



Sustainable Financing and Strategic Marketing Increase the Performance of Abattoirs in Pastoral Settings

Ekiru Francis Anno^{1,*}, Elenica Beqiraj Pjero², Akorot James³

¹School of Doctoral Studies, Unicaf University, Lilongwe, Malawi

²Department of Business, Faculty of Economics, University 'Ismael Qemali', Vlore, Albania

³Directorate of Cooperative Development and Marketing, County Government of Turkana, Lodwar, Kenya

Email address:

annofrancis@gmail.com (Ekiru Francis Anno), elenica.pjero@univlora.edu.al (Elenica Beqiraj Pjero),

akorotjm23@gmail.com (Akorot James)

*Corresponding author

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Abstract: The economy of Kenya's arid and semi-arid lands relies primarily on livestock keeping. In Turkana, livestock farming is depended on by over 60% of the population; a source of food and nutrition, income, and capital for diversified sources of living. Abattoirs are crucial tertiary markets and units of livestock trade capable of linking livestock-producing areas and herders with potential markets. Conversely, operational challenges have grossly hindered Kenyan abattoirs' functionality, competitiveness, and profitability. The focus of the study was the non-functionality of the Lomidat abattoir in Turkana, established in 2006 by AMREF and Terra Nuova using donor assistance but halted operations in 2013. In order to discover the reasons that contributed to the non-functionality of the Lomidat abattoir, four study objectives were formulated i.e., (i) to establish the historical context of the Lomidat abattoir during its operational period, (ii) to ascertain the political, economic, social, technological, legal, and environmental factors that influenced the operations of the abattoir, (iii) to identify the potential markets for the abattoir and the viability of each, and (iv) to find out the critical focus areas for the abattoir's competitive and comparative advantages. The study uses exploratory and descriptive research designs, a mixed method study approach, and convenience and probability sampling techniques to generate a study sample of 81 out of a sampling frame of 86. The study populations were livestock traders (primary respondents) and government and civil society focal points (secondary respondents) purposively selected where a semi-structured questionnaire was administered to them. The investigation results indicate that many political, economic, social, cultural, legal, and environmental glitches severely impacted the operations of the Lomidat abattoir which include insufficient funding, rampant internal and cross-border conflicts, government legislation and policy, long distances to markets, and high transportation expenses. Strategic management and marketing, extensive market research, crafting of the appropriate business model for the abattoir, assured government and donor funding, the establishment of public-private partnerships, adoption of opportunity cost livestock-based enterprises, and empowerment of Lomidat Cooperative Society are the priority strategies for reviving the abattoir and putting it into use. The study concludes that sufficient financing and strategic marketing are critical in sustaining abattoirs' operations in pastoral settings.

Keywords: Abattoirs, Pastoral Economy, Livestock Marketing, Value Chains, International Trade, Livestock Policy

1. Introduction

It is estimated that 80% of Kenya's landmass is comprised of arid and semi-arid lands (ASAL), with pastoralism serving as the principal agricultural method and primary source of livelihood. Pastoralism contributes between 10 and 44 percent

of African countries' GDP, and the livestock value chain employs approximately 1.3 billion people. Pastoralists manage about 75 percent of Kenya's livestock herds, which provide the majority of the meat for markets. Pastoralism in Ethiopia directly feeds an estimated 20 million people, produces 80% of Ethiopia's entire yearly milk supply, and provides 90% of the meat consumed in East Africa. In Ethiopia, Kenya, and Uganda,

the livestock industry contributes 19 percent, 13 percent, and 8 percent of the GDP, respectively.

Pastoralism provides approximately 60% of the West African market's meat and milk products. Despite the overwhelming benefits of pastoralism to livestock-dependent populations and state economies, the production system is hindered from reaching its full potential due to underutilization. In Eastern Africa, the majority of pastoral groups continue to domesticate their animals. They mostly utilize them for sociocultural objectives such as dowry payments, household food needs, and prestige and social status by keeping them in large numbers.

The figure below shows Turkana County, where the Lomidat abattoir is established, and the internal and cross-border regions that are known for livestock keeping, which can sustain livestock supply and demand.

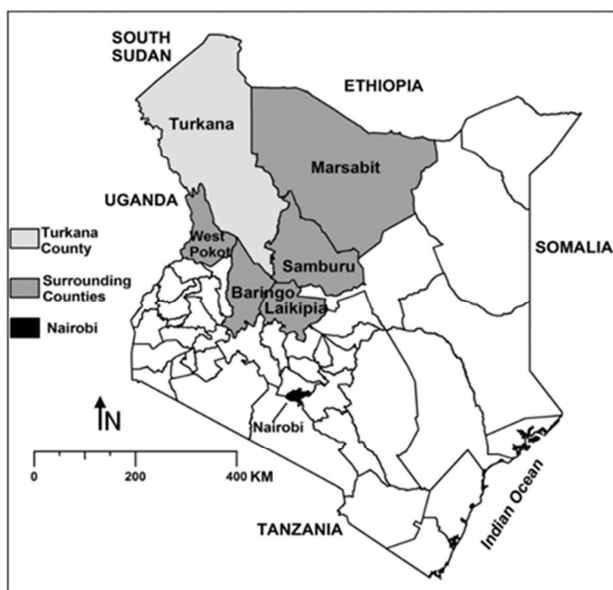


Figure 1. Map of Kenya showing Turkana County and internal and external bordering areas.

Numerous efforts have been made by governments, civil society, and donors to market livestock husbandry in pastoral areas. Other than the establishment of formal livestock marketing yards, several abattoirs have been established in strategic locations to increase livestock sales and functionality of market yards, facilitate hygienic slaughtering and safety of meat products, process and value-adding of meat products destined for various markets, and strengthen the links between livestock production areas, distribution channels, markets, and consumer needs. Despite the effectiveness of such efforts, many abattoirs, particularly in Kenya's arid regions, are reported to be non-functional or running below capacity.

Plentiful cultural, social, economic, political, environmental, technological, and legal elements influence the performance of dryland abattoirs and animal production and trade initiatives. These spheres of livestock market development require thorough analysis to ascertain the extent to which they affect livestock production prospects.

