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Research Paper

ASSESSMENT OF PERFORMANCE AND COMPETITIVENESS OF SOMALILAND LIVESTOCK SECTOR USING VALUE CHAIN ANALYSIS

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An assessment of the performance and competitiveness of Somaliland livestock sector was done using livestock value chain analysis. Results of the analysis revealed that livestock production involving cattle, sheep, goats and camels is the region's primary economic activity. Livestock markets and infrastructure exist for both domestic and export trade. Market channels are served by a number of interconnecting primary and secondary markets linked to several production areas. Local markets involve livestock slaughter and marketing of meat to local consumers. Livestock slaughter and marketing of meat suffer constraints that include poor design and hygiene of slaughter facilities and lack of meat inspection services. Export markets involve trade in live animals and raw hides and skins. Trading activities are facilitated by availability of important animal handling facilities in livestock markets. The main players in the sector include pastoralist producers, animal trekkers, livestock traders/exporters, brokers, livestock transporters, slaughterhouses operators, butchers, meat traders, meat transporters and hides skins traders. The Ministry of Livestock Development, Local Authorities, and Somaliland Chamber of Commerce and Industry play a supportive role to the sector. Livestock productivity is affected by occurrence of livestock diseases, scarcity of water and pastures due to recurrent droughts and rangeland degradation, inadequate animal health and veterinary extension services and loss of value along the livestock marketing chain. Productivity can be enhanced by improving fodder production and conservation, water harvesting and provision of animal health extension services. To enhance competitiveness of livestock export, there is need to develop livestock disease testing facilities in livestock markets, as well as strengthen financial services to support livestock exporters. On the other hand, competitiveness of meat marketing can be enhanced by rehabilitation/improvement of slaughter and meat production and marketing facilities and services.

Keywords: Livestock, Livestock products, Value chains, Productivity, Competitiveness, Somaliland

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INTRODUCTION

Somaliland is the northwestern region of Somalia. It has a total area of 137,600 square kilometers with a coastline that extends about 850 km along the southern shores of the Gulf of Aden. It has a total population of about 3.5 million with a growth rate of 3.1% per year (Somaliland trade Directory, 2007/8). Approximately 55% of the population is made up of nomadic pastoralists, while 45% are rural based agro-pastoralists or urban dwellers (Somaliland Ministry of Agriculture Master-Plan, 2007). Urbanization is estimated to increase at a rate of 10% per year (Githinji and Wanyama, 2010). The climate of Somaliland is arid or semi-arid with daily average temperatures ranging between 25-35 °C. Rainfall varies from less than 100 mm on the coast to 500 mm inland, except in few areas where it may reach 900 mm. The region experiences four distinct seasons: Two rainy seasons, a long one in April to June, and a short one in September to November. There are also two dry seasons, a short one from July to August and a long dry cold season from December to March (Somaliland Trade Directory, 2008).

Livestock production is the primary economic activity that contributes about 60-65% of the area's GDP. Livestock activities act as a source of employment, income and foreign exchange. About 60% of the population relies mainly on the products and by-products of livestock. Livestock population is currently estimated at 10 million goats, 8 million sheep, 5 million camels, 2.5 million cattle, and 200,000 chickens (Director of Veterinary Services,-personal communication; Somaliland trade directory, 2008). The wealth of somaliland is determined by herd size a family owns (Holleman, 2002). About 20-30% of the population who own some 50-60 sheep and goats,

5-10 camels, 0-1 donkeys is categorized as poor, 45-55% of the population with 30-100 sheep and goats, 10-15 cattle, 25-30 camels are categorized as middle wealth group, while 15-35% of the population with 200-250 sheep and goats, 25-30 camels, and 30-40 cattle is categorized as rich (Holleman, 2002).

The economy is trade oriented with livestock exports playing a major role. Exports of livestock to the Gulf States especially to Saudi Arabia, United Arab Emirates, Yemen, Bahrain, Oman, and Qatar represent the biggest share of the region's foreign exchange earnings (Somaliland Trade Directory, 2008). An important characteristic of livestock marketing in Somaliland is the strong links between pastoralists and their urban familial counterparts. The linkages between urban population and the pastoralists, combined with culture of trading and redistribution of wealth means that virtually every one depends on livestock (Holleman, 2002). In the year 1997, Somaliland exported over 2.8 million head with an estimated value of USD\$ 84.4 million. Livestock exports are a major determinant of exchange rate, inflation and trade. Export bans that sometimes occur due to disease outbreaks have a devastating impact on trade and livelihoods of the population due to loss in export earnings (Holleman, 2002).

