ST.MARY UNIVERSITY
SCHOOL OF GRADUATE STUDIES

MEAT VALUE CHAINS ANALYSIS: CATTLE AND SMALL RUMINANTS (SHEEP &GOATS) IN ADDIS ABABA

BY
SENAY AKLILU WENDAFRASH
SGS7/0298/2006B

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A THESIS SUBMITTED TO THE SCHOOL OF GENERAL MASTERS DEGREE, SCHOOL OF GRADUATE STUDIES, ST.MARY UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION (GENERAL MBA)

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APPROVED BY BOARD OF EXAMINERS

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Declaration

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of <u>Ato Tiruneh Legesse</u> (Asst. Prof.). All sources of material used for the thesis have been duly acknowledged, I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

_____   _____

Name   Signature

St.Mary's University College, Addis Ababa   **January2016**

Endorsement

This thesis has been submitted to St.Mary's University College, School of Graduate Studies for examination with my approval as a university advisor.

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Advisor   Signature

St.Mary's University College, Addis Ababa   **January 2016**

Acknowledgments

Contents

List of Tables

List of Figures

Table of Statistical Outputs

Abstract

This paper presents the results of value chain analyses for cattle and small ruminants in Berchuko and Kerra livestock market centers and respective meat retailers the chains: Butcheries and supermarkets. The aim of the study was to identify constraints and opportunities in the meat value chain in relation to the market centers, capacity, efficiency and value chain governance, value chain actors' relationship. The analysis was based on samples taken from meat value chain actors such as meat animal traders, butcheries, supermarkets and meat value chain supporters such as live animal market centers and Addis Ababa butcheries association. For this reason purposive sampling technique was used and conveniently a total of 120 sample respondents from aforementioned actors questioned and 4 respondents from Supportive actors in the chain interviewed. Likewise the data were gathered through filling up questionnaires to traders and meat retailers (butcheries and supermarkets) and interviews with value chain players and stakeholders such as market coordinators and Addis Ababa Butcheries Association manager. The study results indicate that there is scope to upgrade the competitiveness of meat market and market center's contribution in the supply chains. The study identified gaps in the live meat animals marketing where strategic policy and institutional reviews need to be undertaken to address specific constraints affecting the overall performance of the meat value-chains.

Keywords: *Value chain analysis, meat animal, Upgrading, and Governance.*

Chapter One

1. Introduction

Addis Ababa has an estimated land of 540Km^{2}and the estimated livestock population of the city is 58,568 cattle, 28,244 sheep and goats, 5,531 equines, 539 beehives, 39,000 poultry, and 36,684 other domestic animals (http://www.ethiopia.gov.et/stateaddisababa). The population estimated in 2007GC was nearly 2.739 million (http://www.csa.gov.et/index.php/2013-02-20-14-51-51/2013-04-01-11-53-00/census-2007). Addis Ababa has 10 Sub-Cities in its Administration.

Following the continuous increase in the price of meat in the local supply for consumption in Addis, controversially there have been observed a temporary shortage of meat in the Capital City of Ethiopia whereas the supply is expected to rise. The lack for a well-structured system that can fill the weak links amongst the value chain actors of meat have been a well perceived problem for a long time. In recent studies of Assessment of Environmental-Livestock Interactions in Crop-Livestock Systems of Central Ethiopian Highlands, the future demand for livestock products in Ethiopia will be mainly affected by two factors: population growth and socioeconomic scenarios (Alemayehu, 2013).

The commonly perceived constraints in the supply and demand, price and household consumptions are production seasonality, controversial role of brokers for higher commissions and misbehaviors, long distances to markets, absence of market incentives, and sudden loses of animals due to diseases and stress (Tena et al, 2015:142). These are the common marketing constraints in Ethiopia (Belachew and Jemberu, 2003). However, the effort of the government in licensing each "actors" have noticeably important role in creating sustainable marketing environment where each actors could identify and adapt their competitive strategy in the value chain . They are limited only by the license in recognized value adding activities where they are allowed legally in the value chain. Still the meat value chain in the country has deep-rooted obstacles yet to be identified and understood so as policy designers and influencers can convey in to standards that bring quality along the value chain.

1.2. Statement of the Problem

Ethiopia is the leading country in Livestock possession in Africa (SPS-LMM, 2010).Livestock production is an integral part of Ethiopia's agricultural sector and plays a vital role in the national economy (Addisu, et al 2012). As it is a significant contributor to the country's economic and social development; however, the sector suffers from low input-low-output subsistence production and marketing systems. The latter encompasses stock routes, accessible market places, marketing standards and intelligence (information), transport facilities in the value chain performances.

Most developing countries like Ethiopia are badly threatened by an underdeveloped value chain conditions. Poor value chain development as noticed in most developing countries, if not looked into deep, could eat the profitability of the actors and threaten the sustainability of the sector where very vast actors (like feed providers, farmers, fatteners, brokers, wholesalers, retailers, end consumers and multi staged service providers) are involved. A number of weak links across the major and support activity providers characterize the meat value chain system in Ethiopia.

A preliminary research has been used to identify the major problems. The summary of findings from the preliminary assessment indicates that the main issues and irregularities that the meat value chain in Addis Ababa faces include the following:-

1. Existence of unethical competition deliberately created by actors who have the attitude of personal gains only, without adding value in the chain and benefiting the end users;
2. Highly affected by the existence of Illegal brokers and slaughterers that compromise the product quality and process quality disregarding the wellbeing issues to create economic harm and insecurity on the end users and;
3. Significant losses of heads or meat animals before and after reaching slaughterhouses for lack of fulfilling standards set by Addis Ababa city Administration Abattoirs, cattle diseases or poor meat animal transportation system among others;

If the value chain system is distorted or continues to be at any specific point in the value chain somehow partially or completely, illegal actors may get ways to take part in sharing profits without adding any value. The right proportions of profit will not reach to the right actors that add values in the meat value chain and it discourages innovative businesspersons not to participate in the sector. Moreover, it becomes a threat for the countries' food contribution to the gross national product. This also will affect the export sectors in the other chains to be inefficient to meet standards in the international trade where the glob has become a small village.

The value chain approach; hence, has a lot to deliver in the meat value chain system in general for Ethiopia and in particular for Addis Ababa. Especially, products that are quickly perishable and highly exposed to contaminants; livestock agricultural product value chains such as meat from cattle and small ruminants (Sheep and Goat), require highly coordinated effort from all participants in the value chain and influencers in order to assure the value upgrading in the general and specific areas of improvement such as:-

- Creating sustainable access for raw materials needed for the production;
- Higher quality of meat production;
- Higher profitability across the value chains;
- Higher productivity in the value chains;
- Attaining modernized ways production systems and marketing systems by using the leverages of technological developments in each and every value chain activities;
- Achieving a highly structured meat market;
- Creating healthier competition system that assures profitability of the major value chain actors that are responsible for the values added in meat value chain as well as the supportive actors in the chain;
- Giving answers to food security and sustainability issues, generally in the country and specifically in Addis Ababa.

1.3. Research Questions

In this meat value chain assessment, the following research questions will be addressed:-

1. What constraints and opportunities are there in the meat value chain in Addis Ababa?
2. What does the meat value chain governance looks like? How the meat value chain looks like in Addis Ababa when it is examined through the value chain approaches
3. What areas need upgrading in the value chain?
4. How is the relationship among value chain actors, market structure, and information flow?
5. Assess the efficiency of live animal Terminal Markets and meat quality issues in Addis Ababa

1.4. Objective of the Study

1.4.1. General Objective

The general objective of this study is be to carry out in-depth assessment of meat value chain system in Addis Ababa; an assessment of meat supply from the value chain actors of small ruminants (Sheep and Goat) and Cattle marketed in the study areas. Therefore, the study attempts to identify issues relating to the value chain and testify the existence of the mentioned issues earlier.

1.4.2. Specific Objectives

The following specific objectives that the study addressed are-

- Assess the constraints and opportunities in the meat value chain in Addis Ababa?
- Assess Price-scheduling mechanisms
- Prepare a map of the meat value chain actors and their relationships
- Describe the existing situation and nature of bargain taking place between different market players in the study area (market power, knowledge, relationship, attitudes and behaviors).
- Suggest how the existing value chain system could be improved or upgraded to ensure better linkages among the value chains actors with respect to inbound logistics, the meat production process, outbound logistics and marketing.

1.5. Definition of Terms

Meat animals: Cattle, goat, sheep and camels reared only for meat either for home consumption and /or for sale is defined as meat animals according agricultural sample survey report (CSA, 2013/2014, pp.6)

Value Chain: A 'value chain' in agriculture identifies the set of actors and activities that bring a basic agricultural product from production in the field to final consumption, where at each stage value is added to the product. (FAO. 2005).

Value chain Actors: Refers to those individuals or entities who engage in a transaction, which moves a product from inception to end use (Hassen et al, 2013).

Supply Chain: Supply chain comprises of a company, the suppliers and customers of that company in a simple supply chain. Extended supply chains contains three additional types of participants: the supplier's supplier or the ultimate supplier, then the customer's customer or the ultimate customer and service providers in the supply chain (Ensurmu, 2015, pp.14)

Cold Chain: the cold chain involves the transportation of temperature sensitive products along a supply chain through thermal and refrigerated methods and the logistic planning to protect the integrity of these shipments. It is a science (it requires the understanding of the chemical and biological process linked with perishability), a technology (it relies on physical means to ensure appropriate temperature conditions along the supply chain), and a process (a series oftasks must be performed to prepare, store, transport and monitor temperature sensitive products) (Ensurmu, 2015, pp.86/87)

Value chain Map: Operationally value chain mapping can be defined as a process of attempting the pictorial presentation of the value chain actors(farmers, traders, brokers, and butcheries), the enabling environments (Infrastructures for marketing system) and service providers (supporting service providers) in the meat value chain.

Secondary Markets: A market place where small traders and farmers (sellers), big traders and butcheries (buyers), meet to exchange values in a regional market centers.

Terminal markets: A market place where meat animals are slaughtered and displayed for sale in the principal Cities.

1.6. Delimitation/Scope of the Study

The scope of the study is geographically limited to Addis Ababa, the capital City of Ethiopia. One of the reasons for selecting Addis for the study is that the researcher wants to describe the context in a lot of detail. Second, he wants to see the meat value chain process of cattle and small remnants (Sheep and Goats) in the value chain in Addis Ababa, as the population is increasing and as the city has become a mega city with a growing number of a tourist attraction and luxury hotels to accommodate local and international users. The unit of analysis for primary data and its collection is limited to the samples sizes from the sample frame two market centers (Kera and Burchuko markets) are selected from the five meat animal livestock markets in Addis Ababa. Hence, the study is limited to the two Sub cities (kirkos and Gulele) where samples from the major participant's frames are taken. The methodical limitation will be the inability to control and measure both bias and variability. Moreover, scarcity of resources such as time, Money, and lack of research experience of the researcher remain to be the major constraints.

1.7. Significance of the Study

The study analyzes the meat value chain and assesses the meat supply chains in Addis Ababa. Hence, the study helps to understand, particularly, the meat value chain problems in the study area and in general in Ethiopia. The concepts as well as the practice of Value chain analysis are crucial to any value chain development. Theoretically, the value chain approach helps better understand the process of creating value. It is evidence that the production cannot be the sole way to create value to end users. Varies value creation activities by those value chain actors who are either major role takers or support providers brought a product to market through a blend of activities. A product is the contribution of the value chain actors involved in the making of the product when all of them add to its final value. Hence, the study enhances our understanding of the meat supply chain and its trend in Addis Ababa.

1.8. Organization of the Research Paper

The components of the main texts of this research have five chapters. It includes the following:

1. Introduction: The introduction chapter has all the essential sub components such as general background, statement of the problem, purpose/ objective of the study, research questions, significance of the study, scope of the study and definition of terms

2. Literature Review: Chapter two contains two parts conceptual frame works and empirical reviews that are related to the study.

3. Methods of the Study: Chapter three contains the methodology, the general population or the subjects in this study, research design, the samples and sampling technique, data collection methods and procedures, and data analysis methods. Hence, all aspects about the methodology mentioned above in this proposal are part of this chapter.