2. Literature Review

2.1. The Livestock Sector in the Horn of Africa and Kenya

Livestock farming is a crucial pillar of food, income, and nutrition security in almost every country in the globe, as well as a significant contributor to gross domestic product (GDP) and foreign earnings in nations that embrace it [9, 17, 25]. Eastern Africa is one of the top regions in Africa in terms of livestock population and agricultural diversity [10, 24]. Kenya's livestock industry is expected to grow significantly over the next three decades, improving the nation's food security in the face of a growing human population and causing the demand for animal-derived products to increase drastically and be consumed in a variety of market segments [3, 20].

Current market-based forecasts for Kenya indicate that cattle and poultry populations would increase by 94% and 375% respectively by 2050 and that productivity gains will also be substantial [8, 12]. In 2016, almost 70 percent of the estimated US\$ 1,622 billion in total animal output was supplied by cattle and poultry. The private sector plays a crucial role in bolstering the pastoralist economy and marketing livestock resources from the arid regions of eastern Africa and Kenya [4 – 5]. The rapidly developing livestock industry continues to foster the growth of small-scale farmer cooperatives, which increased by 20.2% in 2018 compared to 2017 [8, 19].

A lack of well-defined breeding program and production processes, as well as the absence of an integral link between the stakeholders in the production chain, inadequate road and air transport to intended markets, competition between market entrepreneurs, and limited access to market-related information hinder market access [1, 6]. In addition, the lack of meat processing and quality enhancement technologies reduces the demand for livestock goods from rural areas, hence diminishing their marketability, sales, and the coveted economic returns from marketplaces [1, 21, 27].

The long-term orientation of pastoralists toward subsistence agriculture has a considerable effect on livestock trade in the arid deserts of Africa [1]. The absence of efficient and functional market infrastructure systems, the limited institutional capacity of marketing institutions, high transport costs, insecurity, trade fees, corruption, and structural inefficiencies, such as high transaction costs, have made it difficult to install functional livestock marketing systems that are essential for the transformation of livestock keeping and utilization plans in the drylands [4, 24, 26].

The majority of livestock markets and marketing operations in dryland regions of Ethiopia, Somalia, and Kenya are buyer-driven and significantly influenced by trader cartels and market brokers [4, 6]. There aren't enough savings or ways to get money, producer prices are low and changeable, and there isn't enough political capital to get rid of livestock quarantines and numerous market access restrictions, which make it hard to improve livestock production, marketing, and drylands resource economics [16, 21].

2.2. Abattoirs and Meat Supply Systems

Meat is an essential part of the human diet and a source of

essential nutrients for healthy living for people of all ages [3, 20]. In response to the increased potential for exporting meat to Middle Eastern and North African countries, a number of large-scale abattoirs have lately been constructed in Kenya, Ethiopia, and Somalia, among other prospective livestock agricultural nations of Africa [11, 14]. Abattoirs are becoming terminal markets for livestock in many dryland regions, where potential livestock producers and vendors continue to explore the available business opportunities [1, 8, 15].

Increasing the establishment of meat export abattoirs in the eastern Africa region is a step in the right direction for diversifying and expanding foreign exchange earnings for states and entrepreneurs, as well as enhancing the socioeconomic well-being of livestock traders and livestock-producing communities [2, 5]. But the fact that some meat processing facilities in high-potential areas aren't being used shows that there isn't a landscape livestock marketing approach and system that connects all livestock production areas to existing local and global markets and trade opportunities [1, 6, 12].

2.2.1. Need for Abattoirs and Accessibility to Meat Value Chains

Existing meat processing facilities in Kenya operate at less than 50 percent of their operational capacity due to supply and demand factors and operational inefficiencies [4, 12]. Also, abattoirs for export are in competition with the demand for live animals for domestic consumption as well as legal and informal cross-border trade protocol [2, 12].

When meat processing abattoirs are not operating at optimal capacity, they are unable to minimize their operational expenses and suffer a cost disadvantage, which diminishes their competitiveness in the domestic and international meat markets [8, 23]. Abattoirs that export meat are also required to ensure a consistent and continuous supply of meat in order to meet the demand of consumers in importing nations [26]. The abattoir business is profitable for meat sellers and highly rewarding for livestock suppliers [7, 22]. This is so when the market has enough high-quality live animals and products that meet market needs.

2.2.2. Abattoirs as Tertiary Livestock Market

In the formal livestock marketing system, abattoirs connect livestock production areas, primary and secondary markets, traders, and herders to benefit from the tertiary and terminal markets [23, 27]. Abattoirs not only purchase livestock in large numbers for fattening and slaughtering but also provide an opportunity for inspection of meat and evaluation of fitness for human consumption and employment opportunities. Depending on funding and business scope, abattoirs can process meat products for local and external markets [25]. Like other business ventures, strategic management and marketing improve abattoir operations, competitiveness, and profitability [2, 16]. In pastoral areas, the integration of abattoirs into the livestock marketing system makes the livestock economy complete, whereby matters of livestock production, processing of meat products, marketing, and product consumption become critical business components that livestock-based entrepreneurs can maximize [16, 21].

2.3. Challenges Faced by Abattoirs in Kenya's Drylands

The regulatory framework that occasionally influences the operations and management of abattoirs includes modifications to licensing, taxation, quality requirements, inspection, and market access [13, 18, 20]. As well, the performance and competitiveness of meat companies are hindered by the availability and cost of professional and specialized labor, capital expenditures, customer preferences, and trends, livestock industry-specific hurdles, competition, quarantines, and the closure of abattoirs [4, 10].

The primary challenges facing the performance of abattoirs are capacity building to support good slaughtering practices, veterinary public health capabilities, and abattoirs' ability to comply with client requirements for food safety, quality assurance, and traceability of products [2, 5, 18]. However, there have also been instances of success when the government's policy involves converting communal abattoirs into private ones and renting publicly held abattoirs to private companies [2, 9, 16].