The performance and competitiveness of the livestock sector can be evaluated by undertaking a value chain analysis. The value chain analysis play a key role in identifying constraints affecting the sector as well as the distribution of benefits of actors in the chain and enables one to determine who benefits from participation in the chain and which actors would benefit from increased support or organization (Kaplinsky and Morris, 2001). It can be used to address

constraints faced by chain actors by taking advantage of existing opportunities. Value chain analysis is conducted through a combination of qualitative and quantitative methods that feature a combination of primary survey, focus group discussion, participatory rapid appraisal, informal interviews and secondary data sourcing (Rich *et al.*, 2009). The information is used to understand the linkages and structure of value chains and serves as the basis for identifying the key constraints and policy issues that require further exposition (Rich *et al.*, 2009). These authors further observe that value chain analysis examines the impact of upgrading (e.g., improvement in quality and product design, access to new markets and product diversification) in the value chains. The aim of this study was therefore to map Somaliland's livestock, meat and hides and skin value chains with an aim of identifying constraints and key opportunities for development of a competitive livestock industry and recommend potential areas of intervention along the value chains for improved competitiveness.

MATERIALS AND METHODS

The study was conducted using a livestock value chain analysis approach. Three livestock value chains were analysed including livestock marketing value chain, meat value chain and hides and skin value chain. The study commenced with a review of existing literature and reports on Somaliland livestock sector. This was followed by identification of stakeholders according to their roles in the livestock value chains. Data was collected through interviews of representatives of various stakeholders, focus group discussions using key informants, stakeholder workshops, and direct observations of various value chain activities, facilities and

infrastructure during field visits. Data was collected from six specific towns in the region namely, Borama, Togwajaale, Gebiley, Hargeisa, Berbera and Burao that are the main livestock markets and stock routes. The information gathered was collated and analyzed to determine the involvement, relationships and contribution of various value chain actors to the overall performance of the livestock sector. A SWOT analysis of Somaliland livestock sector was done to identify constraints and opportunities for improvement of the sector. Priority areas of intervention were identified and intervention measures recommended.

RESULTS

Livestock Production and its Limitations

Livestock in Somaliland is kept under pastoralist (Central and Eastern regions) or agro-pastoralist production systems (in the western region). Camels, cattle, sheep and goats are the main livestock produced in somaliland. Livestock production depends greatly on the productivity of rangelands and availability of pasture and water. The arid and semi-arid climate of Somaliland can support rangeland pasture grasses, shrubs and acacia trees used by livestock. However, the productivity of these rangelands is affected by environmental degradation due to soil erosion, overgrazing, deforestation and charcoal burning (Figure 1). In addition, the region frequently suffers from periodic and prolonged droughts that usually lead to death of livestock due to lack of water and feed. Livestock productivity is also affected by occurrence of livestock pests and diseases as there is no animal health extension service to help farmers deal with animal diseases.

Livestock Marketing

Somaliland has well organized livestock trading and marketing activities. Livestock markets and

Figure 1a: Goats and Sheep Feeding on Shrubs and Acacia Trees in a Degraded Rangeland



Figure 1b: Livestock Traders Identifying Animals for Sale from Pastoralist Rural Areas



Figure 1c: Camels on Their Way to Feeding Grounds on Degraded Rangelands



infrastructure exist for both domestic and export trade. Market channels are served by a number of interconnecting secondary and primary markets linked to several production areas. These channels serve both domestic and export markets. The major livestock markets in Somaliland are Burao, Hargeisa and Togwajaale Borama and Gebiley, Sool, El Afwein and Erigavo. These handle livestock from all corners of the Somali territories. Trading activities involve cattle, sheep, goats and camels which are sourced locally and from neighbouring Ethiopia, Djibouti and Southern Somalia. Livestock trading activities are controlled by livestock traders' associations, brokers and in some cases middlemen. Livestock trading has been enhanced by development of important market facilities including loading/offloading rump and inspection crushes by development agencies (Figure 2). However, there is need to develop feeding and watering facilities as well as supply adequate water and feed for the animals in order to maintain their body condition, while the livestock markets should be secured by fencing to secure animals within the trading. Facilities for testing/screening animals against livestock diseases and pens to separate sick animals from healthy ones to facilitate

Figure 2: Livestock Loading/Offloading Facilities



veterinary attention are not available in these markets. In addition, veterinary extension service and animal health certification system are weak.

Figure 3: Hargeisa Livestock Market. The Market has No Feeding and Watering Facilities



Livestock Exports

Livestock identified for export at the livestock markets are trucked to quarantine facilities at Berbera. There are two quarantine stations in Berbera: The Gulf International Quarantine and Berbera National Quarantine. At the quarantine facilities, animals are screened for zoonotic and economic diseases which include FMD, RVF, PPR CCPP, CBPP, sheep pox, and brucellosis. Disease free animals are then vaccinated against the diseases while those diagnosed with any of the above listed diseases are rejected returned to the respective traders. Before shipment, disease free animals remain in the quarantine station for varied periods depending on the requirements of the country of destination. For example, animals destined for Kuwait stay for 7 days, 30 days for those heading for Saudi Arabia. Before animals leave the quarantine facility, port veterinary officers certifies the health of export animals and provide exporters with a health certificate attesting that the animals are healthy and free from any disease. Livestock exporters then present the health certificate to the Chamber of Commerce who in