4. Results and Discussion: Chapter four incorporates results from data that are collected by the specified data gathering tools and its subsequent discussion in light of appropriate value chain concepts.

5. Summary, Conclusions and Recommendation: Chapter Five contains Summary part, the limitation of the study, Conclusion and Recommendations.

Chapter Two

2. Literature Review

2.1. Brief Introduction of the Chapter

This chapter deals with the theoretical presentation about the concept of value chain analysis and empirical evidences about the meat value chain study. It also covers the overviews of meat production in Ethiopia in general and meat production from cattle and small ruminants (Goat and sheep) in Addis Ababa in particular. The problems identified by other researchers (experts) in the sector and their suggested remedial approaches to improve across the value chain and the government interferences made so far to create good governances in the value chain are also covered.

2.2. Theoretical Framework

2.2.1. Value Chain Approaches and Its Emergence

Nang'ole EM and others, in their Review of guidelines and manuals for value chain analysis for agricultural and forest products, they reviewed the history of the value chain concept by consulting notable value chain gurus such asdaSilva and de Souza Filho, Roduner, Shaffer, Staatz, Porter and others(Nang'ole EM etal 2011).The value chain concept is a systems approach thatevolved over time drawing from different disciplines (daSilva and de Souza Filho 2007). The scientific discussion about the vertical integration of production and distribution processes started in the 1960s. The 'filière'concept was developed at the French Institut National dela RechercheAgronomique (INRA) and the Centre deCoopérationInternationale en RechercheAgronomiquepour le Développement (CIRAD) as an analytical tool tostudy the ways in which agricultural production systems were organized in the context of developing countries. The framework paid special attention to how local production systems are linked to processing industry, trade, export and final consumption (Van den Berg et al 2009). The concept was used to describe the flow of physical input and services in the production of a final product and in terms of its concern with quantitative technical relationships. However, 'filière' analysis tended to be viewed as having a static character, reflecting relations at a certain point in time. It did not indicate the growing or shrinking flows either of commodity or knowledge nor the rise and fall of actors (Roduner 2004).

The concept of the sub-sector, first introduced by Shaffer(1970), was also an important conceptual development related to value chains. A sub-sector is "an interdependent array of

organizations, resources, laws and institutions involved in producing, processing and distributing an agricultural commodity". A sub-sector thus involves a set of activities and actors and the rules governing those activities (Staatz 1997). Sub-sector analysis encompasses a meaningful grouping of economic activities linked horizontally and vertically by market relationships. It involves studying the networks of relationships linking suppliers, processors, transporters and traders in ways that connect producers and enterprises with final consumers of goods and services.

In the mid 1980s, Porter developed the value chain analysis as an instrument for identifying the value of each step in the production process. The concept of value chain is utilized as a conceptual framework that enterprises can use to detect their sources of competitive advantage. Porter argued that the sources cannot be detected by looking at a firm as a whole; rather the firm should be disaggregated in a series of activities. Porter identified (1) primary activities, which directly contribute to add value to the production of goods and service and (2) support activities, which have an indirect effect on the final value of the product (van den Berg et al 2009). The primary activities are: inbound logistics, operations, outbound logistics, marketing and sales and services. The goal of these activities is to offer the customer a level of value that exceeds the cost of the activities thereby resulting in a profit margin (Roduner 2004).

Figure 1 Porters' Primary and Supportive Value Chain Activities

Source: http://www.ifm.eng.cam.ac.uk/research/dstools/value-chain-/
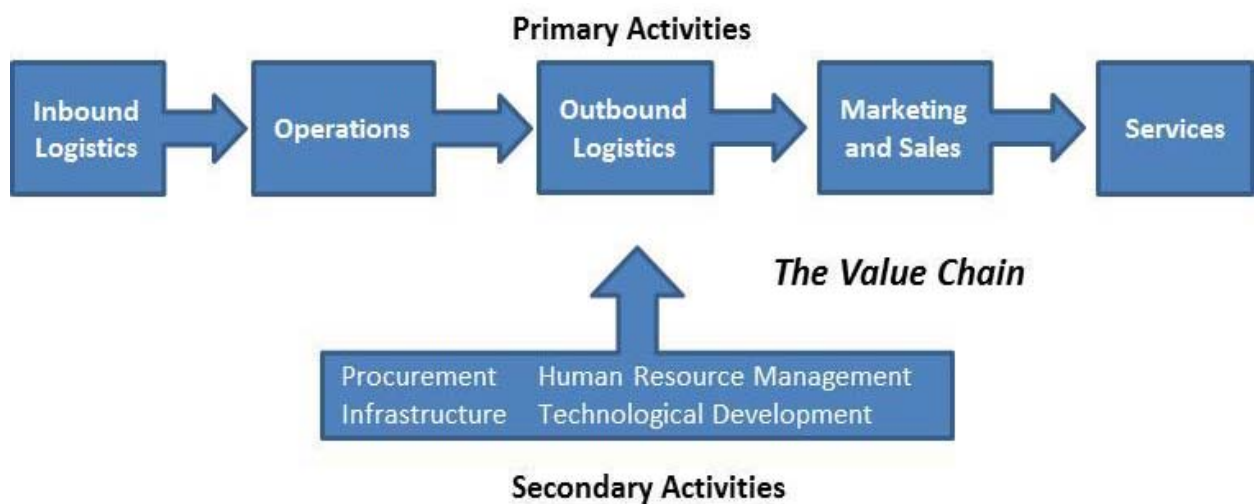
Porter introduced the 'value system' as an alternative way of approaching the search of competitive advantage. A value system includes the activities implemented by all the firms involved in the production of a good or service, starting from basic raw materials to those engaged in the delivery to the final consumers. The concept of value system is therefore broader compared to the one of 'enterprise value chain' (van den Berg et al 2009). However, in Porter's framework, the concept of value system is mostly a tool for assisting executive management in strategic decisions. The value chain analysis, according to Porter's approach, is therefore restricted to the firm level neglecting the analysis of upstream or downstream activities beyond the company (Fasse et al 2009).

A third concept, the "Global Commodity Chain (GCC)," was introduced in the mid 1990s by Gereffi and others. Gereffi et al (2005) utilized the framework of value chain to examine the ways in which firms and countries are globally integrated and to assess the determinants of global income distribution. GCC focuses on the power relations in the coordination of globally dispersed, but linked production systems.

Gereffi shows that commodity chains are generally characterized by a leading party or parties that determine the overall character of the chain. Gereffi established four core elements: (a) input-output structure, (b) territorial (international) structure, (c) institutional framework, and (d) governance structure (Kaplinsky and Morris 2002). The focus was set on governance referring to institutional mechanisms and inter-firm relationships (Fasse et al 2009). Based on Gereffi's GCC, Messner (2002) developed the concept of the world economic triangle. Messner's concept is based on the assumption that actors, governance and regulation systems determine the scope of action open to the regions in the global commodity chains. He determines six critical aspects in an economic triangle as; actor constellations, interests, power structures, situational mindsets, action orientation and trust. This approach focuses on upgrading entire regions or clusters through their integration into chains. Thus the economic triangle theory links horizontal (cluster development) and vertical approaches (value chain) (Roduner 2004). The global commodity chain concept has also been further developed into the Global Value Chain Concept reflecting a more dynamic view of chain governance (Sturgeon 2008, Gereffi et al 2005).

The value chain concept has several dimensions(McCormick, D and Schmitz, H, 2001). The first is its flow, also called its input-output structure. In this sense, a chain is a set of products and services linked together in a sequence of value-adding economic activities. The value chain framework helps how industries are organized by examining the structure and dynamics of the different actors involved. (Shuka, GebiAbino, 2015, pp.8)*. A value chain has another, less visible structure. This is made up of the flow of knowledge and expertise necessary for the physical input-output structure to function. The flow of knowledge generally parallels the material flows, but its intensity may differ. The second dimension of a value chain has to do with its geographic spread. Some chains are truly global, with activities taking place in many countries on different continents. Others are more limited, involving only a few locations in different parts of the world. The third dimension of the value chain is the control that different actors can exert over the activities making up the chain. The actors in a chain directly control their own activities and are directly or indirectly controlled by other actors. Since value chains are basically constellations of human interaction, the possible varieties of governance are endless (McCormick, D and Schmitz, H, 2001).

There is a temptation to use "value chain" and "supply chain" interchangeably, but there is a difference in the concepts that is significant. The supply chain model – which came first – focuses on activities that get raw materials and subassemblies into a manufacturing operation smoothly and economically. The value-chain notion has a different focus and a larger scope. A supply chain is simply a transfer of a commodity from one stakeholder to another in a chained manner. The value chain is the value addition at different stages of transfer. In different stages of value chain, different stakeholders add value to the product to increase the end product value. In other words, a value-chain analysis looks at every step from raw materials to the eventual end-user – right down to disposing of the packaging after use. The goal is to deliver maximum value to the end user for the least possible total cost. That makes supply-chain management a subset of the value-chain analysis (Reddy Amarender A. 2013).

2.2.2. Value Chain Governance

Another consideration, which helps to transform the value chain from a heuristic to an analytical concept, is that the various activities in the chain that are subject to what Gereffi has usefully termed 'governance' (Gereffi, 1994).Value chains imply repetitiveness of linkage interactions. Governance ensures that interactions between firms along a value chain exhibit some reflection of organisation rather than being simply random. Value chains are governed when parameters requiring product, process, and logistic qualification are set which have consequences up or down the value chain encompassing bundles of activities, actors, roles, and functions (Kaplinsky and Morris, 2000). This is not necessarily the same thing as the co-ordination of activities by various actors within a value chain. In addition, it is noted that Shuka agrees withKaplinsky and Morris that coordination usually involves managing the above parameters (Shuka, 2015). Evans and Wurster concur that value chain governance should be viewed in terms of "richness" and "reach", i.e., in terms of its depth and pervasiveness (Evans and Wurster, 2000). Richness or depth of value chain governance refers to the extent to which governance affects the core activities of individual actors in the chain. Reach or pervasiveness refers to how widely the governance is applied and whether or not competing bases of power exist.

2.2.3. Value Chain Upgrading

Upgrading in the value chain takes several forms and at different places within the value chain and outside the value chain to improve efficiency of the value chain. Different types of upgrading in value chain are given below. The types of upgrading and general practices and performance indicators are presented below (Kaplinsky and Morris 2001):

Functional upgrading refers to changing the mix of functions performed by actors in the value chain – increasing (upgrading) or reducing (downgrading) the number of activities performed by individuals and firms. For instance, an agricultural producer starting to process some of their output to add value to it represents functional upgrading. Often, horizontally coordinated institutions are best able to provide these value-adding activities (such as grading and packaging of produce). Shortening the value chain can be achieved by excluding intermediaries and redistributing their functions among the partners of a newly formed vertical relationship. It isvery

rare for the smallholder farmers to functionally upgrade in the absence of other upgrading strategies.

Process upgrading involves improving value chain efficiency by increasing output volumes or reducing costs for a unit of output. Examples of this include improving agronomy to enhance yields that result in higher sales or own consumption, or both. This may be the result of improved planting techniques, planting materials or investments, such as irrigation infrastructure.

Product upgrading has become increasingly important, as the developed countries have become more quality conscious as standards have risen. Some standards are driven by lead buyers (ie, supermarkets requiring traceability of food products), others by statutory hygiene standards in importing countries and others, increasingly, in response to fair trade and organic demands by final consumers. The challenge of standards lies in achieving them (to allow market access) without excluding the poor from the value chain. Process and product upgrading are closely related because improving product quality often involves improvements to the production process.

Inter-chain upgrading is the use of skills and experience developed in one value chain to productively be engaged with another – usually more profitable – value chain. Examples of this include the shift from growing traditional commodities to high-quality export horticulture. Inter-chain upgrading often has significant barriers to entry for the farmers to access the more lucrative value chain.

'Upgrading' of the enabling environment, although not an upgrading strategy in a strict sense, recognizes that the competitiveness of the enabling environment for value chains is a major contributing factor in the success of the operations of a value chain. Improvements to the support, services, institutional, legal and policy frameworks in which value chains operate are often a productive area in which development agencies can intervene to improve the functioning of a chain.