2.4. Kenyan Legal Framework on Livestock Development

Kenya has made substantial progress in developing an appropriate and beneficial policy environment for livestock development in the country. The policy aims to enhance the development of locally-produced livestock components with competitive and comparative advantages to sustain livestock sector capabilities in local, regional, and global markets. The Food, Drugs, and Chemical Substances Act (Cap. 252) for the prevention of adulteration of food, drugs, and chemical substances and the Prevention of Cruelty to Animals Act (2012) are essential legislations for the safe handling and management of farm animals.

National Bio-Safety Authority Act (2009) supports responsible research by minimizing research risks, Veterinary Surgeons and Veterinary Para-Professionals Act (2011) helps in the registration and development of capacities of professionals in matters relating to animal health services and welfare; the Fertilizers and Animal Foodstuffs Act (Cap. 345) regulates the production, importation, and sale of fertilizer and animal foodstuffs; and Kenya Meat Commission Act (2003); (Cap. 363) regulates the production, importation, and sale of meat in and out of the country.

Other indispensable legislations for livestock development consist of the Uplands Bacon Factory Act 2 for the establishment of the Uplands Bacon Factory in Kenya, the Cattle Cleansing Act (Cap. 358) for the cleansing of cattle, the Anti-Rabies Act of 2007 for the control of rabies, the Animal Breeding Policy 2009 for the promotion of the sustainable use, development, and conservation of animal genetic resources, and the National Livestock Policy 2019, which encompasses farm animal genetic resources, livestock nutrition, pest and disease management, and policy guidelines.

2.5. Opportunities for Improving Livestock Development in Kenya's Drylands

Improving the livestock market system, lowering the cost of

livestock transportation, improving security and information gaps, creating opportunities for pastoralists to sell their livestock, supporting livestock auctions, improving financial benefits to livestock producers and vendors, reducing the influence of marketing cartels, strengthening Livestock Marketing Associations (LMAs) and upgrading them to livestock business cooperatives, and establishing initiative livestock producers associations are the dominant policy actions advocated by livestock development stakeholders [1, 7, 21].

The current veterinary service requires bolstered vaccination and veterinary medication provision to control major animal diseases that pose a threat to public health [13, 23]. A favorable legal framework for livestock trade, sanitary conditions at slaughtering facilities, workforce training, and continuous development of smallholder farmers, will improve the viability of production and marketing initiatives in the county [24].

Access to credit and financial literacy services, a defined protocol for cross-border livestock trade, the securing of livestock production areas and trade corridors, and support to the ongoing scientific research on livestock health, production, and marketing are essential for enhancing the functionality, profitability, and competitiveness of abattoirs in the drylands of Kenya [6, 17, 28]. The figure below is the photo of the non-functional Lomidat abattoir in Lokichoggio, Turkana.



Figure 2. Front view photo of Lomidat Abattoir taken on 20th October 2022.

3. Methodology

3.1. Research Design and Sampling

Exploratory and descriptive research designs and methodologies were used to provide an in-depth investigation of the Lomidat abattoir performance challenge, a hitherto unexplored case. Individually and in focus groups, specialists in livestock marketing administered and evaluated the validity of a research instrument (questionnaire) for data collection. During the pre-assessment of the study area, it was discovered that a percentage of the one hundred registered Lomidat abattoir members were unwilling to participate in the study due to the circumstances that led to the closure of the abattoir in 2013. Thus, both non-probability and probability sampling methods were employed.

Convenience sampling was utilized to obtain 86 interested

participants for the study, which formed the sampling frame. For a more representative sample, the probability sampling technique was utilized, with a confidence level of 95% and a confidence interval of 2%, yielding 81 participants as a sample from the sampling frame. 10 secondary respondents from the government and civil society were purposefully selected to participate in the study, where research questions were administered to them majoring in livestock policy, cross-border commerce and dynamics, and internal and external market experiences.

3.2. Data Collection and Analysis

PESTLE analysis was the framework for determining the selection of research questions, data collection, and examination. A semi-structured questionnaire containing strategic questions on political, economic, social, technological, legal, and environmental aspects was administered to both primary and secondary study participants. The use of mixed methods approaches resulted in the mobilization, analysis, and presentation of quantitative and qualitative data in accordance with the study objectives.

4. Results and Discussion

4.1. Analysis of the Background of Lomidat Abattoir

Lomidat abattoir facility, established in 2006 in Lokichoggio town, Turkana County, Kenya, by the Africa Medical Research Foundation (AMREF) and Terra Nuova (an Italian non-profit organization) in partnership with the University of Nairobi and the Government of Kenya, was intended to be a "world-class" location for producing high-quality livestock value chains for local and external markets.

To fulfill the market's expanding demand for animal products, meat products will be manufactured according to stringent quality assurance requirements and delivered to the market on time. Lokichoggio was selected because of its proximity to the potential livestock production zones, prospective grazing fields, and livestock trading corridors in Kenya, Uganda, South Sudan, and Ethiopia. The enterprise aimed to transform the economic and production objectives of pastoralists from traditional to market-oriented outcomes.

Under the tagline "Improving the lives of pastoralists," the abattoir focused on purchasing large quantities of animals, ensuring their safe slaughter and inspection, processing and adding value to the meat products, and distributing them to retail outlets. Slaughtering of healthy animals was meant to produce beef, veal, lamb, and mutton sold as chilled, frozen, or raw carcasses, retail cuts, or value-added into processed products; and the sale and/or processing of offal, such as liver, lungs, and intestines, for use in the creation of pet food. Also exploited were horns, hooves, and bones, which a group of local youths and women used to create ornaments, and dry or green hides and skins, which were utilized to create leather goods.

Blood was preserved and dehydrated for use as fertilizer and in the production of chicken feed. Wastewater and gastrointestinal (GI) waste were used as fertilizer to enrich holding and fattening farms and crop farmlands. Biltong,

which is meat that has been stripped, marinated and dried in a sanitary way, and beef sausages were sold for continental hospitality services and local consumer outlets, such as hotels.