Figure 4: Sheep and Goats at One of the Quarantine Stations in Berbera



Figure 5: Cattle in One of the Quarantine Stations at Berbera



turn issues a certificate of origin on behalf of the Ministry of Commerce and Industry. Livestock that are declared fit are then exported to various destinations mostly the Gulf States which include Saudi Arabia, United Arab Emirates, Yemen, Bahrain, Oman, and Qatar. The quarantine stations record on average a rejection rate of up to 2% of the animals received, but these become a great burden to the livestock traders. The burden can be minimized by having screening facilities at the vicinity of livestock markets so that only animals found free of listed diseases are transported to the quarantine facilities. Figure 6 shows the main actors and linkages along a typical domestic and export livestock marketing chain in Somaliland.

Opportunities to improve competitiveness of livestock production and marketing

- Enhancement of productivity of grazing areas through soil conservation, re-forestation and better grazing management.
- Promotion of production and storage of fodder in agropastoral areas and develop water resources through promotion of surface and ground water harvesting.
- Promotion of private investment in input supplies (production and distribution of animal feeds, pharmaceuticals, acaricides, etc).
- Take advantage of the willingness and support of International Development Agencies and local NGOs that have initiatives to improve the livestock industry.
- Training and employment of more veterinarians, animal health and production specialists and meat inspectors with appropriate remuneration and incentives by expanding training opportunities.
- Improvement of livestock extension service through increased budgetary allocation to the Ministry of Livestock, Environment and Rural Development.
- Development of appropriate infrastructure to support the livestock sector (e.g., laboratory equipments for disease diagnosis, vehicles, vaccine production, upgrading of livestock markets, and construction of appropriate slaughterhouses, and acquisition of appropriate meat carriers and vehicles).
- Establishment of quarantine stations at production areas especially at Burao, Borama and Hargeisa to screen animals to ensure that only disease free animals are transported to Berbera for export.

- Establish an effective livestock market information system to furnish producers and traders with the prevailing livestock market prices in real time.
- Opening up the country to more livestock export markets through compliance with OIE animal health certification requirements.

Competiveness of the Meat Value Chain

Meat trade exists only for domestic market. The main sources of red meat for the Somaliland consumer are cattle, sheep, goats and camels. Pastoralists sell their animals at the nearest primary market from where the animals are sent to either the local slaughterhouse/slab or are taken by traders to the secondary market for re-sale. From the secondary market, animals are purchased by the butchers operating in the local slaughterhouses/slabs. Sheep and goats constitute 93% of the total livestock slaughtered in all the six towns surveyed. Analysis of meat trade indicated that trading in meat is relatively profitable in all urban markets covered by the study. Better margins (53-63%) were obtained when trading in camel meat and beef (51-53%), while lower margins (1.4-27.2%) were obtained when trading in sheep and goat meat. At the time of this study, the only export sheep and goat slaughterhouse had closed due to lack of export market and high transport cost. The major constraints facing slaughter and marketing of meat relate to the poor design and inhygienic conditions of most slaughter facilities (Figures 7 and 8) and meat markets (Figure 9). The tables are either made of concrete, plain iron sheet or wood and most of them are dilapidated. Thus they are difficult to clean and sanitize. Many of the markets have no sheds and therefore meat is highly vulnerable to contamination with dust, flies and human traffic. The slaughter facilities have