2.2.4. Value Chain Mapping (Mapping the Market)

The market map is a conceptual and practical tool that help identify policy issues that may be hindering or enhancing the functioning of the chain and also the institutions and organizations providing the services (e.g. market information, quality standards) that the different chain actors need in order to make better informed decisions.(Hellin and Meijer,2006). It is made up of three inter-linked components: first, value chain actors. Second, the enabling environments such as infrastructure and policies, institutions and processes that shapes the market environment. Structures (national and local authorities, research agencies etc.) and institutions (policies, regulations and practices) generate "Enabling environment" factors that are beyond the direct control of economic actors in the value chain. Third, the service providers which include Input supplies such as livestock, vaccination etc.; market information such as prices, trends, buyers, suppliers; financial services such as credit, savings or insurance; Transport services; Quality assurance such as monitoring and accreditation; Support for product development and diversification are all extension services that support the value chains' operations (Hellin and Meijer,2006).

The FAO provides a set of modules, which presents a systematic approach to value chain analysis for agricultural commodities. The mapping is denoted as a functional and institutional analysis (FAO 2005a) which starts with constructing a 'preliminary map' of a particular chain to provide an overview of all chain actors (institutional analysis) and the type of interaction between them (functional analysis). The results can be presented either in a table or in a flow chart, which is called the 'preliminary map' of the chain. The FAO methodology includes three essential aspects for developing a preliminary map (FAO 2005a):

- The principal functions of each stage

- The *agents* carrying out these functions

- The principal *products* in the chain and their various forms into which they are transformed along the entire chain

Once the flow chart has been drawn, these flows are quantified, both in physical and monetary terms. Kaplinsky and Morris (2002) suggest similar procedures for implementing value chain analysis. Their concept consists of two steps in order to map the value chain of interest. The first step includes drawing an 'initial map', which shows the chain boundaries including the main actors, activities, connections and some initial indicators of size and importance. The second step consists of elaborating the refined map by quantifying key.

The value addition in different phases of meat production from cattle in Addis Ababa can be mapped into a value chain map for easy understanding, which depicts interlink ages between successive stages in the meat value chains. A simplified qualitative value chain map may be expressed as shown below:

Figure 2 Simplified Qualitative Value Chain Map for Cattle in Addis Ababa
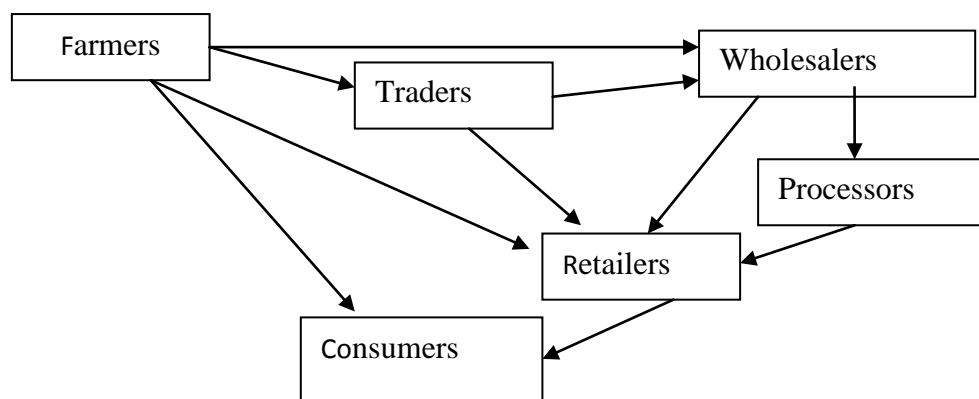
Source: Adapted based on Reddy, 2013.

The competitiveness of a firm's value chain depends not only upon the effectiveness of its internal, cross-functional networks but increasingly upon its external networks. Increasingly, the firm's value chain is part of a system for delivering solutions to customers. It is the effectiveness with which managers handle the whole supply chain and network of partnerships that determines the competitiveness of the firm. Again, information technology boosts the facility with which such networks can be managed (Doyle, 2008).

2.2.5. Meat Value Chain Actors

Farmers, merchants, brokers, fatteners, local retailers (butcheries), modern retailers (supermarkets), food service givers, processors, influencers and supporters, service providers and end users constitute the meat value chain. Meat value chain actors in general in Addis Ababa that produce meat from cattle and small ruminants such as sheep and goat, comprises that of input suppliers such as livestock, and feed for the live animals, local traders or individual farmer sellers (90+183+), fatteners (6 in number), processors (Addis Ababa City Administration Abattoirs interprise and Legedadi slaughter house, Burayuslaughter house, Sulultaslaughter house which provide meat processing to Addis Ababa, Whole sellers 251, local retailers (Butcheries 3298), Modern retailers (hyper markets, supermarkets and minimarkets 2240), Food Service providers (restaurants, hotels etc 6975 and others) and nearly 2.739 million Addis Ababa's' population and tourists are the end consumers of these meat production.

2.2.6. The Role of Value Chain Analysis

The concept of agricultural value chain includes the full range of activities and participants involved in moving agricultural products from input suppliers to farmers' fields, and ultimately, to consumers. Each stakeholder in the chain has a link to the next in order to form a viable chain (Reddy, 2013). By understanding the complete production to consumption system of cattle and small ruminants (sheep and goat) in Addis Ababa, it is possible to determine how the marketing and value-addition activities take place and who shares how much benefit from such activities.

Value chain research is about understanding the functioning of specific markets – e.g. services, information, knowledge and skills, innovation, etc. – within a value chain system, the role of specific market players (or groups) within this system and their relationship to others. In a fast moving economic environment, it is necessary to have tools to evaluate potential outcomes of changes, and to capture complex surroundings in a simplified model. Value chain modeling is a meaningful instrument to analyze multifaceted questions. The standard methods of value chain modeling include mathematical programming tools covering optimization procedures and general equilibrium modeling, risk assessment tools to reduce for example environmental hazards of production activities and their resulting costs and bargaining models in value chain

modeling having a strong impact on the distribution of profit and information flows (Faße et al2009).

Value chain analysis provides government policy makers and meat value chain actors manage the costs related to the various steps in the chain. The concept of the value chain simply links all the steps in production, processing, and distribution, together preceding steps and the steps that follow. It includes aspects such as physical, economic and social logistics between raw material input and consumption; the supply chain and flow of payment including value-adding margins; and allows the meat industry personnel to address value chain issues, to maximise value within their commercial operations.

2.3. Meat Value Chain Empirical Evidences

It has been argued that linking of farmers to the markets through efficient value chains would reduce the use of intermediaries in the chain, and strengthen the value-adding activities by better technology and inputs, upgraded infrastructure, processing and exports. This process can raise the income of farmers and will provide an incentive for improving their management practices towards higher farm productivity (Reddy, 2013).The income of the farmers can be enhanced by increasing production, value addition, and better marketing options. The marketing factors are marketable surplus, marketing channels, numbers of players at each level, profit margin of respective players, cost reducing innovations along the value chain and value addition by different value chain players (Reddy, 2013).

Many different forces, in general, affect food marketing. Sociological forces, government regulations and policies, international trade conditions, science and technology, climate changes, economic cycle, competitive conditions are some instances. These are among the macro and micro situations that affect the internal or external environment, vertical or horizontal relationships in the value chain. Hence, the meat production and marketing is not free from some macro and micro negative forces that significantly resulted to a poor meat value chain development in Addis Ababa and in Ethiopia at large. The value chain approach helps to examine interactions between actors in the chain and firms or organizations influencing the chain

2.3.1. Overview of Meat Production in Ethiopia

The meat sector accounts 33 percent of the share of agricultural gross domestic product (GDP) and 15 pc of the total export revenue obtained by the country (Kassa and Motbinor, 2015). According to the Fourth Livestock Development Project (MOA 1996a), there are three types of cattle fattening systems in Ethiopia. These are traditional, by-product-based fattening and the Hararghe type of fattening. In the traditional system, oxen are usually sold after the ploughingseason while they are in poor body condition. Meat yields are low, the beef is of poor quality and returns to farmers are often inadequate even to buy a replacement ox. (Anteneh et al 2010).

Many of the people living in (Ethiopia) are engaged in food and agricultural production, mainly as smallholder farmers and pastoralists (FAO, 2011). The primary producers of cattle and small ruminants like goat and sheep are believed to be smallholder farmers (essentially characterized by Small-scale subsistence production). Market access for agricultural products and inputs access are also a challenge for the millions of smallholders in (Ethiopia) to make value out of their products (FAO, 2011).According to the *Ethiopian livestock master plan brief I*, the appropriate combinations suggested, depending upon the biophysical, agro-ecological and market conditions facing livestock in the three production typology zones in Ethiopia, include the:

- Improvement of productivity of local breed animals (cattle, sheep, goats, and camels) for meat (…) through investments in genetic selection (recording schemes, etc.) and in animal health to reduce young and adult stock mortality, and by implementing critical vaccinations and parasite control programs;

- Increase of public investment in rehabilitating range and pasture lands to improve feeding and animal management to complement genetic and health improvements;

- (…)the improved capacity of private animal health services to provide critical vaccines, in tandem with the continued promotion by the GoE extension services of improved feeding; and

- Increase of specialized commercial production units and—where conducive agro-ecological and market conditions prevail—consequent increases in animal numbers for all three commodities, and the adoption of appropriate genetic, health and feed technologies (MoA and ILRI, July 2015).

In order to bring about changes in the suggested areas of improvement in meat value chain generally in Ethiopia and specifically in Addis Ababa; Sustainable value chain that involves customer demand-pull approach that requires actors to work together to create value to the end user is crucial.

2.3.2. Overview of Meat Production in Addis Ababa

Meat value chain in Addis Ababa is a critical point of consideration since there is a noticeable room for improvement in the marketing system. In an attempt to stirring the competition and creating enabling market in the meat value chain environment, government has introduced a receipt system in meat production and supply system in Ethiopia. It is a kind of an entry barrier for illegal participants in the meat value chain. These barriers to entry can come from a variety of sources such as government (http//www.free-management-ebook.com). It could reduce the number of brokers in the meat value chain and pushed out the illegal ones as well (Kassa and Motbinor, 2015). According to the same source, there were 350 livestock merchants in one of the five livestock markets in the city, known as Kerra market in Kirkos district; with implementation of the receipt system, this number has been reduced to 101 legally registered sellers and some of the illegal brokers are now forced to work legally.

2.3.3. Cattle, Goat and Sheep Meat Production Systems in Addis Ababa

The primary sources of beef, goat and sheep meat production are smallholder farmers who supply through the value chain. It is also characterized by low yield and quality. Moreover, the production renders low return to the farmers. Fatteners are growing in numbers within the growth of the agro industrial development around and in Addis Ababa to follow the by-product-based fattening system in which agro-industrial by-products such as molasses, cereal-milling by-product and oilseed meals are the main sources of feed. Fattened cattle from Harar fetch a premium price of up to 50% over other condition cattle in the Addis Ababa market (Anteneh et al 2010). However, cattle, sheep and goats arrive to Addis Ababa from other corners of the country.

2.4. Meat Value Chain Conceptual Framework

The following conceptual framework is prepared by the researcher to follow the direction of the study and to show the relationships of the different constructs that will be investigated.

Figure 3 Meat Value Chain Conceptual Framework

Meat Value Chain Analysis: An Assessment of Meat Supply from Cattle and Small Ruminants in Addis Ababa, Ethiopia

Factors that affect the supportive "Actors" in meat value chain

- Road Infrastructure/ Transportation providers
- Cold Chain
- Technology
- Human resources
- Other enabling environments

Outcomes

- Meat production performance review
- Identifications of weak links in the VC
- Meat VC mapping for Addis Ababa
- etc

Factors that affect the Major "Actors" in meat value chain

- Producers
- Brokers
- Traders
- Abattoirs
- Retailers, butcheries
- Consumers

Characteristics

Major "Actors"
- Producers
- Brokers
- Traders
- Retailers
- Abattoirs

Supportive "Actors"
- Service/Transportation providers
- *HRM*
- *Technology*

Source: The researcher's constructs based on Value Chain Development framework

Chapter Three

3. Research Design and Methodology

In this study, the researcher used a combined design for meat value chain analysis in Addis Ababa with the focus Areas and selected value chain actors. Hence, the study designed in a way that enables the researcher to use recognized methodology in data collection, analysis, interpretation and identifying improvement areas and there remedies in the study and for the selected research area.

