%</td>
</tr>
<tr>
<td>Small traders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agro pastoralists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranchers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Breeding stock suppliers</th>
<th>Veterinary services</th>
<th>Vet. medic &amp; drugs</th>
<th>Extension services</th>
<th>Financial services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply of inputs and services</td>
<td>Small scale farmers, multiplication centres (MC)</td>
<td>Government (&gt;90%), Private (&lt;10%)</td>
<td>Private Companies (20%), Shops (80%)</td>
<td>Government (&gt;95%), Private (&lt;5%)</td>
<td>Banks (30%), SACCOSS (70%)</td>
</tr>
</tbody>
</table>
Figure 2.3: Value Chain for Poultry for Meat in East Africa

**Consumption**
- Household consumers 50% (Rich urban, Poor urban, Rural)
- Consumers away from home 50% (Tourists, Rich urban, Poor urban)

**Retailing**
- Small scale poultry retailers 10%
- Supermarkets 20% (Large, Small)
- Cooked/Barbecued meat retailers 70% (Hotels/Restaurant, Fast food business)

**Poultry meat trading**
- Wholesalers/Distributors/Exporters 10%
- Small traders 90%

**Processing**
- Informal slaughters 80% (Rural, urban)
- Formal or Factory packers 20% (Small scale Medium scale, Large scale)

**Live bird trading/Transportation**
- Small traders 60%
- Wholesale traders/Distributors 40%

**Production**
- Exotic poultry producers 30% (Small scale, Medium scale, Large scale)
- Indigenous or local poultry producers 70% (Small scale)

**Supply of inputs and services**
Figure 2.4: Value chain for Pigs in East Africa

<table>
<thead>
<tr>
<th>Parent/Breeding Suppliers (Small scale farmers 70%, Medium scale 30%)</th>
<th>Hatcheries (Small scale 10%, Medium scale 50%, Large scale 40%)</th>
<th>Feed Suppliers (Feed mills 15%, Feed shops 60%, Feed millers)</th>
<th>Vet. Service providers (Government 10%, Private 90%)</th>
<th>Vet drugs &amp; medic suppliers (Private companies 10%, Shops 90%)</th>
<th>Extension service providers (Government 80%, Private 20%)</th>
<th>Financial service providers (Banks 30%, SACCOS and others 70%)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Consumption</th>
<th>Household consumers 50% (Rich urban, Poor urban, Rural)</th>
<th>Consumers away from home 50% (Tourists, Rich urban, Poor urban)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailing</td>
<td>Pork butchers 15%</td>
<td>Supermarkets 35% (Large, small)</td>
</tr>
<tr>
<td>Pig meat/Pork Trading</td>
<td>Small traders 20%</td>
<td>Wholesalers/Distributors 80%</td>
</tr>
<tr>
<td>Processing</td>
<td>Informal slaughterers 80% (Rural, urban)</td>
<td>Formal or factory packers 20% (Small scale, Medium scale, Large scale)</td>
</tr>
<tr>
<td>Live animal Trading/Transp.</td>
<td>Small traders (70%)</td>
<td>Whole sale traders (30%)</td>
</tr>
<tr>
<td>Production</td>
<td>Rural traditional pig producers 65%</td>
<td>Peri urban Commercial Pig producers 35% (Small scale, Medium scale)</td>
</tr>
</tbody>
</table>

*Kilimo Trust: regional solutions to local problems*
Figure 2.5: Dairy Cattle Value Chain in East Africa

Supply of inputs

<table>
<thead>
<tr>
<th>Breeding stock suppliers</th>
<th>Feed suppliers</th>
<th>Vet. Service providers</th>
<th>Vet. Drugs &amp; medicines suppliers</th>
<th>Extension services</th>
<th>Financial services providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Small scale farmers 70%, Medium scale farmers 30%)</td>
<td>(Grain millers 15%, Feed shops 60%, Feed millers 25%)</td>
<td>(Government 30%, Private 70%)</td>
<td>(Private companies 20%, Shops 80%)</td>
<td>(Government 60%, Private 40%)</td>
<td>Banks 55%, SACCOS and others 45%</td>
</tr>
</tbody>
</table>