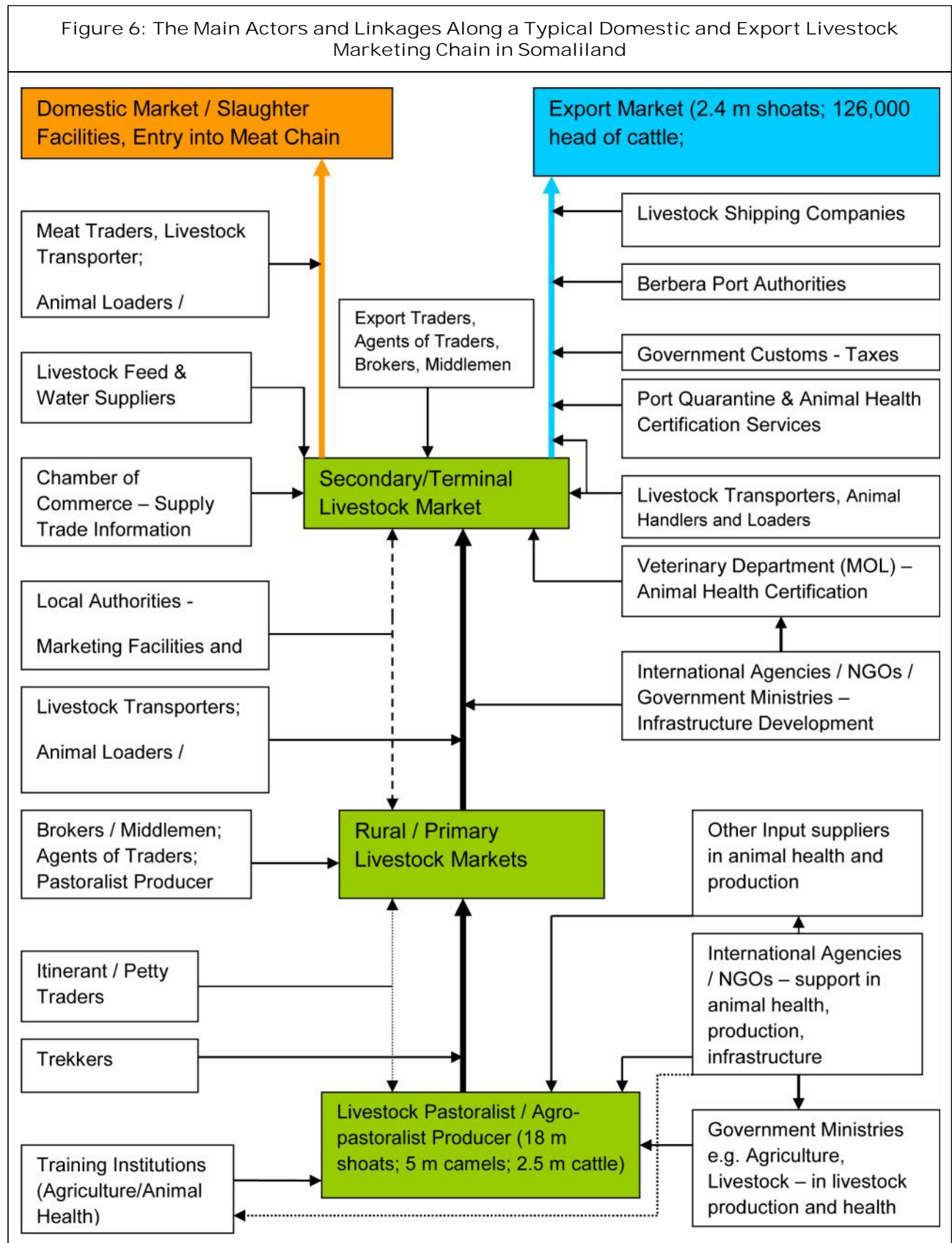


Figure 7: A Burao Sheep and Goat Open Slaughter Slab in Poor Hygienic Conditions



Figure 8: A Sheep and Goat Slaughter House with a Roof and Ceramic Covered Floor and Tables Found in Some Some Parts of the Country



Figure 9: Meat Displayed for Sale on Unhygienic Carton Papers Placed on Wooden Tables in One of the Meat Markets. The Conditions are the Same in All the Markets Where this Study was Done



inadequate water supplies, inadequate veterinary and meat inspection services, while meat lack protective clothing and basic hygiene training. Figure 10 shows the main actors and their linkages along a typical meat marketing chain in Somaliland.