3.1. Research Design

Qualitative research design is applied to provide an answer for the research questions in this study. Survey data are collected from relevant sources about the meat value chain and supply. Convenient sampling has been drawn and consultation from secondary sources used to support the meat value chain analysis. The qualitative research design used is important to gather data that is pertinent to this type of study and analyze the meat value chain of cattle, sheep and goat performance variables selected to describe the nature of the situation. The frequency, percentage, measure of central tendencies like mean, median and mode are used to assess the tendency of the respondents to the selected variables; where measure of central tendency alone cannot describe the distribution measure of dispersion or variation such as variance, range and standard deviation are used to analyze the data along with measure of Skewness and Kurtosis. Pearson coefficient of skewness denoted by CSkp is ruled out as

1. If CSkp>0, the distribution is said to be skewed to the right or positively skewed
2. If CSkp<0 the distribution is said to be skewed to the left or negatively skewed
3. If CSkp=0 the distribution is not skewed.

The more the difference between the mean, median and mode, the more is the skewness. Whereas kurtosis the measure of peakedness or flatness of the distribution which is usually taken relative to symmetrical normal curve or the region where the mode of the frequency curve expected to lie. The value of kurtosis is denoted by Beta (B) ;

1. If B>3 the curve is more peaked than the normal curve(leptokurtic)
2. If B<3 the curve is flatter than the normal curve(platykurtic)
3. If B=3 the curve is normal which is neither flat nor peaked(mesokurtic)

3.2. Samples and Sampling Techniques

In this assessment, Addis Ababa City Government Trade and Industry Development Bureau and two market Coordinators' Offices (Ato Taddese Muleta and Genete Eudeta center coordinators from Kera and Burchuko Market Centers respectively) Data have been used to establish sample frames and the meat value chain actors' samples to be covered in the study.

The population frames of merchants have been taken from both livestock terminal market centers under consideration. The population frames for wholesalers (Kirkos and Gulele Sub Cities), local retailer butcheries, and modern meat retailers in Kirkos Sub City are taken from Addis Ababa City Government Trade and Industry Development Bureau. Subsequently, in determining the sample sizes a purposive sampling technique is used from each category of actors in the meat value chain analysis. The convenience sampling technique is chosen because it is less costly, easy to administer and no need to list all the population elements in the sampling frame.

The following table summarizes the domains for this meat value chain analysis in Addis Ababa for which major findings of the study reported in the last two chapters as data analysis and conclusions.

Table 1.Summary of Sample Size by Meat Value Chain Actors

S/N	Meat Value Chain Actors to be Analyzed		Sample Frame	Samples Size
1	Meat Animal Retailers & Wholesalers (Merchants)	Kera Market	183	20
		Burchuko Market	180	40
2	Retailers: Local Butcheries	Kirkos subcity	295	40
3	Modern Meat Retailers	Kirkos subcity	251	20
4	Addis Ababa Butcheries Association	Key personnel Interviews	2	2
5	Livestock markets in Addis Ababa	Key personnel Interviews	5	2
	Total		918	124

Source: own construction based on the sampling frame

The subjects are selected just because they are easiest to recruit for the study and the researcher did not consider selecting subjects that are representative of the entire population. It is for the reason that the population is too large and it would be time taking and costly to test the entire population for the researcher. Many researchers prefer this sampling technique because it is fast, inexpensive, easy and the subjects are readily available https://explorable.com/convenience-sampling retrieved on Monday Nov30, 2015 at about 11:21 AM.

Key personnel semi structured Interviews with Addis Ababa Butcheries Association management and personnel Interviews are conducted in the two livestock markets selected in Addis Ababa.

In Addis Ababa, there are 10 sub-cities. The major Livestock market places in the city are found in the five Sub-Cities (Kirkos, Akaki, Yeka, Gulele and Kolfe).These market places are very important for meat animal supply from all corners of Ethiopia to Addis Ababa. However, only two of them are covered in the study. In terms of market specialization, Shogolle, Kerra, Kara and Akaki are specialized is cattle while Berchuko market is specialized in small ruminants. Hence, Kerra is selected from the rest of cattle markets for the study of meat value chain from cattle in kirkos sub city and Berchuko is selected for sheep and goat meat value chain study in Gulele Sub city.

3.3. Tools of Data Collection

For this meat value chain analysis, primary and secondary data from various sources are used. Primary data are gathered by using a questionnaire from the samples selected in the meat value chain actors (merchants, wholesalers, local retailers, and modern retailers). Primary data also collected by the use of semi structured interview from Addis Ababa Butcheries Association and on the two selected livestock market centers.

The questionnaires focused on what value chain actors are doing. It is used to collect quantitative data which permit a more objective assessment and facilitate an assessment of patterns, trends and relationships among different value chain actors. Semi structured interviews used guides

conversations in which topics are predetermined and during which new questions and insights may arise because of the discussion.

Combination of the following research instruments will be used to collect the required data:

Table 2. Instruments used and data sources

S/N	Meat Value Chain Actors to be Analyzed	Source	Instruments
1	Meat Animal Merchants	Kerra Market	Questionnaires
		Berchuko Market	Questionnaires
2	Retailers: Local Butcheries& Modern Meat Retailers	Kirkos sub city	Questionnaires
3	Addis Ababa Butcheries Association	Key personnel Interviews	Check list for Semi Structured Interviews
4	Kerra & Berchuko Livestock markets in Addis Ababa	key personnel Interviews	check list for Semi Structured Interviews

Source: own presentation

Data collected from primary sources shows the marketing system from the terminal market participants including the live animal merchants and meat retailers through the use of the questionnaires from selected samples in the meat value chain. Production, buying and selling, pricing, input delivery, determinants of market supply and marketing problem, and characteristics data are the most important data types collected in the study. Hence, questionnaire addressed issues concerning supply chains, product& information flows, policies/ restrictions, channels, sub channels and route customers, prices, meat qualities, meat safety, market structure & conduct and supply volumes and production factors that affect supply and demand. Moreover, data collected using key informant interview check lists contains issues about market structure & conduct, facilities, meat safety and market centers effectiveness and efficiency and the marketing system.

3.4. Procedures of Data Collection

The data collection administered in a systematic way to cover the samples designed. First, by the help of the market coordinators in the two market compounds data from live animal traders collected. The questions were read to all the traders and their opinion have been filled in the

questionnaire in three consecutive market weeks at the month end of November 2015. Some traders specially, rural trades faced problems of reading the Amharic version of the questionnaires and the coordinators translated it to them in to Oromifa language to gather data from the traders. The same approaches have been used for those respondents who could not read the questionnaires by the researcher. The Interviews scheduled and conducted with Addis Ababa Butcheries Association and the two market coordinators after the questionnaires have been collected.

3.5. Methods of Data Analysis

First, data cleaning as a process by which the raw data checked to verify it is correct and entered where it should be on the data collection form and coded. All response categories were assigned a numerical value that allows grouping of responses into a limited number of classes or categories, which helped the analysis. Then, Personal Laptop PC is used for Logging the data on SPSS. After the data entered, it is transformed in to variables useful in the analysis, summarized and presented in tables.

Chapter Four

4. Result and Discussion

This chapter presents the data gathered from meat animals (Cattle, Sheep and Goat) merchants of Kerra and Berchuko live animal Terminal Market Centers and respondents of meat retailers from Local Butcheries and modern supermarkets from Kirkos Sub City. One hundred twenty sample respondents were asked in four categories of samples taken from Cattle merchants of Kerra market center (20), sheep and goat merchants in Berchuko market center (40), Butcheries (40) and Supermarkets (20) form Kirkos Sub City. The last section of the analysis presents the part of the interviews made with two interviewees from Berchuko and one from Kerra live animal market coordination office, and the general manager of Addis Ababa Butcheries' Association general manager.

4.1. Presentation of Results

4.1.1. Demographic and Individual Characteristics of Respondents

Table 1, Respondents According To Gender, Age, Category and Types

Items			Berchuko Market	Kerra Market	Butcheries	Total
Gender	Male		40(100%)	20(100%)	40(100%)	100
	Female		0%	0%	0%	0%
Age	Mean	Goat Trader	29.0667			
		Sheep Trader	29.6800			
		Cattle Trader		34.5000		
	St. Div.	Goat Trader	7.70405			
		Sheep Trader	8.49863			
		Cattle Trader		4.97890		
Traders		Wholesaler	16(40%)	5(25%)		21(35%)
		Retailer	24(60%)	15(75%)		39(65%)
Characteristics of Sellers		RT	20(50%)	15(75%)		35(58%)
		LT	20(50%)	2(10%)		22(37%)
		F		3(15%)		3(0.5%)
From whom do You buy goat		IF	9(60%)			
		RT	2(13.3%)			
		IF&RT	4(26.7%)			
From whom do You buy sheep		IF	15(60%)			
		RT	10(40%)			

From whom do	IF		2(10%)
You buy Cattle	RT		3(15%)
	F		15(75%)
From whom do you get	Sellers	13(86.7%)	
Information about the goat	P M B	2(13.3%)	
From whom do you get	Sellers	21(84%)	
Information about the Sheep	P M B	4(16%)	
From whom do you get			
Information about cattle	Sellers		20(100%)

Key: RT=rural trader ,LT=local trader ,IF=individual farmer, F=fatteners

Source: Survey findings 2015

Table 1 shows that all the respondents (100 %) are male for the cattle, sheep and goat merchants as well as butchery respondents of this study. As far as age of respondents concerned, item number 2 of table 1 reveals that the youngest respondents are 20, 27 and 22 years of age from each categories of samples taken from Berchuko, Kerra market, and butcheries. The oldest respondents are 45 and 50 years old across the categories.

4.1.2. Types and Characteristics of Meat Animal Trader Respondents by Market Center

According to table 1, in the two live animal markets wholesalers and retailers distribute meat animals to their channels and sub channels to meet the end user of meat that is the local dweller of Addis Ababa. From the forty live animal traders in Berchuko market and twenty in Kerra Market asked questions pertinent to this study, 16 (40%) and 24(60%) were wholesalers and Retailers in Berchuko market and sellers are characterized as 20 (50%) local trader and20 (50%) rural traders. By the same token, 5(25%) and 15(75%) of the total traders to whom questions were asked accounted wholesalers and retailers respectively. Local trader 15 (75%), rural trader 2 (10%) and 3 (15%) fatteners are actors that characterized as sellers for along the meat value chain in Kerra market. Hence, from the total live animal markets, respondents 35% were wholesalers and 65% were retailers.

4.1.3. Meat Animal Trader's Suppliers of Goat, Sheep and Cattle in Berchuko and Kerra

According to Table 1, from 40 small ruminant traders, 15 were goat traders and 25 were sheep traders. Moreover, 20 cattle traders were asked for their suppliers of the meat animals they trade

in the market centers. 9(60%), 2 (13%) and 4(27%) got their supply from individual farmers only, rural traders only and both individual farmers and rural traders respectively. Only 15(60%) of sheep traders got supply from individual farmers and only 10(40%) rural traders. For the question asked about where cattle merchants got livestock out of 20 cattle trader respondents, only 2(10%) answered from individual farmers, 3(15%) both individual farmers and rural traders and 15(75%) answered they buy cattle from fatteners. The total number of live animal traders questioned in this meat value chain study accounted 60 live animal traders altogether in the two market centers.

4.1.4. Meat Animal Trader's Source of information and Customers in Berchuko and Kerra

According to table 1, 13(86.7%) and2(13.3%) goat traders got information from immediate sellers i.e., individual farmers or rural traders or both. 21(84%) and 4(16%) sheep trader respondents claimed they got the information from sellers i.e., either individual farmers or primary market brokers about meat animal they buy and sell in Berchuko market center. Whereas, 20(100%) cattle trader respondents in Kerra live animal market asserted they got the information from primary sellers only i.e., farmers, rural traders and fatteners or both farmers and rural traders.