From the perspective of the donors, i.e., AMREF and Terra Nuova, the Lomidat abattoir corporate social responsibility (CSR) project for the people of Lokichoggio consisted of a number of initiatives to promote the advantages of linking livestock production to the market for the food and income security of pastoral communities. These initiatives included the employment of locals to provide services required by the facility, the procurement of livestock to provide a ready market for pastoralists, the engagement of livestock experts and community agents trained in animal health, production, leather technology, and marketing, and the mobilization of livestock owners to sell their animals in relatively high numbers.

The Lomidat facility was also supposed to give specialized training to youth and women on agribusiness and the processing of livestock products; help and coordinate livestock marketing through LMAs to get animals ready for slaughter; create a microfinance loan kitty to give credits to traders and entrepreneurs; diversify businesses and livelihoods as a peace dividend for the reformation of cattle rustlers; and reduce insecurity along Kenya, Uganda, South Sudan, and Ethiopia borders.

4.2. Quantitative Data Analysis and Results

4.2.1. Demographic Characteristics of Study Participants

The study established that 80% of the 96 study participants (primary and secondary study participants) were male. 80.5% were either married at the time of the study or had been previously married. In this sample, 70.6% were between the ages of 40 and 50, while 29.4% were between the ages of 51 and 70. About 6 percent of the primary study participants (livestock traders) were literate, but none of them had completed secondary school. All government and civil society

officials were college-educated and had substantial knowledge of livestock development and food security. Since the facility stopped operating almost a decade ago, there have been no youth participants. 76% of the study participants supplied livestock to the Lomidat abattoir as traders.

Previously, 50% of livestock traders purchased livestock across international borders. 5 percent of the study respondents were butchers, and 2 percent were facility employees. In addition, it was determined that 46% of the primary respondents were still engaged in the livestock trade, and the remainder had shifted to alternative means of livelihood. 93% of study participants were well-versed in the variables that plagued the Lomidat abattoir. When the abattoir was operational, 20% of livestock traders were female, which formed part of the labor force. At that period, when the fight for women's participation in economic activities was still moving at a snail's pace, these figures were deemed important.

4.2.2. Lomidat Abattoir Functionality Inhibitors

The study respondents were able to identify the twenty most important factors that inhibited the performance of the Lomidat abattoir. Each factor was measured using a Likert Scale of 1-5 (Strongly disagree – Strongly agree) to obtain the average means. In order of importance, funding ($\bar{x}3.8$), conflicts and cattle rustling ($\bar{x}3.5$), government Law and policy ($\bar{x}3.41$), distances to markets ($\bar{x}3.2$), and transportation ($\bar{x}2.96$) were highly polled. Other factors that were equally severe were prolonged droughts ($\bar{x}2.86$), Livestock feed and water ($\bar{x}2.82$), Quality controls ($\bar{x}2.8$), Trade systems ($\bar{x}2.76$), and Zoonosis and public health ($\bar{x}2.74$). The least polled factors were Expertise and labor costs ($\bar{x}1.51$), Climate change impact ($\bar{x}1.56$), Market information ($\bar{x}1.61$), Livestock domestication ($\bar{x}1.83$), and Poverty of households ($\bar{x}1.99$). The distribution of means is shown in the figure below.

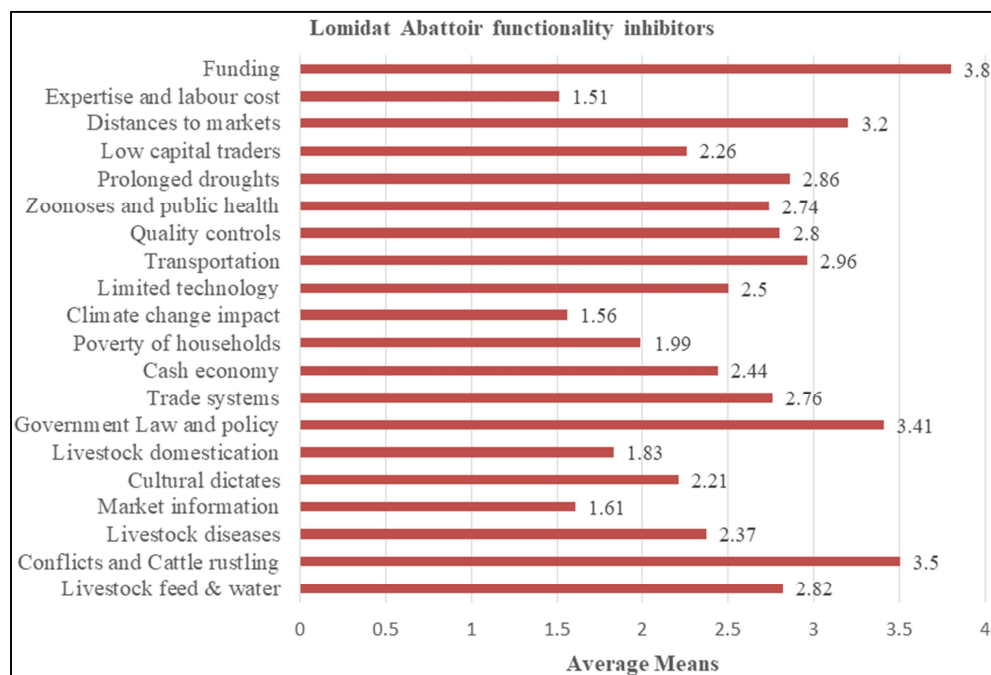


Figure 3. Lomidat abattoir and the factors contributing to non-functionality.

Funding was a big issue for the Lomidat abattoir, as it was a project formed solely with donor monies. Prior to the accumulation of considerable profits from the sale of meat products, there was insufficient money to maintain the abattoir's operations. The primary livestock supply markets were South Sudan and north-eastern Uganda. The political upheaval and insecurity in the cattle trade routes negatively impacted the abattoir's animal supplies.

Due to market distances, transportation costs, government policies, and quality standards, it was extraordinarily difficult for beef products to reach potential customers in the country. The lack of business models for company operations and market access was viewed as a key obstacle that hindered the facility's success due to the lack of trade systems.