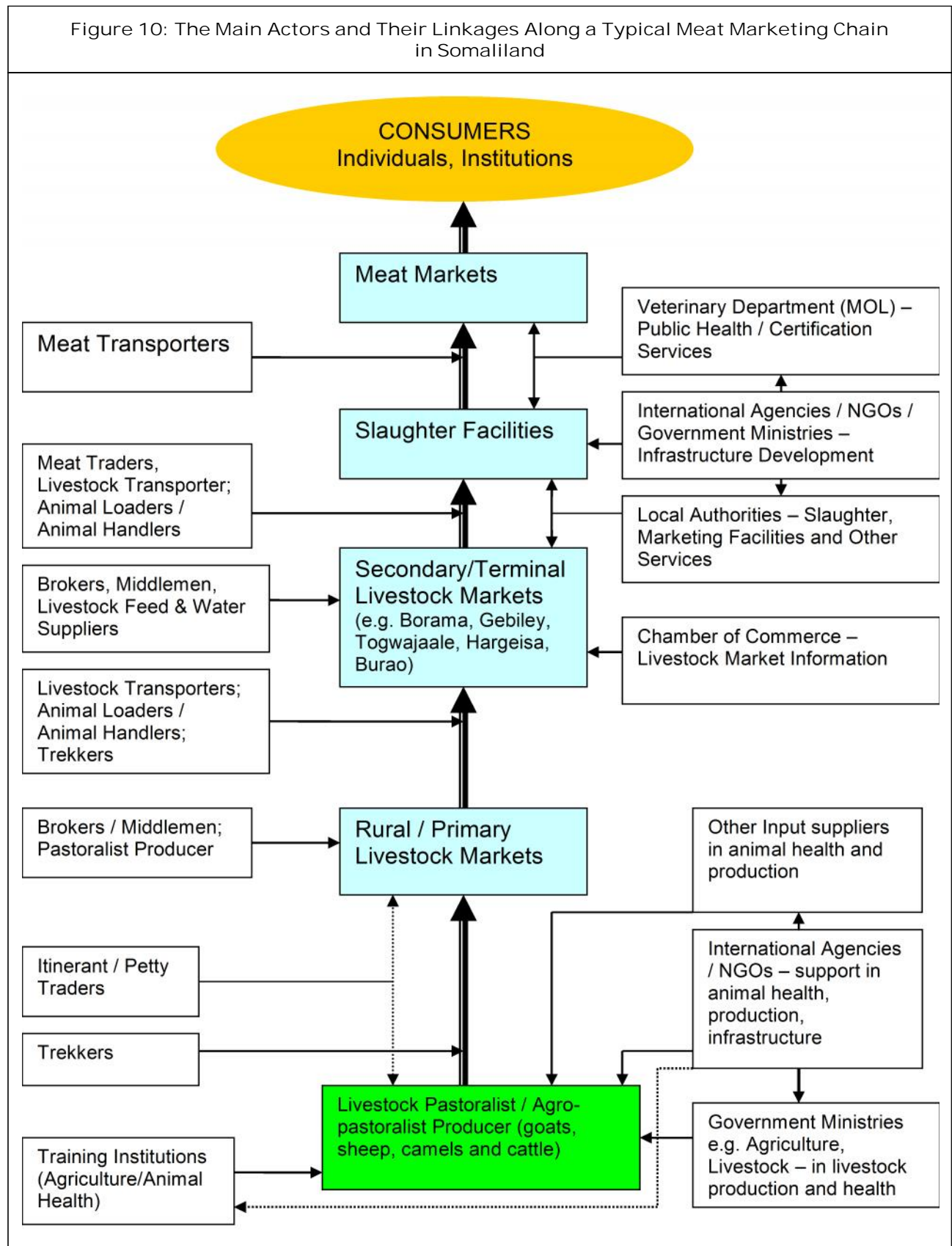
Opportunities for Improvement of the Meat Subsector

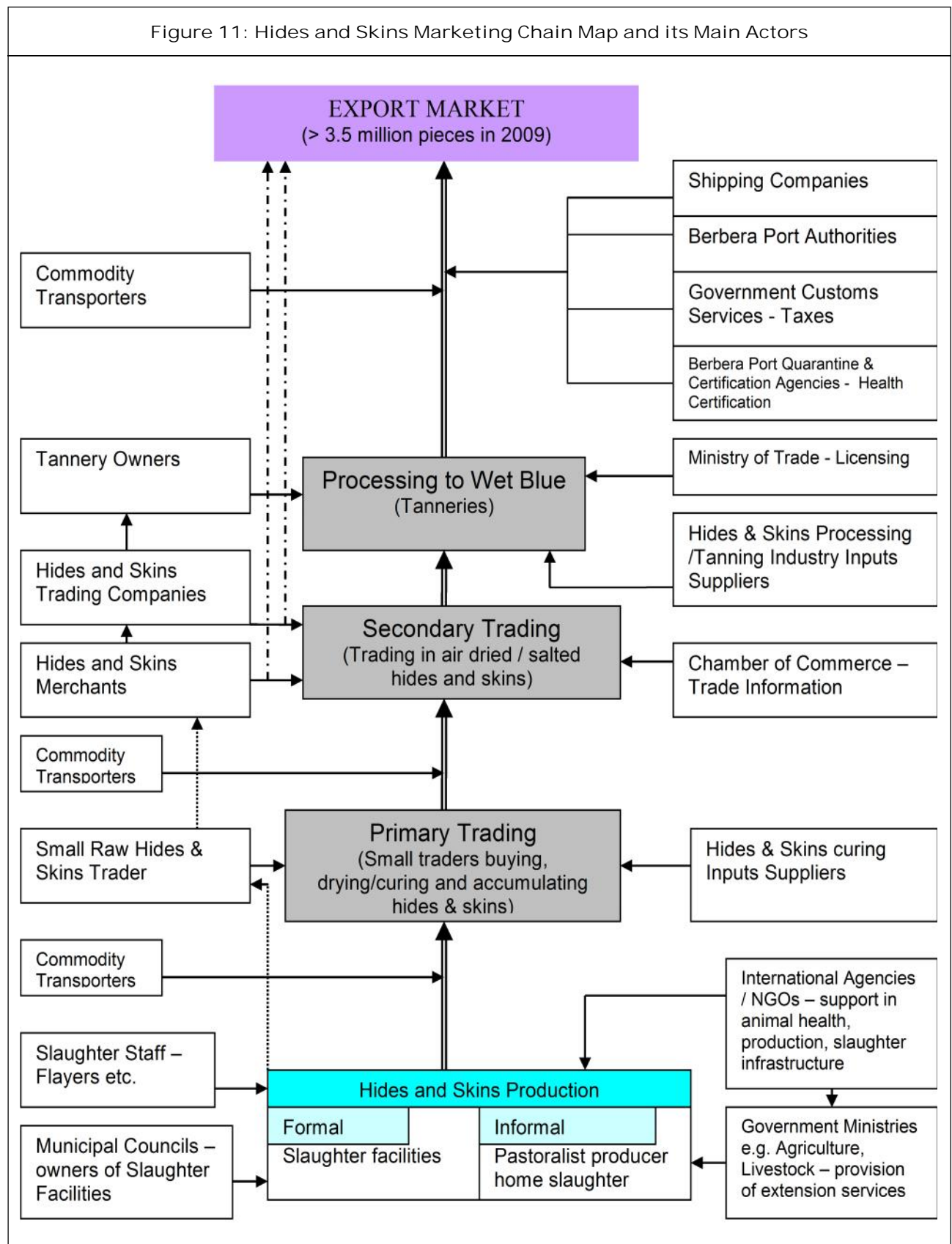
The following opportunities were identified that can enhance production and marketing of quality meat in Somaliland:

- Provision of veterinary services at producer level to control livestock diseases.
- Improvement of slaughter facilities and meat transport vehicles and containers.
- Enacting appropriate laws that will ensure implementation and enforcement of the veterinary code, meat hygiene and quality assurance regulations.
- Training of veterinary public health officers to provide meat inspection services and oversee certification of meat.
- Provision of water and basic hygiene and sanitation facilities in the slaughter facilities, and in the meat markets.
- Diversification to meat processing to produce high value products with longer shelf-life such as sausages, hot dogs, ham, and other ready-to eat products.
- Opening up the country to more meat export markets through compliance with WTO sanitary requirements.

Hides and Skins Value Chain Analysis

Production of hides and skins in Somaliland takes place at two levels. Those that are produced by pastoralists in the villages where they slaughter





animals for home consumption and those that are produced at designated slaughter facilities. Producers who slaughter animals at home are informal producers of hides and skins while slaughter facilities are the formal primary sources of hides and skins. Small traders collect hides and skin from villages and from various slaughter facilities. Wet hides and skin are then washed and salted before they are dried in the sun. After they are dry, they sell them to hides and skins merchants. These merchants also procure dry hides and skins from Southern Somalia, Ethiopia, Puntland and Djibouti. The merchants either export or sell hides and skin to the few tanning companies for processing and export. For those sold to the tanneries, the tanning takes place only to the wet blue stage before they are exported. The bulk of raw hides and skin are exported to various markets including China, Pakistan, India, and Italy and other parts of Europe. Figure 11 illustrates the hides and skins marketing chain in Somaliland.

Constraints Identified in the Hide and Skin Value Chain

A number of constraints were found to affect trading in hides and skins. These include:

- Poor flaying techniques which inflicts cuts to the hides and skin reducing their quality.
- Wounds caused by thorns when animals are grazing in the wooded rangelands affect quality of hides and skins.
- Parasitic infections such as ticks and mange that reduce quality of hides and skins.
- Poor drying techniques that leave hides and skin highly folded.
- Poor preservation techniques leading to deterioration of hides and skins.

- Limited and unstable export markets especially of raw unprocessed products
- Rejection of hides and skins by importing countries due to poor quality.
- Destruction by vermin due to improper preservation and storage of hides and skins.
- Lack of tanneries.

Opportunities to Improve the Hides and Skin Subsector

- Training of butchers and flayers on proper slaughter and flaying techniques and use of appropriate flaying knives to enhance quality of hides and skin.
- Training of pastoralists/farmers, hides and skin collectors and traders on proper handling, curing, drying and preservation of hides and skins.
- Establishment of tanneries and training to improve skills in leather tanning and manufacture of leather goods.
- Assisting local enterprises to establish tanneries to produce finished leather.
- Enactment of appropriate policies to promote local processing of hides and skin and production of finished leather. Such policies should include: zero rating tax of tannery equipment and increasing tax on hides and skin exports.