Table 2, Respondents according to their customers

Category		F	Valid %
Your customers of Goat	FSP, Butcheries, Supermarkets &Traders	1	6.7
	FSP, Butcheries, Traders & AAAsE	4	26.7
	FSP, Butcheries, Supermarkets, Traders, HH, AAAsE	1	6.7
	FSP, Butcheries, Supermarkets, Traders& AAAsE	1	6.7
	FSP, Butcheries, Supermarkets &HH	1	6.7
	FSP, Butcheries, AAAsE & HH	3	20
	FSP, Butcheries & HH	4	26.7
	Total	15	100
Your customers of Sheep	FSP& Traders	1	4
	FSP &HH	7	28
	Traders & AAAsE	1	4
	FSP, Supermarkets, Traders, HH, AAAsE	4	16
	Traders & HH	1	4
	FSP, Traders & AAAsE	4	16
	FSP, Supermarkets, Traders & AAAsE	1	4

	FSP, Supermarkets, & Traders	1	4
	FSP, AAAsE & HH	5	20
	Total	25	100
Your customers of Cattle	Local Traders	5	25
	Butcheries, Supermarkets and HH	15	75
	Total	20	100
Total N of Trader Respondents		60	

(Key: FSP=Food Service Providers, AAAsE =Addis Ababa Abattoirs Enterprise, HH=local Households)
Source: Survey Findings 2015

According to Table 2, 4(26.7%) respondents of goat sellers claimed to have FSP, Butcheries, and other traders for re sale purpose and AAAsE as their customer; the same percentage of respondents in this category asserted FSP, Butcheries and HH are their customers. 3(20%) claimed FSP, Butcheries, AAAsE and HH are their frequent buyers. It is clearly seen in the above table that FSP and Butcheries are the frequent denominators for all goat trader respondents. Hence, FSPs, Butcheries and AAAsE processes live goat for resale purpose after adding values in the locality.

From the above table 2, one can clearly understand that in the live sheep market in Berchuko 23(92%), 17(68%), 12(48%) among the total respondents, claimed their customers to be FSP, HH and Traders respectively. Apart from traders that buy sheep for resale purpose without further processing and the local households only FSPs process live sheep and add values before it reaches the end consumers. 10(40%) of the total trader of goat and sheep respondents also claimed supermarkets are among their customers lists. Whereas 26(65%) the local households for home consumption purpose.

4.1.5. Meat Animal Price in Berchuko and Kerra Market Centers

Table 3, the Price of Goat and Sheep at Berchuko and cattle at Kerra Terminal Market

Descriptive Statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
The Minimum Price of Goat	15	500	950	736.667	126.02
The Maximum Price of Goat	15	1300	2500	1900	266.592
Valid N of Goat Traders	**15**				
The Minimum Price of Sheep	25	400	750	496	95.6556
The Maximum Price of Sheep	25	850	2000	1434	382.895

Valid N Sheep Trades	**25**			
Total N of Trader Respondents	**40**			
The Minimum Price of Cattle	20	3500	8500	5845	1451.49
The Maximum Price of Cattle	20	8000	27000	18425	6216.01
Valid N (List wise)	20			
Total N of Trader Respondents	**60**			

Source: Survey Findings 2015

As to table 3, the minimum mean price of goat that is sold at Berchuko market is nearly 737ETB whereas the maximum mean price is 1900ETB and the Std. Deviation is 126.02 and 266.6 respectively according to 15 goat traders respondents in this category. In the mean time, 496ETB and 1434ETB is the minimum and the maximum mean price for sheep with 96.65 and 382.89 Std. Deviation in the mini-max order according to 25 sheep trader respondents in the same small ruminant market center. The cattle minimum mean price is 5845ETB and the maximum mean price is 18425ETB with Std. Deviation of 1451.49 and 6216.01 respectively in Kerra market center.

4.1.6. Meat Animal Transportation Weak links At Berchuko And Kerra Market Centers

Forty Berchuko market traders and twenty Kerra market traders have been asked for their opinion about the weak links of live animal transportation system from the primary/ secondary livestock market to the Terminal Market according to their degree of seriousness over the quality of meat production and supply in the value chain.

Table 4, Respondents' Ratting of the meat animal transportation Service delivery (weak links)

S/N	Statement	Berchuko%					Kerra%				
		1	2	3	4	5	1	2	3	4	5
1	Loading and unloading	-	2.5	37.5	37.5	22.5	_	_	25	40	35
2	Coordination amongst transport workers	-	-	37.5	52.5	10	_	_	25	60	15
3	Cost of logistics		2.5	75	10	12.5	_	5	65	30	_
4	Timeliness of delivery	-	-	45	45	10	15	10	50	25	_
5	Logistic Asset Availability and size variety	-	-	62.5	20	15.5	_	_	25	55	20
6	Logistic Standards	-	-	32.5	20	47.5	_	_	25	45	30
7	Road Infrastructure	-	-	70	17.5	12.5	_	_	30	50	20

8	Distance the meat animal travels	-	2.5	67.5	15	15	_	_	25	40	35
9	Efficiency of vehicles	-	-	27.5	17.5	55	_	_	25	40	35
10	Awareness of transportation workers	-	-	30	12.5	57.5	_	_	30	45	25
Total N of Respondents	60										

(Key: 1=Not Serious At All,2=Moderately Not Serious,3=Moderately Serious,4=Serious,5=Very Serious)

Source: Survey Findings 2015

According to table 4, only 7.5% of Berchuko market respondents claimed moderately not serious for variables loading and unloading (2.5%), cost of logistics (2.5%), and distance the meat animal travels (2.5%) whereas nearly 93.5% claimed that moderately serious, serious and very serious for all the variables of the weak links of live animal transportation system at Berchuko small ruminant traders. When, only 30% of Kerra market traders responded not serious at all and moderately not serious for cost of logistics (5%) and timeliness of delivery (25%) of the variables and only 70% of Kerra traders responded moderately serious, serious and very serious for all the variables of this category. The mean result for all the variables from Berchuko market goat traders is 3.9267 with Std. Deviation 0.85369 and 3.6760 with Std. Deviation 0.76862 for sheep traders. The mean and the Std. Deviation is 3.815 and 0.746595 respectively for all the variables for Kerra market cattle traders. However, efficiency of vehicles, awareness of transportation workers, logistic standards, Loading and unloading, Coordination amongst transport workers are serious weak links in the goat traders at Berchuko with a mean and std. deviation of (4.4000 & .91026, 4.4000 & .91026, 4.3333 &.89974, 4.0667&.88372, 3.9333&.70373) respectively. Though it is slightly different for sheep traders, the degree of seriousness for these variables is still between mean of 3.3200&4.2400 and Std. Deviation of .74833&.91287 for sheep traders at Berchuko market.

4.2. The Meat Animal Value Chain Performance of Berchuko and Kerra Markets

The following table summarizes that the assessment of the quality of the day to day center management of Berchuko and Kerra for small ruminants and cattle Market Centers.

Table 5, HRM & Coordination of the Center &Abattoirs

S/N	Statement	Berchuko (%)					Kerra (%)				
		1	2	3	4	5	1	2	3	4	5
1	Management of meat animal pushers	45	47.5	7.5	_	_	70	30	_	_	_
2	Management of risk from or of the meat animals was adequate	42.5	52.5	5	_	_	60	40	_	_	_
3	Relations/Coordination with meat animal value chain actors	32.5	60	2.5	_	5	40	50	10	_	_
4	Coordinators awareness in meat animal quality management	35	55	2.5	5	2.5	55	45	_	_	_
Total N of Trader Respondents		**60**									

(Key:1=Very Poor,2=Less than Satisfactory,3 =Average/Satisfactory,4 =Very Good, 5 = Excellent)
Source: Survey findings 2015

According to table 5, only 7.5 % claimed that management of meat animal pushers at Berchuko market is satisfactory and none of the respondents declared either it is very good or excellent. When it is compared to Kerra market, the response given is only 70% very poor and 30% less than satisfactory by cattle traders. In both markets, traders are not happy with the management of risk from or of the meat animals, but only 5% of the traders at Berchuko market claimed it is average/ satisfactory; whereas, the rest of the respondents that account 42.5% and 52.5% claimed it is very poor and less than satisfactory respectively. It showed relatively greater percentage of very poor response and lesser percentage for less than satisfactory responses at Kerra market, which accounts 60% and 40%. In assessing the quality of the day-to-day centre management practice, however, very small percentage (2.5%) and (5%) of Berchuko market respondents claimed the relations/coordination with meat animal value chain actors is satisfactory and excellent respectively and only 10% of Kerra cattle traders declared that it is satisfactory. Regarding coordinators awareness in meat animal quality management in the centers, only 10% are satisfied and 90% are not in Berchuko market and no respondents in the Kerra market are satisfied and their response accounts 55% and 45% for very poor and less than satisfactory respectively.

4.2.1. The Live Animal Markets Efficiency and Value Chain Governance at the Centers

The following table depicts the efficiency and the meat value chain governance of Berchuko and Kerra for small ruminants and cattle Market Centers in Addis Ababa.

Table 6, Respondents' Opinion on Market efficiency & Value Chain governance

S/N	Statement	Berchuko (%)					Kerra (%)				
		1	2	3	4	5	1	2	3	4	5
5	Assessment of Contribution of the centre performance to meat animal value chain actors	_	2.5	20	_	77.5	10	_	_	35	55
6	Availability of sound policies	2.5	2.5	15	65	15	_	_	20	50	30
7	Availability of procedures	2.5	7.5	15	62.5	12.5	_	20	25	30	25
8	Scale meat yield measurements	42.5	20	37.5	_	_	85	15	_	_	_
9	Scale for price setting	80	20	_	_		85	15	_	_	_
10	Scale for quality of meat animal	77.5	20	2.5		_	85	15	_	_	_
11	Environment protection standards	77.5	17.5	2.5	2.5	_	90	_	10	_	_
12	Implementation of policies to create efficiency across the meat value chain systems and sub systems	40	27.5	22.5	10	_	5	30	65	_	_
13	Implementation of procedures to create efficiency across the meat value chain systems and sub systems	_	70	20	10	_	_	45	55	_	_
14	Implementation of standards to create efficiency across the meat value chain systems and sub systems	_	70	20	10	_	_	45	55	_	_
15	What does the meat value chain governance of Actors and their Activities look like in the Centre	15	57.5	10	17.5	_	45	25	30	_	_
16	What does the meat value chain governance of actors' Roles and functions look like in the Centre?	52.5	20	7.5	17.5	2.5	45	25	30	_	_
Total N of Trader Respondents		**60**									

(Key:1=Very Poor,2=Less than Satisfactory,3 =Average/Satisfactory,4 =Very Good, 5 = Excellent)
Source: Survey findings 2015

According to table 6, the contribution of the centre performance to meat animal value chain actors, a significant percentage of respondents satisfaction level has been recorded for Berchuko that account satisfactory 20% and excellent 77.5%; more than half of the respondents in Kerra market were satisfied and they responded the contribution of the center to value chain actors is excellent. Concerning availability of sound policies and procedures, 80% of respondents in both markets declared that there are very good (65%) and excellent (15%) for existence of sound policies in Berchuko and (50%) and (30%) for Kerra market. About availability of procedures;

however, 5% of the respondents showed their dissatisfaction claiming it is very poor and less than satisfactory with 2.5% for each value levels in Berchuko and only 20% of the respondents in Kerra claimed it is average or satisfactory.

None of cattle traders in Kerra centers claimed existence of scale of meat yield measurement in the center and 62.5% in Berchuko only 37.5% declared it is average. Nearly all the respondents declared the absence of scale for neither price nor quality measurements in the centers. Ninety percent of the respondent in Kerra asserted that environmental protection standards are very poor and less than satisfactory; the percentage figure is even bigger for Berchuko market respondents. The above table clearly depicts that implementation of policies with respect to Berchuko market is very poor (40%) and less than satisfactory (27.5%) but only 30.5% are satisfied with 22.5% average/satisfactory and only 10% responded that it is very good to create efficiency across the meat value chain systems and sub systems. Only 5% responded it is very poor and 30% claimed it is less than satisfactory whereas 65% declared it is satisfactory or average for Kerra market. About implementation of procedures and standards 70% and 45% claimed less than satisfactory for both Berchuko and Kerra markets respectively, 20%, and 55% claimed it is satisfactory for both Berchuko and Kerra markets respectively to create efficiency across the meat value chain systems and sub systems. Whereas only 10% declared, it is very good for both the implementation of procedures as well as standards in Berchuko market.