4.3. Qualitative Data Analysis and Results

4.3.1. The Political and Economic Factors

Political and economic instability dominates the majority of Eastern African nations. Conflicts in Northern Kenya and North Eastern Uganda, as well as periodic political unrest in South Sudan and Kenya's border regions with Ethiopia, have a negative impact on the performance (by location) of the vast majority of commerce corridor enterprises. In addition, Lokichoggio village, where the Lomidat abattoir is situated, is infamous for cattle rustling, highway robberies, and border disputes (Elemi Triangle Conflict).

The county's efforts to market animals continue to be impeded by the Lomidat enterprise performance obstacles. In a similar fashion, the high demand for employment in Lokichoggio exerts continual pressure on the administration of the Lomidat abattoir to expand employment opportunities. This decision will delay the attainment of a return on investment (RoI) and the mobilization of sufficient corporate reserves to establish a sustainable capital foundation. If the company's planning and projections are weak, the payback period may be excessively lengthy.

The colonial quarantine put on Kenya's pastoral districts in the 1960s, which restricted livestock transportation, has not been lifted, hindering the country's chances of entering global markets. This regulatory framework remains the government's most extensive economic constraint on pastoralists and pastoral economies. The Kenyan government has invested less money to improve the social and economic stability of pastoralist communities which demeans livestock development and the substantiality of livestock-based investments.

The government's unwillingness to invest in the project, as well as its stringent bureaucratic procedures, impedes the development of pastoralist regions, maybe because the initiative's contribution to GDP is minimal. South Sudan, the world's largest cattle market, has been in a civil conflict since 2011. This is a result of the abattoir's failure to slaughter 300 animals each day, of which South Sudan was expected to be the principal supply source.

The expansion of insecurity and hostility inside and across borders has hampered market functionality and access, hence

restricting livestock resources' venturing to prospective regional markets. Corruption is a national threat that affects every part of Kenya's economy. Due to the nature of its industry and the lack of anti-corruption measures even in the livestock sector, Lomidat abattoir is susceptible to corrupt tendencies that come with trade opportunities.

Due to the performance decline of some livestock businesses, taxation has become a considerable burden. Also, when subsidies for purchasing and transporting livestock were eliminated, particularly following the conclusion of the donor-funded period, there was no relief for the Lomidat abattoir operational costs, which continued to deplete its capital reserves, decreasing the likelihood that the business areas of focus would be profitable and sustainable. The Lomidat abattoir industry was not well linked with the Kenya Meat Commission (KMC) and other state entities, such as the Kenya Livestock Marketing Council (KLMC). This blind spot denied the enterprise of business capacity development and leverage on potential risks and uncertainties.

In 2007, as the Kenyan shilling's value began to fall, inflation was felt throughout the country, particularly in the pastoral areas, where the rising cost of goods and services made life intolerable for many. The Lomidat abattoir's high rate of insolvency poses a threat to product value chain consumption, company profitability, and the mobilization of sufficient economic returns to compete with similar businesses.

Turkana has long been regarded as one of the poorest counties in Kenya. National and local governments place an emphasis on social services such as education, water, food, and health while leaving production and commerce to the private sector. Consequently, the situation is terrible and incapable of motivating and sustaining commercial operations such as the Lomidat abattoir business. If nothing is done to improve the region's bleak economy, even the most lucrative business plans will always be hampered.

A county with a low employment rate and a limited number of able-bodied households has a weak cash economy. Given that product prices are already quite high, unverified price discoveries make it challenging to evaluate price elasticity and product realistic break-even points, i.e., quantities and prices. In spite of the fact that the world is becoming more globalized and interconnected, technological expenditures are expensive and demand a high degree of comprehension. Therefore, Lomidat Company cannot acquire and maintain the most cutting-edge equipment and services. This causes many to question the viability of the company's business objectives.

4.3.2. The Social and Cultural Factors

Demographic transitions are visible in Turkana County, where social and economic features are crucial for market segmentation, product differentiation, and consumer focus. Even if the population of Turkana County is increasing, the affordability of meat products is falling due to changes in family size and composition, changes in lifestyle, household economy, and the availability of alternative goods.

Ninety percent of the Turkana population's cultural and subcultural habits are increasingly migrating towards the occasional eating of animal products and the regular intake of legumes and vegetables. Moreover, the most severe ethical problems known to stakeholders of the Lomidat abattoir in the livestock catchment area and trade corridors include livestock theft, community retribution, and counter-payback activities, all of which are highly recognized as social/traditional phenomena. In the livestock supply catchment areas of Uganda's Karamoja, South Sudan's Eastern Equatoria, Ethiopia's South Omo regions, and Kenya's Turkana county, resource-based conflicts are not anticipated to cease.

The high cost of meat negatively affects livestock production and marketing in Turkana County. The absence of incentives for market capitalization, along with efforts to mobilize and engage livestock traders from various districts of Turkana to own the Lomidat enterprise project, impedes the sustainability of efforts to mobilize local resources. The prestige of regions that can supply animals to the Lomidat abattoir is diminished by recurrent conflict and lack of justice for victims of crimes committed within the enterprise's catchment area.

The absence of effective rules and structures for peacebuilding is still a factor in the initiation and continuation of conflicts. Cross-cultural communication is not yet fully utilized. The reason for this is that peace and conflict transformation partners view and care for their counterparts differently. Government and civil society efforts to promote political and economic stability help pastoral communities on the borders of Kenya, Uganda, South Sudan, and Ethiopia, especially in access to livestock production resources and markets.

For pastoral communities to coexist in harmony, people, animals, and even businesses must be able to freely cross and travel within boundaries. On the other hand, the issues associated with a pastoralist lifestyle make it more difficult to expand market segments and maintain the equilibrium between supply and demand market forces. Markets for livestock and value chains, as well as the expansion of industries, depend on the presence of supportive forces that are not dictated by the market forces.

4.3.3. The Technological and Legal Factors

Similar to other areas experiencing fast urbanization, the rate of change in Turkana County is observable. These life-altering experiences drive the production and innovation of both ideas and goods, allowing Lomidat Company to reposition its strategy in response to the shifting face of socioeconomic development. To support the realization of Lomidat's business model, the availability of technical platforms, such as network coverage, pervasive phone and Internet communications, and social media, would combine the thoughts and activities of all livestock development boundary partners. The impact of technology would also boost the production of goods, employee satisfaction, and the performance of each business portfolio.