Consumption

<table>
<thead>
<tr>
<th>Household consumers</th>
<th>Consumers away from home</th>
</tr>
</thead>
<tbody>
<tr>
<td>70% (Rich urban, Poor urban, Rural)</td>
<td>30% (Tourists, Rich urban, Poor urban)</td>
</tr>
</tbody>
</table>

Retailing

<table>
<thead>
<tr>
<th>Kiosks/Shops</th>
<th>Supermarkets</th>
<th>Milk bars, hotels and restaurants</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% (Rural, Urban)</td>
<td>15% (Large, Small)</td>
<td>45% (Urban, Rural)</td>
</tr>
</tbody>
</table>

Milk and milk products trading

<table>
<thead>
<tr>
<th>Small traders</th>
<th>Wholesalers/Distributors/Kiosks/Shops</th>
</tr>
</thead>
<tbody>
<tr>
<td>80%</td>
<td>(20%)</td>
</tr>
</tbody>
</table>

Processing

<table>
<thead>
<tr>
<th>Informal processors</th>
<th>Formal processors</th>
</tr>
</thead>
<tbody>
<tr>
<td>85% (Household level small processing)</td>
<td>15% (Small scale, Medium scale, Large scale)</td>
</tr>
</tbody>
</table>

Live animal Trading/Transportation

<table>
<thead>
<tr>
<th>Small traders</th>
<th>Whole sale traders/Bulk buyers/Exporters</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

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Small scale producers | Medium scale producers | Large scale producers |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>75% (Rural, Urban, peri-urban)</td>
<td>20%</td>
<td>5%</td>
</tr>
</tbody>
</table>
Figure 2.6: Value Chain for hides and skins in East Africa

Consumption

- Local Consumers: 20%
- Consumers abroad: 80%

Trading of leathers and leather products

- Wholesale traders/Exporters: (Semi finished leather 80%, Finished leather 20%)

Processing

- Small Scale Tanners: 5%
- Medium/Large Scale Tanners: (95%)

Hides and skin trading

- Small traders: 30% (Rural, Urban)
- Wholesale traders/Exporters: 70% (Rural, Urban)

Production of Hides and skins

- Informal slaughterers: 15% (Homesteads, bush)
- Slaughter slabs & houses: 78% (Urban 60%, Rural 15%)
- Mechanized abattoirs: 10%

Breeding stock suppliers: (Small scale farmers 70%, Medium/Large scale farmers 10%, MC 20%)

Vet. Services: (Government 90%, Private 10%)

Vet. Drugs & medicines: (Government 5%, Private companies 20%, Shops 75%)

Feed Suppliers: (Feed millers 40%, Shops 60%)

AI services: (Government 50%, Private 50%)

Extension services: (Government 85%, Private 15%)

Financial services: (Banks 60%, SACCOS and others 40%)
### Appendix 3: Summary of Key issues, causes, knowledge gaps and possible actions proposed by Stakeholders