When asked What does the meat value chain governance of Actors and their Activities look like in the Centre, Berchuko market traders responded that very poor (15%), less than satisfactory (57.5%) and only 17.5% responded very good when only 10% declared satisfactory. Almost the response from Kerra market traders is the same with Berchuko respondents very poor (45%) and less than satisfactory (25%) and only 30% claimed it is satisfactory. In the contrary, response to the meat value chain governance of actors' Roles and functions in the centers only 27.5% of Berchuko market claimed satisfactory (7.5%),very good (17.5%) and excellent(2.5%); when only 30% of Kerra market trader respondents claimed it is only satisfactory. More than 60% of the respondents in each market centers claim it is very poor and less than satisfactory.

4.2.2. Primary Value Chain Activities in the Berchuko and Kerra Market Centers

The following table shows the response of Berchuko and Kerra Market Centers respondent merchants of small ruminants and cattle in the supply chain primary activities.

Table 7, Primary Value Chain Activities:

S/N	Statement	Berchuko (%)					Kerra (%)				
		1	2	3	4	5	1	2	3	4	5
17	Meat animal warehousing effect on quality of meat production quality	_	20	62.5	15	2.5	_	40	40	15	5
18	Centre capacity	_	2.5	17.5	65	15	_	10	40	30	20
19	Meat Animal Operations Activities in the center:	2.5	12.5	67.5	15	2.5	15	10	70	_	5
20	Out bound logistics Activities the center:	5	20	60	12.5	2.5	5	55	35	_	5
21	Marketing and Sales Activities in the center:	10	7.5	22.5	57.5	2.5	25.5	_	55	_	5
Total N of Trader Respondents		**60**									

(Key:1=Very Poor,2=Less than Satisfactory,3 =Average/Satisfactory,4 =Very Good, 5 = Excellent)
Source: Survey findings 2015

As to table 7, concerning the meat animal warehousing effect on quality of meat production quality only 20% of Berchuko market traders responded less than satisfactory. The percentage is twice more for Kerra market traders. Only (62.5%) Berchuko market traders and (40%) Kerra market traders claim it as average/satisfactory. The same numbers of respondents in both markets (15%) claim it is very good and only 2.5% and 5% declare it is excellent respectively to Berchuko and Kerra markets. One can clearly see that none responded very poor in both markets about the center capacity and only 2.5% and 10% claim less than satisfactory when 80% and 50% lies within the positive responses as very good and excellent for Berchuko and Kerra markets respectively. About the meat animal operations activities in the centers, only 15% of Berchuko market respondents and 25% Kerra market claim it is very poor or less than satisfactory. Significantly higher percentage score is recorded in Kerra market (55%) less than satisfactory which more than twice that of Berchuko market is concerning outbound logistic activities of the centers. Moreover, concerning marketing and sales activities in the centers, very poor (10%), less than satisfactory 7.5% were recorded on Berchuko market and very poor (2.5%) and less than satisfactory 25% were for Kerra market. Only 22.5% in Berchuko and 55% Kerra

respondents claimed it is average/ satisfactory yet Berchuko traders have suggested 57.5% very good and only 2.5% excellent whereas only 5% Kerra traders claimed excellent on that variable asked.

4.2.3. Infrastructure of the Berchuko and Kerra Market Centers

The below table summarizes about the infrastructure of the Berchuko and Kerra small ruminants and cattle markets in the meat value chain performance in Addis Ababa.

Table 8, Infrastructure of the market center

S/N	Statement	Berchuko (%)					Kerra (%)				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
22	Quarantine	92.5	2.5	2.5	2.5	_	100	_	_	_	_
23	Vaccination service	90	2.5	5	2.5	_	100	_	_	_	_
24	Feed	7.5	52.5	20	5	15	_	35	40	15	10
25	Water in the centre	_	10	30	35	25	_	10	50	10	30
26	Shelter Safety	5	2.5	5	40	47	_	_	_	20	80
Total N of Trader Respondents		**60**									

(Key:1=Very Poor,2=Less than Satisfactory,3 =Average/Satisfactory,4 =Very Good, 5 = Excellent)
Source: Survey findings 2015

Table, 8 depicts 100% response suggesting very poor about quarantine and vaccination service infrastructure in Kerra cattle market center and 92.5% and 90% for Berchuko market. Concerning availability of feed only 7.5% and only52.5 claimed very poor and less than satisfactory respectively in Berchuko whereas 35% suggested it is less than satisfactory in Kerra. 10% of both market respondents suggested water supply is less than satisfactory and none of the respondents did suggest it is very poor. 90% claimed it is satisfactory (30%), very good (35%) and excellent (25%) for Berchuko and satisfactory (50%), very good (10) and excellent (30%) for Kerra market. More than 87% are satisfied by the shelter in Berchuko whereas all of the respondents claimed the shelter is more than satisfactory in Kerra market.

4.3. Retailers in the Meat Value Chain Activities at Kirkos Sub City

The following figures show the supply chain of meat, number of slaughters per week and Cold Chain usage by the respondent butcheries in Kirkos Sub City.

Figure 4 butcheries' source of meat animals and types of slaughters per week
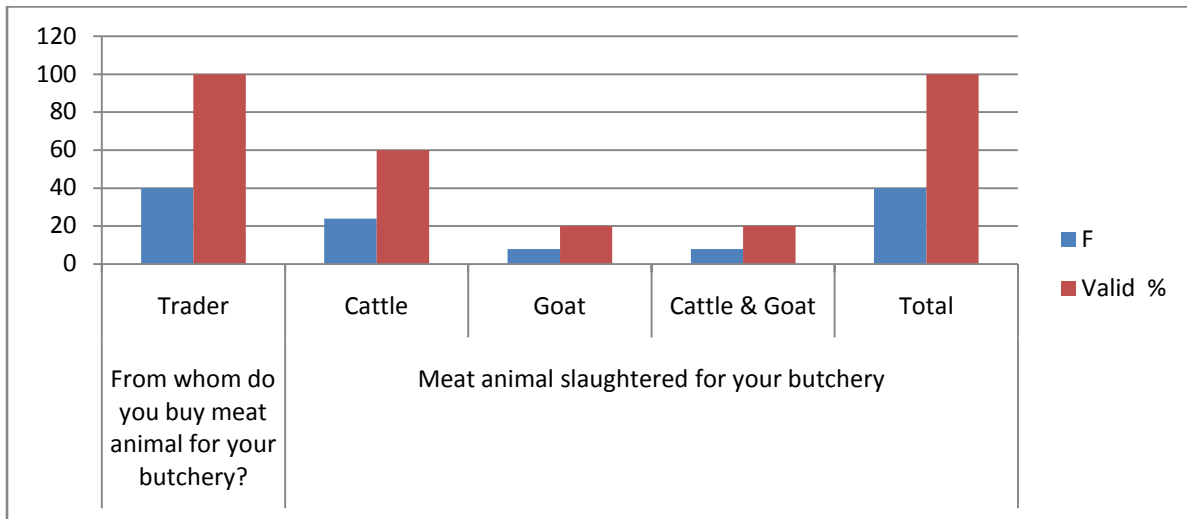
Source: Survey findings 2015

Figure 5 Number meat animals Butchered per week and cold chain technology
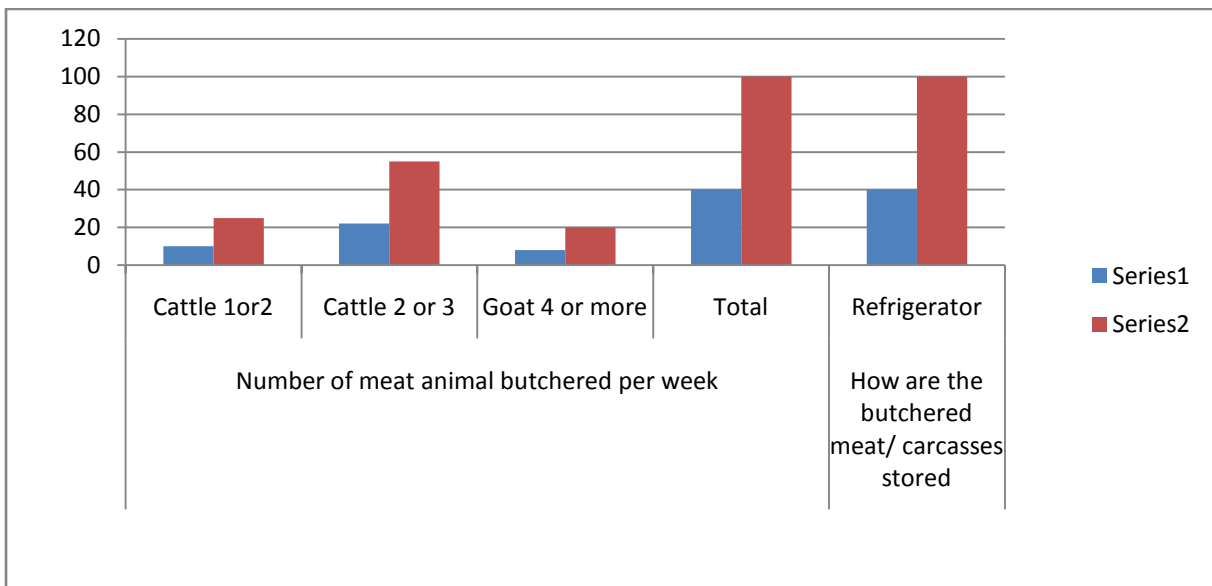
Source: Survey findings 2015

Figure 1 and 2 presents that from 40 respondents of butcheries, all acknowledged that they buy cattle, goat and sheep from local Traders. 60% of butchery respondents slaughter cattle only, 20% goat only and 20% both cattle and goat to avail meat in their butcheries. Concerning the number of meat animal butchered in supplying meat per week in the butcheries, only 25% of

respondents butchered 1 or 2 cattle only,55% butcher 2 or3 cattle and 20% butcher 4 or more goats per week. The butchered meat or carcasses are stored in refrigerators for all respondents of butcheries.

4.3.1. Constraints in the Meat Value Chain at Kirkos Sub City

The table bellow summarizes the prevailing constraints in the meat value chain of cattle, sheep and goat in Kirkos Sub City according to Butcheries and Supermarkets' respondents

Table 9, Weak links according to their seriousness in the meat value chains ratted by retailers

S/N	Statement	Butcheries (%)					Supermarkets (%)				
		1	2	3	4	5	1	2	3	4	5
1	Highly affected by the existence of illegal brokers	_	_	12.5	30	57.5	_	_	_	30	70
2	Severity of epidemic meat animal diseases on their health status before and after reaching slaughter houses	35.5	12.5	42.5	7.5	_	_	_	15	50	35
3	Existence of Poor governance across the value chain	_	22.5	52.5	5	20	_	_	15	45	40
4	Lack of coordination and cooperation across the value chain	_	20	35	35	10	_	_	15	35	50
5	Transportation problems	17.5	15	25	35	7.5	_	_	20	40	40
	Total N of Retailers Respondents	**60**									

(Key: 1=Not Serious At All,2=Moderately Not Serious,3=Moderately Serious,4=Serious,5=Very Serious)
Source: Survey findings 2015

According to the result presented in Table 9, sample butcheries and supermarkets identified the most frequently mentioned weak links and constraints of meat supplying. The existence of illegal brokers in both butcheries (87.5%) and supermarkets (100%), Lack of coordination and cooperation across the value chain in both butcheries (80%) and supermarkets (100%), and existence of Poor governance across the value chain in both butcheries (77.5%) and supermarkets (100%). Moreover, transportation problems and epidemic meat animal diseases are the most stressing weak links for more than 67% and 50% of butcheries and 100% of supermarket respondents respectively.