The Lomidat abattoir would help promote the integrity of production outputs and the establishment and preservation of customer confidence in the safety and value of products

through its quality assurance services. Due to the extent of Lomidat abattoir operations, outsourcing products and services may become more expensive, less desired, and impractical with time. There is a dearth of studies on livestock marketing and value chain development in pastoral regions. This will restrict Lomidat's expansion choices until new research is conducted or past findings are revised and confirmed to match the organization's current business prospects in the region. To solve its own challenges, the company needs a knowledge management plan and market research program.

The execution of Lomidat's outmoded definition of "business intent," which was created about two decades ago, and the inefficiencies associated with it would prohibit the company from achieving the requisite enterprise performance. If technology was available and accessible, it would be utilized for quality control, product pricing, and producing realistic sales, profit, and customer projections. If the regulations do not apply to Lomidat's commercial operations, the passage of several tax policies and legislation at the national and county levels could create a hostile business environment.

Kenyan employment, business investments, and licensing regulations favor Kenyans, reducing opportunities for organizations to hire foreigners who can contribute to the company's strategic goals. At some point, legislation regarding the sale of livestock, the sale of products, and their use grow more stringent. This means that businesses that do not satisfy the basic requirements could lose their registration and business operations altered.

Locals who have a right to safe consumables and hospitable environments, as well as the government's department of public health, are concerned about the health risks that businesses pose to the environment; in the case of abattoirs, the safety of products and the proper disposal of waste remain issues of concern. Compliance with policy requirements would improve law and corporate integrity while sticking to environmental management's essential concepts and ethics. Authentic and moral advertising, based on the many categories of customers in various product value chains, is a method for acquiring more loyal and likely-to-purchase customers.

4.3.4. The Environmental and Ethical Factors

The existence of environmental use legislation is a foundation for business concepts. It includes measures that allow Kenya's economy and communities to profit from natural and manmade resources. Similar to other companies operating in the same environment, Lomidat abattoir is obligated to align its business objectives with environmental and resource economics rules, regulations, and frameworks. Plans for infrastructure must adhere to tight environmental regulations, and production risks such as pollution must be drastically reduced.

Environmental management watchdogs, including the National Environment Management Authority (NEMA) and civil society organizations, as well as national and county

public health agencies, vigorously promote the adoption of environmentally friendly products. To determine the cost-effectiveness of such business strategies when the social and economic implications of the enterprise are adverse to the local environment and population, ecological consequences must be accurately recorded in pre-impact assessments. The business strategy of a corporation should incorporate recycling and trash management.

4.4. Focus Areas for Abattoir's Competitive Advantage

Kenya is mostly an agricultural nation. Throughout the year, crops and livestock products are in great demand. This is sustained by the population's dietary habits, which consist of the intake of both animal and plant products. Additionally, 80% of Kenya's terrain is classed as dry or semi-arid, which influences livestock and opportunistic crop farming as key production systems and, consequently, the economic backbone of Kenya. There are numerous methods for consuming meat products. This includes the purchase and sale of live animals, the diversification of livestock product consumption habits, retail outlets, and product value chain value addition, as well as the distribution of livestock goods on domestic and regional markets.

Turkana County is a typical pastoral region, with around 90% of the population placing a high value on livestock rearing and product consumption, indicating the potential for livestock marketing and the long-term viability of livestock-oriented companies. However, whereas competition is beneficial for businesses, it is likely to generate problems in Turkana, where cattle are sold in a highly competitive market.

Due to the importance of competition in market economics, Lomidat abattoir management can formulate strategies to ensure a high market share through healthy competition. As a prominent player in the region's livestock business, Lomidat abattoir is in a better position to push for intelligent trade arrangements and engagements that will restore sanity to the industry and convince people to once again commit to creating and sustaining livestock marketing infrastructure.

Political upheaval in neighboring countries with the capability to provide the required quantity and quality of animal resources, and limit exports of cattle to abattoirs represents an additional challenge to livestock sector participants striving to meet market needs. Therefore, "stock purchase" is a complex aspect of Lomidat's abattoir that must be meticulously planned and executed.

Lomidat abattoir can issue contracts to prospective dealers to secure the timely delivery of animals. Mobilizing animals from catchment areas would decrease the likelihood of direct competition and conflict with numerous traders and their customers in livestock market yards. This is due to the interaction with prospective traders and, of course, their loyalty.

To ensure a constant supply of animals throughout the year, the company must set aside sufficient operating capital to make timely payments to its suppliers. This would motivate them to continue contributing to the profitability and competitiveness of the organization. Having sufficient stock

for daily slaughter and reservations at holding and fattening camps would help the firm create future stable markets and capitalize on emerging spot markets. Consistency in animal slaughter necessitates a constant supply of livestock products along the value chains that are essential to the company and product consumers. This would boost the feasibility of livestock slaughter as a major enterprise business component.

Aspects of competition through slaughter are worthy of study since they enable the business to boost seasonal sales and profits. When purchasing live animals, considerable care must be taken. This is accomplished by selecting healthy, non-deformed, non-mineral deficient, and well-nourished animals of outstanding quality. The nation's regulatory agencies must do more to ensure that livestock products are safe for human consumption.

The capacity of an abattoir to butcher huge amounts of animals correlates with its ability to serve a bigger market and meet client needs. Economies of scale demonstrate that the costs of goods and services supplied to a wide client base can be reduced. This is a tremendous opportunity that should be utilized to grow and sustain abattoirs business intent.

Other competitors operate on a smaller scale, which may allow them to profit from the product market segment with the lowest purchasing power. Nevertheless, due to its market and customer orientation, Lomidat Company may be able to subsidize a percentage of its products to boost the poor consumer group's access and affordability by allowing them to purchase items from many sources. This strategy would generate new opportunities to expand market share and strengthen brand loyalty among the numerous potential customers who would be satisfied with the items' quality and cost.