DISCUSSION

Value chain analysis is an approach for identifying the value created at each step of the production chain (Porter, 1985). The objectives of livestock value chain analysis are to: (i) increase the commercial value, profit and competitiveness of the sector, (ii) reduce rural poverty, (iii) reform government laws to improve business

environment, (iv) determine areas to focus for development support, and (v) contribute to research and innovation in the sector. Value chain analysis allows for an assessment of the linkages between and among productive activities. The value chain approach provides a framework to analyse the nature and determinants of competitiveness in value chains in which small farmers can participate. It also provides the basic understanding needed for designing and implementing appropriate development programs and policies to support market participation (Dolan and Humphrey, 2000). Many development interventions utilize the value chain approach as an important entry point for engaging small farmers individually or collectively, in high value export markets (GTZ, 2007). The value chain approach can be used to enhance economic development and poverty reduction by ensuring farmers access to the full range of necessary inputs, facilitating access to cheaper or better inputs, strengthening delivery of business and financial services, enabling the flow of information, facilitating improved market access or increasing access to higher value markets or added products (Githinji and Wanyama, 2010).

Livestock Value Chain Analysis

The most important and critical stakeholders for the livestock value chain are producers who ensure production of quality livestock. Analysis of value chain at producer level indicated that the raising of animals in Somaliland faces a number of challenges, including water scarcity, low rangeland productivity and pasture scarcity, uncontrolled livestock pests and diseases due to lack of animal health extension services. Munyua (2008a) observed that, the Somaliland rangelands are degraded due to soil erosion, overgrazing and extensive deforestation due to

charcoal burning. This author recommended rehabilitation of rangelands fodder production, crop residue utilization and grazing management to enhance livestock productivity.

Analysis of value chain governance identified institutional constraints that need to be targeted to improve productivity. The Ministry of Livestock which was identified as a key player in production and marketing of livestock was found to be understaffed and lacked capacity to provide the expected extension service. Although the ministry has a good livestock policy, it lacked legal backing to enforce important livestock production and disease control regulations required to control trade limiting diseases, regulate slaughter, enforce hygiene of slaughter facilities and certify meat as fit for human consumption. Veterinarians and other animal health workers are few and most of them work at the quarantine station where they are well paid leaving producers and traders without veterinary services. On the other hand private animal health services are available to some extent but farmers are not willing to pay for veterinary services. There is need to enhance training of veterinarians and strengthen the legal framework to enforce implementation of veterinary laws and meat hygiene and inspection code. Pastoralist producers will need to be enlightened on the importance of paying for services offered by animal health service providers.

Input suppliers are critical in the export livestock value chain. There is need to enhance fodder production and preservation among farming communities to sustain fodder supply required for livestock shipment. This can be done by both livestock owners and unemployed persons as small and medium size businesses. Fodder production is so critical for feeding

livestock at farm as well as during drought periods and unless enough fodder is produced, little may be available for delivery to Berbera for use by livestock destined for the export market. There is need for training of farmers on production and baling of fodder.

Livestock marketing is primarily a private sector affair driven by demand from Gulf States of Oman, Saudi Arabia, UAE, Egypt and Kenya. (Masake *et al.*, 2008). Traders facilitate marketing of livestock and livestock products and hence provide a ready market for livestock. Without traders, producers will not be able to sell their animals and earn a living from livestock production activities. The prices paid to pastoralist are dictated by market forces of supply and demand and these ranged from US\$200-630 for cattle, US\$300-850 for camel and US\$30-60 for sheep and goats. Masake *et al.* (2008) found prices for cattle to range between US\$270 to US\$335 depending on size and the price of sheep and goats to range from US\$32 to US\$49.

Livestock production and marketing is faced with a number of challenges including high production costs, poor body condition of livestock, inadequate water and fodder for the animals at market facilities, livestock diseases outbreaks, lack of banking facilities and inadequate transport vehicles for the livestock. The high production costs are a direct result of the huge risks which characterize the export of live animals from Somaliland. Exporters take a substantial commercial risk as there are no recognized banking systems to handle letters of credit, nor are there insurance systems covering shipments of live animals (Drysdale, 2000). Due to these constraints, one rich individual dominates and controls the export market which is an estimated 80% of all livestock exports and

70% of all imports making marketing uncompetitive. Outbreaks of livestock diseases such as Rift Valley Fever, Foot and Mouth Disease, vesicular stomatitis and lack of veterinary certification of livestock leads to export bans by importing countries and loss of foreign exchange (Holleman, 2002). The livestock bans that occurred in 1998/99 and 2002 forced many shippers and traders out of the market.

Transporters are critical actors in the livestock value chain. They however have no adequate resources to purchase adequate and appropriate livestock transport vehicles. The few trucks available are usually overloaded. Livestock exporters associations should be encouraged to purchase appropriate trucks to supplement the existing privately owned ones to ease the burden of livestock and hay transport to market destinations.

Local/municipal authorities play a leading role in the management of livestock markets and in provision of essential basic services including water and sanitation, garbage collection and cleaning of facilities. Unfortunately, many of the markets do not have livestock watering and feeding facilities as well as separation pens. There is need for the municipal councils in partnership with livestock marketing associations to construct the necessary facilities and provide adequate water supply to livestock markets. This will enhance the quality of animals supplied to the export market.