4.3.2. Meat Value Chain Primary and Supportive Activities by Retailers at Kirkos Sub City

Convenient selection of 40 and 20 samples of butcheries and supermarkets respectively were taken from Kirkos Sub City to evaluate the primary and support activities in the meat value xhain development in Addis Ababa and all the respondents rated the modernity of the inbound and outbound logistics, production and marketing system, and infrastructure, technology and management aspects in the meat value chain in the study.

Table 10, Ratting Primary and Supportive Value Chain Activities in Meat Value Chain Development in Addis Ababa

S. No	Statement	Butcheries (%)					Supermarkets (%)				
		1	2	3	4	5	1	2	3	4	5
1	Development of Marketing And Sales Modernity	_	50	25	5	20	_	20	30	30	20
2	Meat Processing Concerns After It Arrived Butchery Shop	_	27.5	35	37.5	_	_	_	20	50	30
3	Improvement of Packaging Methods	25	22.5	32.5	20	_	_	_	45	30	25
4	Abattoirs' Workers Discipline And Management	22.5	32.5	37.5	7.5	_	55	25	15	5	
5	Contamination Prevention System	30	20	15	32.5	2.5	20	40	20	10	10
6	Inspection Done By Public Heath, Veterinary, Government, Etc.	20	27.5	32.5	20	_	25	45	20	5	5
7	Abattoirs Capacity In Giving The Processing Service	65	27.5	7.5	_	_	35	40	15	10	_
8	Cattle, Sheep And Goat Supply For Local Consumption	20	35	32.5	7.5	5	20	60	20	_	_
9	The Effect of Meat Animal Disease control On The Meat Value Chain	_	15	57.5	27.5	_	20	40	40	_	_
10	The Cold Chain Facility of Abattoirs	60	30	10	_	_	25	40	35	_	_
11	Ethics In The Competition In The Value Chain	60	40	_	_	_	25	45	30	_	_
12	Sound Policies Implementation Across The Value Chain	42.5	57.5	_	_	_	35	55	10	_	_
13	Standard Setting In The Value Chain For Traders	60	40	_	_	_	40	50	10	_	_
14	Standard Setting In The Value Chain For Wholesalers	87.5	12.5	_	_	_	50	40	10	_	_
15	Standard Setting In The Value Chain For Retailers	17.5	12.5	35	35	_	50	40	10	_	_
16	Standard Setting In The Value Chain For Abattoirs	15	27.5	32.5	25	_	40	40	20	_	_

17	Sound Policies Existence	_	5	35	45	15	10	35	40	15	_
18	Control And Measure on Contraband Slaughterers	12.5	32.5	35	15	5	25	35	35	5	_
19	Sanitation of meat shops	5	40	30	10	15	-	-	47.5	42.5	10
20	Meat quality improvement	5	37.5	17.5	35	5	30	30	35	5	_
Total N of Retailer Respondents		60									

(Key: 1=Very Poor, 2 = Less than Satisfactory, 3 = Average/Satisfactory, 4 = Very Good, 5 = Excellent)
Source: Survey findings 2015

The survey results indicate that the primary as well as the supportive meat value chain activities suffer from symptoms that it is highly affected by poor value chain development. The lack in modernity of the primary and supportive activities is a symptom of under developing value chain system. The survey result shows that 50% and 20% of butcheries and supermarkets claimed the development of marketing and sales is less than satisfactory and 25% and 30% suggested it is satisfactory respectively whereas, 25% butcheries and 50% supermarkets claimed it is very good and excellent as their response. Only 27.5% of butchery samples meat processing concerns is found to be less than satisfactory and only 37.5% is above the average whereas supermarket samples indicate that 20% less than satisfactory, 30% showed average and very good respectively and only 20% indicated that it is excellent.

The survey indicates (47.5%) very poor and less than satisfactory about packaging in the butcheries but satisfactory (45%) and (55%) above average for supermarkets. Abattoirs' workers discipline and management indicated by the sample respondents of butcheries very poor (22.5%) and less than satisfactory (32.5%) and sample supermarkets suggested very poor (55%) and less than satisfactory (25%). Nearly 50% of the sample taken from butcheries and 70% of supermarkets indicated inspection done by public health, and other concerned government body is very poor and less than satisfactory.

As indicated in the survey, Abattoirs capacity in giving the processing service beyond it is expected as the demand for meat as trends showed growing, 92.5% of butchery samples and 75% of supermarkets denied it is satisfactory. Moreover, more than 50% from both samples showed Cattle, Sheep and Goat supply for local consumption is not satisfactory. On other hand, the effect of meat animal disease control on the meat value chain nearly 75% of the samples in retailers'

category believed it is less than satisfactory. The cold chain facility of abattoirs (90% and 65%), ethics in the competition in the value chain(100% and 70%), sound policies implementation across the value chain(100% and90%), standard setting in the value chain for traders (100% and90%), wholesalers (100%) and retailers(30% and 90%) the samples of butchery and supermarket denied it is satisfactory.

Based on the survey, 60% of butchery and 55% of supermarket sample respondents indicated that sound police existence is above average/satisfactory whereas control and measure on contraband slaughterers 45% very poor and less than satisfactory, and 40% less than satisfactory respectively.

Table 10, shows that 5% and 40% of sample butcheries believed that the sanitation of meat shops is very poor and less than satisfactory but 47.5%, 42.5% and 10% sample supermarkets claimed that average, very good and excellent respectively. Concerning meat quality improvement, more than 40% and 60% of butchery and supermarket respondents suggested it is very poor or less than satisfactory respectively.

4.3.3. Relative Importance of the Determinant Factors of Meat Marketing by Retailers

Table 11, Opinion on the relative importance of the variables as a major determinant factor

		Butcheries %						Supermarkets %					
SN	Statement	1	2	3	4	5	6	1	2	3	4	5	6
1	Quality	_	_	_	2.5	10	87.5	_	_	_	_	_	100
2	Price	_	_	_	15	72.5	12.5	_	_	_	55	45	_
3	Delivery Reliability	_	_	_	40	20	40	_	_	_	_	60	40
4	Conformance to Specification	_	_	_	25	22.5	52.5	_	_	_	_	45	55
5	Packaging	_	_	10	47.5	32.5	10	_	_	_	_	55	45
6	Flexibility	_	_	_	25.5	7	67.5	_	_	_	_	30	70
Total N of Retailer Respondents		**60**											

(Key:1=extremely unimportant, 2=very unimportant,3=somewhat unimportant,4= somewhat important,5=very important,6= extremely important)
Source: Survey findings 2015

Based on the survey results the market characteristics is almost different to the butchery samples and supermarket samples. According to table 14, quality is somewhat important to 2.5%, very important to 10% and 87.5% extremely important to sample butcheries respondents and it is

100% extremely important to samples of supermarket respondents. Based on the survey, price is very important to 72.5% of butchery and 45% of supermarket respondents. Though there exists some degree of enter similarity between sample respondents of butcheries as well as supermarkets in the relative importance of the variables, the survey indicates 40% of sample butchery respondents showed delivery reliability is somewhat important and extremely important, and very important (20%). Sample respondents of supermarkets claimed very important (60%) and extremely important (40%). The table shows that 47.5% butchery sample respondents declared that the conformance to specification variable is somewhat important and very important and 52.5% indicated extremely important. For sample supermarket respondents, very important (45%) and extremely important (55%) shows the survey. When the same 10%, indicates somewhat unimportant and extremely important to packaging by sample respondents of butcheries, 32.5% and 55% of both sample respondents of butcheries and supermarkets showed it is very important for meat marketing. The survey indicates that nearly 68% and 70% sample respondents showed flexibility variable is extremely important to both categories of samples.

4.4. The Presentation of the result of the Interview Conducted

This sub section summarizes and presents the interview results from the value chain actors such as Berchuko and Kerra Markets' Coordinators and Addis Ababa Butcheries' Association. Ato Genete Eudeta from Berchuko small ruminants market and Ato Taddese Muluta from Kerra cattle market coordinators and Ato Tsegaye Haylu the general manager of Addis Ababa Butcheries' Association response have been used in this analysis bellow.

4.4.1characteristics of Kerra and Berchuko Market Centers

The type of meat animals transacted and the value chain actors distinctively characterize the two market centers. According to the interview with the two market coordinators, the Kerra Center (established in 1949) specializes on cattle market where as Berchuko (established in 1987) Center specializes on small ruminants (70% sheep and 30% goat)

In an attempt to create a favorable market condition where sellers and buyers directly meet, exchange information, bargain price and transact cattle in Kerra market without the presence of brokers their role has been redefined in the center by the government as market center upgrading

strategy by adding value adding functions or activities. Brokers are forced to form groups of 1: 5 developments. Hence, five categorical roles have been designed in the center. These are facilitators, cattle protectors, transportation queue co ordinations and center cleaning. Currently, there are 350 facilitators, 66 meat animal protectors, 16 transportation queue coordinators and 5 center cleaners in the Kerra Center. Subsequently, training program has been scheduled to better facilitate the cattle marketing in the centers according to the center coordinator Ato Taddese Muluta. In contrast, the interview result did not show such value chain development practice in Berchuko small ruminant Market Center.

Although there is water supply and loading/unloading facilities in both market centers, none has quarantine facilities, waste disposal pit, or weighing scales or grading mechanisms. Shelter is only available in Berchuko market center where as Veterinary services are available only at Kerra Center. Feed is also available in the nearby proximity for both market centers. The market days for the Kerra and Berchuko centers are Wednesdays and Fridays. The interview revealed that the procedure for placing small ruminants in Berchuko market allows legal traders to pay 1ETB per small ruminant in the market and until they leave the center. Where as in Kerra market the trader pays 5 ETB/cattle for stand in the center.

In both market centers, farmers can participate only when they bring evidence that indicate they are farmers from their respective Woredas, legally registered wholesalers, retailers and fattners supply meat animals to the rest of the value chain actors in Addis Ababa. Ato Tadese declared that the number of farmers who participated in the Kerra market have significantly decreased after government introduced the receipt system for every cattle transaction whereas in Berchuko market farmers bring their ruminants to the center claimed Ato Genete Eudeta. He indicated that the major marketing problem in this market center includes the existence of illegal traders who enter the market unidentified with the legal traders; illegal brokers that interfere in the market and nothing have been done about it.

The livestock supply to the market centers varies from season to season. The largest number of livestock is sold from April to September, followed by October to January. The lowest market is in the months of February and March during Ethiopian Orthodox fasting months. The highest

supply to Kerra cattle market is (800 to 1000 heads) and the lowest is (300 to 400 heads); (2000 to 4000 heads) and (400 to 600 heads) are for Berchuko market according to the coordinators.

The main buyers of cattle are butcheries; hotels are the main purchasers of sheep. To a limited extent, individual consumers also buy cattle and sheep. The market is based on demand and supply in both markets where the buying and selling follows negotiation over price. Cattle are mainly slaughtered at nearby slaughterhouses while sheep and goats are slaughtered at individual hotels or houses.

According to Ato Genete Eudeta, the supply of cattle is mainly from Oromia, Southern Nation Nationalities People Region (SNNPR) and Amhara. Arsi, west Shoa and north Shoa zones, dominates the supply of sheep to Berchuko. Among other marketing problems in Berchuko market, holding the small ruminants is risky because of transmittable animal diseases and lack of quarantine facility. The under developed nature of the market structure and poor coordination among meat value chain actors are indicated by the interviewees.

4.4.2 Addis Ababa Butcheries Association Interview

The following sub section summarizes the interview findings from Addis Ababa Butcheries Association's general manager Ato Tsegaye Haylu and presented as follows.

4.4.2 .1 Addis Ababa Butcheries Association Terms of Office

The major objective of Addis Ababa Butcheries Association established is to help members solve their problems jointly in coordination with other stakeholders in the meat value chain. The association does different initiatives in creating awareness amongst its members in all areas of meat production and marketing, addressing and helping its 1,000 active members meet government compliances, health issues among others. Moreover, it works with the police in uncovering illegal meat suppliers and moderate any ambiguity arise between the butcheries and the Abattoirs.