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>CAUSES</th>
<th>KNOWLEDGE GAP</th>
<th>STAKEHOLDER SUGGESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live animals (Cattle and Small Ruminants): Poor quality and condition of live animals:</td>
<td>Poor nutrition</td>
<td>Limited knowledge on fodder conservation and management among producers.</td>
<td>Identify current knowledge on traditional fodders conservation techniques and assess feasibility of modern techniques.</td>
</tr>
<tr>
<td></td>
<td>Poor range and pasture management</td>
<td></td>
<td>Policy constrains or limitations on access to grazing lands by pastoralists</td>
</tr>
<tr>
<td></td>
<td>Diseases</td>
<td>Regional policy and its effect on access to grazing resources</td>
<td>Harmonise disease control policies and mechanisms</td>
</tr>
<tr>
<td></td>
<td>Insecure land rights for pastoralists due to poorly defined grazing rights.</td>
<td>Limited knowledge on feedlot</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pastoralists</th>
<th>Agro-pastoralists</th>
<th>Ranchers/Fatteners</th>
</tr>
</thead>
<tbody>
<tr>
<td>35% (Small cattle herds Medium cattle herds and Large cattle herds)</td>
<td>55% (Small cattle herds Medium cattle herds and Large cattle herds)</td>
<td>10% (Government, Private)</td>
</tr>
<tr>
<td>ISSUES</td>
<td>CAUSES</td>
<td>KNOWLEDGE GAP</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>---------------</td>
</tr>
<tr>
<td>Heavy taxation burden</td>
<td>too many taxes</td>
<td>Little knowledge and data on the impacts of taxation on producers and traders of livestock products which could inform policy development.</td>
</tr>
<tr>
<td>Inadequate market information accessible by traders and producers</td>
<td>Inadequate co-ordination and harmonization of data on livestock</td>
<td>Limited expertise in establishing and managing regional livestock data bank</td>
</tr>
<tr>
<td>Inadequate investment and entrepreneurship management skills among livestock producers and traders</td>
<td>Low investment in livestock enterprises. Lack of training in business management Low educational level Do not proactively seek for markets Inadequate support to the private sector</td>
<td>Management and entrepreneurship skills Why are people not investing in livestock enterprises?</td>
</tr>
<tr>
<td>Lack of credit for small scale livestock interventions</td>
<td>Low returns to investment Lack of awareness of existing credit windows Lack of collaterals High risk on livestock investments Limited understanding</td>
<td>How to deal with livestock investments to avert the risks.</td>
</tr>
<tr>
<td>ISSUES</td>
<td>CAUSES</td>
<td>KNOWLEDGE GAP</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>---------------</td>
</tr>
<tr>
<td>Inadequate supply of day old chicks</td>
<td>Inadequate parent stock</td>
<td>Breeding techniques</td>
</tr>
<tr>
<td>Low availability and poor quality livestock feeds</td>
<td>Lack of knowledge in feed formulation, High costs of production, Weak feeds manufacturing associations, Inadequate raw materials, Lack of feeds laws and regulations</td>
<td>Feed rations formulations</td>
</tr>
<tr>
<td>High prevalence of livestock diseases</td>
<td>Inadequate and expensive drugs/vaccines, Inadequate extension services, Poor enforcement of animal diseases laws and regulations</td>
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**PROCESSED PRODUCTS**