The company has adopted and implemented its supply chain system, but competitors can still exploit weak areas. According to the existing change paradigms, the processing and distribution of all livestock value chains occur at the factory level. Given that competitors can choose to slaughter animals at consumption places, so offsetting their transportation costs, the likelihood of this model being challenged remains high, making it a comparative advantage for the Lomidat abattoir.

4.5. Existing and Emerging Markets for Lomidat Abattoir

Since its start, the Lokichoggio, Kakuma, and Lodwar communities of Turkana have been considered as possible clients for the Lomidat abattoir. To better service these markets, all value chains need to be overhauled, including livestock procurement, slaughtering, and product distribution. By purchasing shares, it is projected that the membership may reach 10,000 which will assist increase the financial and asset resource base and vibrancy of the abattoir.

Attracting and maintaining product customers is a common strategy for maximizing the local market. These include, but are not limited to, training that teaches a variety of skills and knowledge; exposure to other successful livestock markets and businesses; assistance for youth and women to find alternative means of subsistence; and business monitoring and evaluation for improved business performance.

In order to allow certain commercial methods that correspond to the laws of a free market economy, anti-cartel efforts must be enhanced. The company's strategic plan considers Nairobi, Nakuru, and Eldoret, among other key cities, as new markets and avenues for making Lomidat products reach supermarkets, hotels, and various emerging spot markets. In response to market needs, the Lamu Port and Lamu-Southern Sudan – Ethiopia Transport (LAPSSET) Corridor project will encourage entrepreneurs to develop hotels and other hospitality services. This is an additional untapped market that Lomidat Company intends to exploit.

The refugee camps in Kakuma, which have been created and with influence within a radius of 50 kilometers and can house up to 250,000 refugees, constitute a potential market for the Lomidat abattoir. The United Nations subsidy support and the Kenyan government's school feeding programs provide the opportunity to address the nutritional needs of the people with an assortment of meat products. Through the County Government Ministry of Health (MoH), Lomidat abattoir can also bid on contracts to distribute meat products to government and mission hospitals, particularly to help patients with chronic illnesses, HIV/AIDS, and malnourished people improve their diet and nutrition.

5. Conclusion

Despite the obstacles hindering the functioning of abattoirs in Kenya, the potential for livestock and meat trade in the country remains strong due to the rising demand for meat products. As-matter-of-fact, every difficulty necessitates a solution that is purposeful, lasting, and inexpensive. The cross-border nature of the challenges facing the Lomidat abattoir necessitates a cross-border and regional integration strategy that tackles the political, economic, social, and environmental concerns of livestock-keeping communities and entrepreneurs. The Lomidat facility has been inoperable for approximately ten years.

The prolonged non-functionality of the Lomidat abattoir accumulates capital and investment return losses. The sole remaining option is to reopen the facility, either for the original purpose of slaughtering cows and goats or for the opportunity cost of other viable livestock-related businesses, such as poultry production, pig farming, and meat processing, among others. To solidify a renewed robust plan for Lomidat abattoir, regional governments, and civil society organizations must conduct a comprehensive internal and cross-border livestock production and marketing study. The study would examine in depth the extent to which political, economic, social, legal and environmental factors may affect the operations of regional abattoirs.

Legal and technological elements are crucial in defining the enterprise's operations, competition, and profitability in an open market economic system. If the facility is revived, the diversification of businesses and integration of abattoirs into other areas of the economy will increase business dependability and operational sustainability. It is necessary to negotiate business partnerships with the hospitality sector and

institutions where livestock products are consumed every day. The public-private partnership (PPP) arrangement will assist regulate the supply and demand dynamics and abattoirs' contribution to local and regional economies thus strengthening the abattoir's competitive and comparative advantage capabilities.

A Lomidat abattoir's marketing plan should define its products, pricing, location, promotion, cost plus, customer value, and risk management measures. Government policy and civil society livestock development plans must be comprehensive and conducive thus enabling the flourishing of livestock-based ventures in drylands. Therefore, a plan to identify and manage the enterprise impediments will minimize their severity hence reducing risk to the abattoir's revived operations and performance. Predicting the performance of the abattoir after its resuscitation will be facilitated by solid management and marketing strategies, repair of the facility's equipment and components, and validation of the revitalization plan's cost.

An audit of Lomidat abattoir's assets and full transfer of the facility custodianship from the sponsor agencies, i.e., AMREF and Terra Nuova, to the Lomidat Cooperative Society will strengthen ownership and help limit the dependence on donor funds and diverse management systems; factors largely attributed to the inability of the abattoir to function. It is also suggested that the revitalization plan for the Lomidat abattoir should involve the reconstitution of the board of directors and the incorporation of government appointees as ex-officio members in order to ensure the delivery of the new business plan and the capacity building of stakeholders.

The public-private partnership would assist in investigating options to incorporate the Lomidat abattoir into the Kenya Livestock Marketing Council's (KLMC) commercial agenda and the Kenya Meat Commission's (KMC) mainstream. Abattoirs are required to make a certain amount of investments in order to create and market superior products, as dictated by technological innovation and quality standards. The Lomidat abattoir equipment purchased more than fifteen years ago may need to be replaced with the most modern and efficient equipment now available in the market.

In Turkana, the production of healthy and productive livestock continues to be hindered by a lack of sufficient feed. The production and marketing of fodder can limit the mobility of pastoralists and minimize the loss of body condition in animals. This investment will assist preserve the abattoir's animal supply, which is currently difficult to manage. The resilience and quality of local animal breeds continue to decline. The Turkana livestock production and marketing program could be enhanced by adopting highly productive and climatically adaptable new livestock breeds and attributes through breed improvement programs. Periodic research studies would offer knowledge that could guide the Lomidat abattoir's revised and diversified business plan.