Quarantine stations are critical infrastructure in livestock exports. The two currently available stations are foreign owned and they are accessible for use as long as there is friendly relationship with the owners and if they are making profits. Somaliland government should consider establishing its own quarantine in future

to avoid possible disruption of livestock export in the event of disagreement with owners of the current quarantine stations.

Berbera Ports Authority is also critical in livestock exports as they provide livestock and hay loading facilities. These facilities should be expanded for easy and faster loading of livestock and fodder. Shipping vessels are used for transportation of livestock to export markets. However, currently, there are no enough shipping vessels supporting livestock exports. The few operating are usually overloaded and animals sometimes die on transit due to suffocation. Availability and access of more and appropriate shipping vessels can enhance livestock exports.

Training institutions such as IGAD Sheikh Veterinary School (ISTVS) and Burao University train veterinary and animal health professionals. The support to ISTVS is currently adequate for the courses offered. However, this is not the case with Burao University. More support is required in terms of facilities and teaching staff to facilitate training of veterinarians and paraprofessionals who are critical in enhancing the competitiveness of the sector.

Meat Value Chain Analysis

The presence of animal diseases and zoonoses undermine the competitiveness of animal and animal products in both local and international markets. Slaughter and meat marketing is currently done without control of the veterinary department as there is no legal framework to enforce meat inspection regulations and to put in place a quality assurance system (Masake *et al.*, 2008). Countries with well established food quality assurance systems can export and trade their products without any barriers and become competitive in the global market. There is need

to put in place a quality assurance system to prevent contamination of meat with pathogenic microorganisms and chemical residues, and to ensure production of safe meat for local and export markets. Massimo *et al.* (2013) observed that the existing export slaughterhouse in Burao, Somaliland had good opportunities for establishing HACCP system to produce high quality meat for export. This slaughterhouse had the required facilities and personnel trained on food safety assurance system including good hygiene practices and standard operating procedures that are prerequisite for the HACCP quality assurance system. However, this was not the case with local slaughterhouses in the study area, where Wamalwa *et al.* (2011) observed that slaughter personnel used unhygienic and improperly cleaned slaughter tools and equipment, moved to and fro between clean and unclean operation areas and kept all sorts of items in the vicinity of the slaughterhouse compromising the hygiene standards of the slaughter facilities. These authors attributed this to lack of training of slaughter personnel on slaughter hygiene and sanitary practices. There is great need to train staff working in local slaughterhouses and the meat industry in general on various aspects of hygiene and quality assurance. Training, knowledge and skills transfer to meat producers and sellers is fundamental to production of quality meat (Ferry and Kevin, 2009).

The major constraints facing slaughter and marketing of meat relate to the poor design and hygiene of slaughter facilities and meat markets, preference for batch rather than chain slaughter that increase contamination level of carcasses, inadequate water supplies, lack of veterinary and meat inspection services. Many of the slaughter facilities in Somaliland are in poor hygienic state.

Masake *et al.* (2008) reported more or less similar constraints to affect Somaliland meat value chain. Short term interventions required to improve slaughter facilities include: rehabilitation of the slaughter facilities to incorporate a roof where there is none, drainage system and essential sanitary facilities, supply adequate running water and posting of meat inspectors to each of the facilities.

Meat Markets

While in many countries meat is sold in scattered retail outlets (butcheries and supermarkets), in Somaliland's main urban towns, meat is sold in "meat only designated markets". The hygiene conditions of these markets are wanting. To enhance the quality and competitiveness of the meat sold in these markets, there is need for rehabilitation or re-building of the markets with proper sheds, with adequate water supply, lighting, sanitary facilities, easy to clean tables and refrigeration facilities. They should be constructed in such a way that they easily drain water from the premises during cleaning and to preclude entry of dust to the meat display areas. The main actors in meat trade (individual traders) should be trained on the importance of hygiene of slaughter facilities, meat hygiene and the role of inspectors in assuring the quality of meat for enhanced shelf-life, sales and profits margins.

Currently, there is no meat processing factory in Somaliland. All meat is locally consumed fresh with little of it being dried and processed traditionally when in excess. Meat processing can enhance utilization of all edible livestock parts that currently go to waste. In addition, processing would extend the shelf life of the products thus allowing market diversification and access of target (niche) markets. It is recommended that

investors be encouraged to set up commercial meat processing factories to process meat into various value-added products for both local and export markets so as to enhance utilization of meat by-products (offals, viscera, blood and bones).

To enhance production and marketing of meat in Somaliland, priority should be given to: (i) provision of veterinary services at producer level to control livestock diseases, (ii) Improvement of hygiene in slaughterhouses and meat markets and meat transport vehicles, (iii) Ensuring the quality assurance system and the National Meat Hygiene Code is approved and implemented across the country to ensure quality assurance of the meat, and (iv) Training of veterinary public health officers to oversee certification of meat. 🌀

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