<table>
<thead>
<tr>
<th>PROCESSED PRODUCTS</th>
<th>ISSUES</th>
<th>CAUSES</th>
<th>KNOWLEDGE GAP</th>
<th>STAKEHOLDER SUGGESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef: Low quality beef</td>
<td>Poor quality breeds, Poor management of animals, Poor meat handling</td>
<td>Classification and grading system of beef carcasses</td>
<td>Assessment of current breeding programmes and knowledge sharing among institutions.</td>
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<tr>
<td>Poor infrastructure and facilities for processing</td>
<td>Poorly constructed meat shops, Lack cold storage facilities, Low hygienic standards</td>
<td>Are the communities ready and willing to pay for quality?</td>
<td>Promote and encourage investments in processing infrastructure. Training and capacity building in processing. Studies on consumer behaviour changes in relation to demand for meat quality. A study on the establishment and harmonization of regional meat processing.</td>
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<tr>
<td>ISSUES</td>
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<tr>
<td>Limited knowledge on nutritional values among communities</td>
<td>Poor knowledge on nutritional requirements and the value of meat in human diets.</td>
<td>Limited knowledge on nutritional standards</td>
<td>Region wide awareness on nutritional values and the role of livestock products.</td>
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<tr>
<td>Lack of innovations in meat markets such as branding of beef products</td>
<td>Inadequate knowledge and skills in international marketing</td>
<td>International marketing skills and management skills</td>
<td>Establish regional meat and other livestock products quality standards.</td>
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<tr>
<td>Hides and skins: Low recovery of hides and skins for processing</td>
<td>Smuggling, poor pricing</td>
<td>Policies conducive to interregional trade</td>
<td>Critical analysis of hides and skins policies and regulations to identify bottlenecks.</td>
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<tr>
<td>Low quality of hides and skins</td>
<td>Poor slaughter of animals methods, Poor organization/management, Poor storage facilities</td>
<td>Limited knowledge on improved hides and skins husbandry.</td>
<td>Intensify training and capacity of producers, service providers and processors.</td>
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</tr>
<tr>
<td>Low capacity utilization of existing industries</td>
<td>Low quantity, Poor quality raw material, Worn out machinery and equipment, Out of date technology, Low awareness on economic value of hides and skins.</td>
<td>How to improve the quality of the raw materials and the end products. Economic value of hides and skins is not well known</td>
<td>Improve capacity of existing factories. A critical analysis of the economic value of hides and skins at national and local levels to be undertaken.</td>
<td></td>
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<tr>
<td>Poor image of</td>
<td>Low quality of hides</td>
<td>Limited</td>
<td>Capacity building among</td>
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<tr>
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<tr>
<td>Tanzania hides and skins on the International market</td>
<td>and skins exported and traded in the International market Weak enforcement of hides and skin export Laws and regulations</td>
<td>knowledge on the proper husbandry for quality hides and skins production.</td>
<td>producers and processors on techniques to improve hides and skin quality.</td>
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</tr>
<tr>
<td>Beef Poor infrastructure and facilities for meat processing</td>
<td>Poorly constructed meat shops, butchers abattoirs and slaughter slabs Lack of facilities like weigh scales saws and cold chain equipment lack of appropriate technology in meat cutting and packaging unhygienic environment</td>
<td>Knowledge in Meat technology and Sanitation</td>
<td>Training needs assessment and capacity building in meat processing including cutting techniques, storage, packaging and hygiene. A study to determine training needs assessment and capacity building in meat processing including cutting techniques, storage, packaging and hygiene.</td>
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<tr>
<td>Under capacity utilization of processing plants</td>
<td>Low supply of cattle for processing Poor infrastructure (lack of cutting and packaging facilities) Lack of investments</td>
<td>Limited knowledge and investments in processing.</td>
<td>Same as above Promote and support investments in processing through trade incentives and access to credit.</td>
<td></td>
</tr>
<tr>
<td>Lack of credit for investment in meat processing</td>
<td>Low returns to investment Lack of awareness of existing credit windows.</td>
<td>Limited SMEs and financing opportunities</td>
<td>Promote and support investments in processing through trade incentives and access to credit Increased government support of private sector investments in meat and milk processing.</td>
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<tr>
<td>Low quantity supplies of milk</td>
<td>Inadequate milk collection and cooling centres Weak farmer organizations Poor roads in rural areas Expensive transport system</td>
<td>Inadequate knowledge and skill to organise and manage groups.</td>
<td>Build capacity and skills of dairy farmers and traders in group organisation and management.</td>
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<tr>
<td>Lack of milk tankers</td>
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<tr>
<td>Low per capita milk consumption</td>
<td>Lack of knowledge on health and nutritional benefits of milk</td>
<td>Lack of knowledge on health and nutritional benefits of milk at family levels.</td>
<td>Increase awareness and promotion on nutrition of milk and other dairy products. Document and publicize the impacts of school milk programmes on child health and nutrition.</td>
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<td></td>
<td>Low purchasing power.</td>
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<td>Culture and taboos</td>
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<tr>
<td>Lack of credit for small scale milk processing</td>
<td>Lack of collaterals</td>
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<td>Increased government support of private sector investments in meat and milk processing.</td>
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<td></td>
<td>Low returns to investment.</td>
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<tr>
<td>Inadequate market information</td>
<td>Lack of co-ordination and harmonization of existing data on livestock products.</td>
<td>Market information data development.</td>
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