The ongoing collaborations between the Food and Agriculture Organization of the United Nations (FAO), the United Nations High Commissioner for Refugees (UNHCR), the Kenyan National Government, and the County

Government of Turkana in the areas of agriculture, livelihoods, and socioeconomic development of populations can explore opportunities for integrating the Lomidat abattoir business agenda into the private sector development and social security plans for Turkana. Kakuma and Kalobeyei are marketplaces with pre-existing entrepreneurial capacities of refugee and host community organizations and corporate businesses, which have been bolstered by government and multi-donor funds for the achievement of the desired milestones in the County Integrated Development Plan (CIDP) and the Kalobeyei Integrated Socioeconomic Development Program (KISEDPP).

Considering the case of Lomidat abattoirs' performance enablers and inhibitors, the study concludes that sufficient financing and strategic marketing are critical in sustaining abattoirs' operations and performance in pastoral settings.

6. Theoretical and Practical Implications

While research and forecasting primarily aim to improve the abattoir's deliverables through precise investment decisions, Lomidat's management system must be equipped with essential concepts, marketing analytics, and market research instruments to better serve aggregated client segments. Understanding the most significant aspects of marketing products, such as production, storage, distribution, customer focus, regulatory compliance, and measurements of long-term sustainability, should be the emphasis of marketing research. This will afford the firm more flexibility in defining its strategy.

Market research will help Lomidat abattoir determine the extent and size of different market categories, including primary, secondary, and tertiary markets, as well as customer behavior. This would assist the company's integrated business plan to become more profitable and competitive over time. Forecasting should be stressed across all phases of a company's operations process so that future growth may be correctly predicted and external threats can be mitigated. It is crucial for Lomidat abattoir to focus on judgmental forecasting in order to determine how the company's resources and those of others (experts) will impact its future business prospects.

Univariate and multivariate statistical judgments could be utilized to develop an econometrics-based model of the livestock business strategy with the assistance of extrapolation models, theory models, and database models. The abattoir would utilize the statistical judgment to forecast market size, market share, sales, profitability, and other market-related factors. The mandates of the Ansoff Matrix theory must be included in the business's strategy in order to provide superior service to both existing and new consumers. This will assist the company in maximizing profits in the primary, secondary, and tertiary markets, as well as with each individual consumer.

Market penetration, in which the objective is to gain a larger share of the market, and market development, in which the objective is to study new geographical areas, will both contribute to the growth of the company's products, which will encourage

the development of new ideas and additional research. Diversification of enterprises and products strives to boost business leverage and cash flows by broadening the invention's use and building product value chains in numerous markets.

A well-crafted marketing mix may be utilized continually to establish the extent to which company products can be related to price drivers, target existing and new customers, and construct cost-effective promotion and distribution systems. Relationship marketing, customer marketing, industrial marketing, and e-commerce will be added to the marketing mix as vital components for managing the demands and touchpoints of consumers comprehensively, according to research and forecasts which improve the firm's products and services through guiding smarter investment decisions.

It is worthwhile to examine Porter's Five Forces model to determine how much company profitability and competitive positioning can be enhanced by incorporating aspects of competitive rivalry that are fundamental to every market, such as the impact of new market entrants, buyer and supplier power, and the impact of substitute products on the consumption of meat products. If the path to decreasing these impediments is pursued, the Lomidat abattoir enterprise will continue to support company aims. Additionally, accurate research and forecasting would prevent the company from incurring losses and allow it to remain profitable and competitive.

It is essential to study how the Value Chain theory may be implemented to improve companies' production, processing, and distribution of desired products. In accordance with this plan, the most essential company components would be incoming logistics, operations, outbound logistics, marketing and sales, and service delivery. Procurement, human resource management, technological development, and infrastructure support would become secondary activities as a result of the incorporation of value chain theory features and the incorporation of key support activities. The figure below shows the organized livestock trade model in Turkana West.

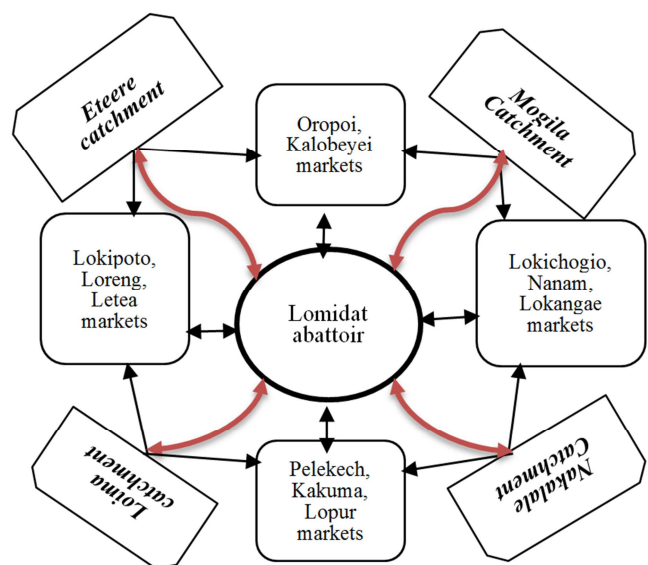


Figure 4. Lomidat abattoir livestock supply system from production areas and markets.

7. Areas for Future Research and Development

The strategic areas for future research and development for the Lomidat abattoir include:

A new study focusing on the abattoir's original business intent, with a strong consideration of the current business opportunities, market access factors, and a possible marketing strategy that is essential for the abattoir's revitalization plan.

Utilization of the results of research and the successful experiences of Kenyan and Eastern African abattoirs to design a more realistic business plan for the facility. When the initial business objective is impracticable, the opportunity costs of livestock-based businesses must be evaluated.

Governments, civic society, and livestock keeping communities should be made aware of the impact of the identified difficulties on the performance of the Lomidat abattoir and similar scenarios in the dryland areas of Kenya.

Formulate a capacity-building plan that focuses on the sharing of knowledge, enhancement of abattoir management strategies, and change management planning.

Obtain fiscal resources and political goodwill from governments and donors to revitalize the business agenda and sustain operations until the facility achieves financial stability and self-sufficiency.

Regional bodies and International organizations such as the East Africa Community (EAC), the Intergovernmental Authority on Development (IGAD), and the Inter-African Bureau of Animal Resources (AU-IBAR); the United Nations, World Bank; International Finance Corporation (IFC) and others are critically important in the Lomidat abattoir revival plan.

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