According to the standard set by the Addis Ababa Abattoirs Enterprise, the eatable carcass weight is 48% of the live animal slaughtered and the rest 52% is the uneatable (byproduct)

carcass weight. The Enterprise distributes the byproduct as an input to others on behalf of the butcheries including hides, bones and "Mora" claimed Ato Tsegaye.

4.4.2 .2 Generally Alleged Problems of Cattle Market

The interview result indicates that the generally alleged problems of cattle market in the meat value chain according to Ato Tsegaye include:

- Low scale livestock supply;
- Lose implementation of government policies and procedures;
- Uncontrolled Illegal slaughters in the city;

4.4.2 .3 Specific Problems of Cattle Marketing and Meat Production

The interview identified some of the specific problems in relation to retailing meat to the local community. Concerning live cattle purchase in the Kerra market, the association members still complains that the brokers request exit fee from 50 to 100 ETB per cattle transacted between the seller and the butchery. Regarding the meat production and supply, temporary permit given to private processors to make limited number of slaughters to fill the recurrent gap of meat supply for the community, indicated as weak link in functional governance and created a way for illegal smugglers of meat from cattle without proper medical vaccination and meat treatment in the value chain. These, in the contrary, require better supervision and control by government and the butcheries; since it creates imbalanced competition in the chain. He also stressed that such such operation in the value chain and lack of well-shaped standards affected the meat value chain negatively.

4.4.2 .4 Meat Competitions and price-scheduling mechanisms

According to Ato Tsegaye, three competing meat-marketing channels characterize the meat value chain in Addis Ababa in general and the study area in particular:

1. Legal retailers
2. Illegal slaughterers
3. Cooperatives

4.5. Discussion

4.5.1. Cattle and Small Ruminates Market Summary of Findings and Discussion

The cattle and small ruminants' meat value chain in the selected study area exhibited a number of problems starting from the source where live animals are transacted, processed and meat is retailed. The live animal markets are purposely included in this study to assess the efficiency of the upper supply side/ market of the value chain whereas the local and modern retailers showed the problem in the production, supply and marketing.

4.5.1.1. Constraints in the meat value chain in live animal marketing system

Cattle market respondents concerning the variables under this value chain study, showed that the existence of the market centers plays an important role that they reflected it in their responses of the questions provided to them in assessing the efficiency of the market centers. More than 50% of Kerra and more than 65% of Berchuko market indicated that the center capacity for Kerra is very satisfactory, excellent, and average for Berchuko market. This implies that the centers have contributed a great deal to the value chain development. However, according to table7, the response indicates that Meat Animal Operations Activities in the center (60%,) out bound logistics activities in the centers (85%), marketing and sales activities in the center (70%) showed the primary value chain activity for the centers need improvement and for all these variables in Kerra market. According to table 12 in the annexes, the descriptive mean result of which are 2.7000, 2.7000 and 2.7500 with standard deviation 0.92338, 0.82558 and 0.26031 respectively. The data tells us that the firs to have slight inherent difference but the later have higher than the two variables in the distribution with variance of 0.853, 0.682 and 1.16416 respectively for Kerra market. The variables are not symmetrical because the first two are positively skewed and the later is negatively skewed.

This implies that the mean as well as the median values departs from the most frequent vales of responses to the right for the two positively skewed variables and to the left for marketing and sale activity of the centers. The mean score for Berchuko 3.0250, 3.3500 and 2.8750 with variance of 0.487, 0.625 and 1.054.as the mean result indicates that there is a gap in the Berchuko market center with regarded to the operation, outbound logistic and marketing system in the market center and the degree is higher for Kerra market.

According to the table 4, the vast majority of sample respondents expressed their opinion that the live animal markets are suffering from transportation weak links. This tells us that a lot has to be done transportation and transport service providers' conduct, efficiency, standard and management system. It has an implication of lack of transport technology, government police issues, and varies governance problems of each level. As the sector evidenced lack of standard, efficiency of vehicles and awareness of transportation workers are the most threatening constraints in the upper meat value chain marketing system.

From the Berchuko and Kerra market centers respondents, it is very clear to see the five most transportation weak links according to their seriousness in the meat animal supply and marketing. The finding shows that loading and unloading, distance the meat animal travels, efficiency of vehicles are the most treating transportation challenge of live animal transporting. With the same mean score of 4.1 and Std. Deviation of 0.78807; logistic standards (mean of 4.05 and Sta. Deviation of 0.75915); awareness of transportation workers, logistic asset availability and size variety being the second and the third serious transportation challenges with mean and standard deviation 3.95; 0.68633 respectively, following coordination amongst transport workers, road infrastructure, and cost of logistics for Kerra market. However, awareness of transportation workers efficiency of vehicles, logistic standards, loading and unloading and coordination amongst transport workers takes the first up to the fifth order according to the mean of 4.2400, 4.2000, 4.0000, 3.7200,and 3.6400 and std deviation 0.92556; 0.91287, 0.91287,0.84261 and 0.63770 for Berchuko market.

4.5.1.2 Upgrading Requirement in the Meat Value Chain

Concerning the market efficiencies and value chain governance, contribution of the centre performance, existence of sound policies and procedures there have been a positive response recorded from both market participants in the live animal value chain. Nevertheless, According to table 6, traders' response to the governance of actors and their activities, and roles and functions nearly 72% and 80% showed that it is poor and less than satisfactory level with a Berchuko traders and Kerra market respectively. This implies that poor governance results poor value chain development.

4.5.1.3. Meat Value Chain Map of Actors and their Relationships

The following figures show the marketing relationships, the value adding and product movement of cattle and small ruminants (sheep and goat) meat production maps for Berchuko and Kerra markets through the marketing channels.

Figure 6 Berchuko meat Cattle marketing value chain map
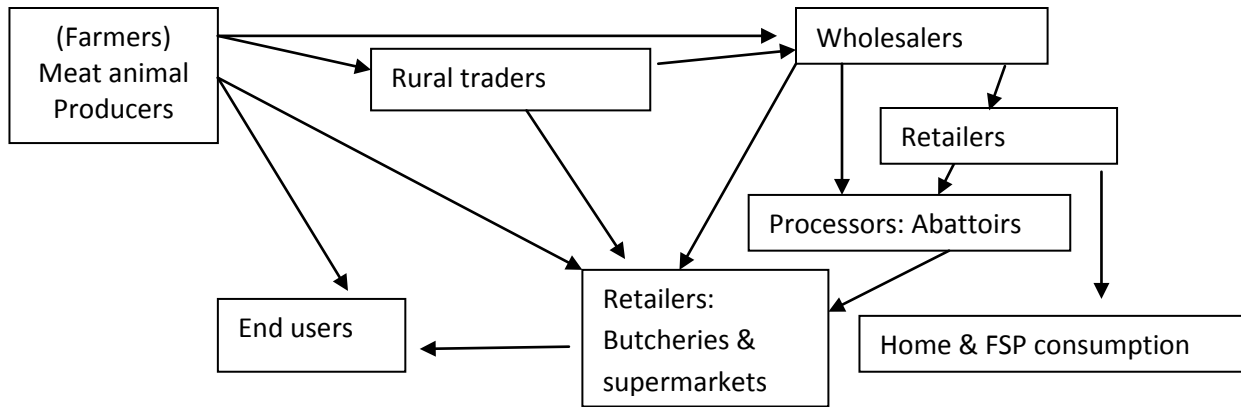
Source: own construction based on survey 2015

Figure 7 Kerra meat animal marketing value chain map
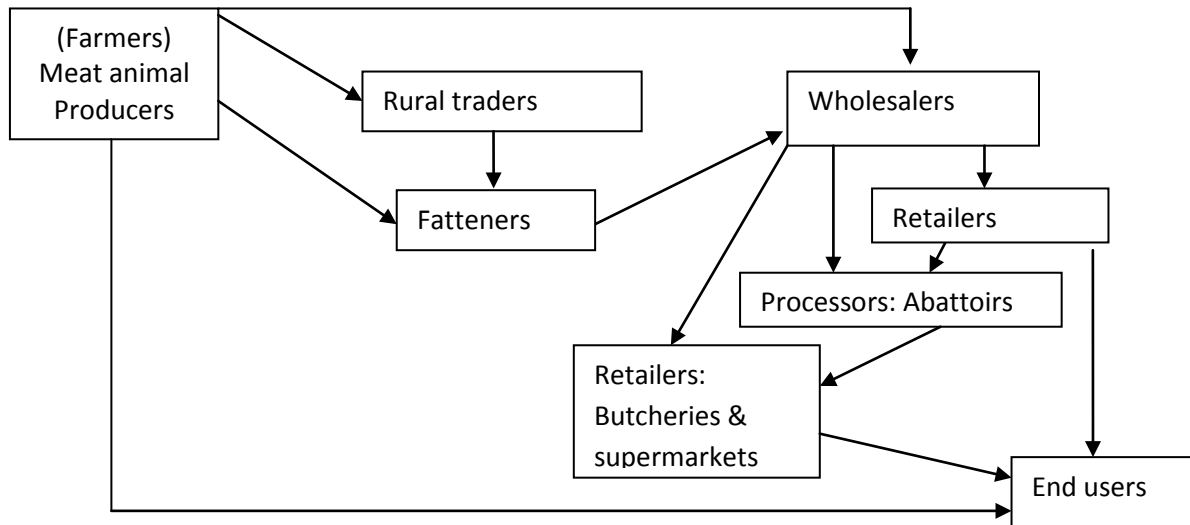
Source: own construction based on survey 2015

The survey reveals that each actor in the channel gets information from the supplier. The value chain actor response in the live animal market as well as the meat retailing market testified that

the existence poor value chain development with respect to the variables the relationships of actors, weak market structure and poor information flow. The poor technological infrastructure, lack of scales for yield, price, quality and poor standards with regard to control of traders allowed these constraints to aggravate. As table 5, The variable that evaluate the relationship of the live animal value chain actors, indicate that the statistics mean result of responses for these variables is found to be less than 2(i.e. less than satisfactory) which we can infer it is not well structured relationship among live animal marketing. Hence, it implies that since the upper live animal markets suffer from poor relationship it has negative implication on the meat supply and marketing systems. Both markets have revealed. The study evidenced the existence of poorly structured value chain development system. Concerning the live animal marketing infrastructure the finding indicates that nearly 90% of Berchuko and 100% of Kerra market suggested, poor supportive value chain activity is undergoing concerning quarantine and vaccination service for both market centers.

4.5.2. Meat Retailers Summary of Findings and Discussion

Among samples of respondents from butcheries (50%) testified that the development of marketing and sales towards modernity is less than satisfactory for the variable. However, supermarkets' sample respondents mean score and variance is found to be 3.5000 and 1.105. It implies that the vast majority of sample supermarket respondents have positive response with this variable and only 20% sample respondents' opinion indicated that it is less than satisfactory though. This is an indication that the meat marketing systems in the study area needs innovative changes. Nearly 47% of butchery sample respondents claimed that the improvement of packaging methods fall short of satisfactory level. The study testified that abattoir' workers discipline and management; contamination prevention system; inspection done by public heath, veterinary and by concerned government agencies; cattle, sheep and goat supply for local consumption; abattoirs capacity in giving the processing service; the cold chain facility of abattoirs; and ethics in the competition in the meat value chain are less than satisfactory. Table 16 in the appendixes reveals that the mean result for this variable is 1.7000, 2.5000, 2.2000, 2.0000, 2.0000, 2.1000 and 2.0500. Likewise, for standard and policy implementation related parameters, the result of the findings is nearly the same with the above variable results.

4.5.3 Triangulation

Triangulation is a strategy that can be used to strengthen the confidence of the research findings (Arksey and Knight, 1999). Personal and methodical biases can be reduced if not eliminated by triangulation strategy to increase reliability of generalizing about the finding of the study. Easterby-Smith *et al.* (1991) referred to data triangulation as the process of collecting data over different times or by using multiple methods. As the data is gathered from different angles and by different methods, this part summarize the findings from the questionnaire and the Interview conducted and evaluates the responses given to some questions in order to validate the responses about meat value chain in Addis Ababa. Hence, the following triangulations have been made between sources:

- Responses from the questionnaires are highly similar with the answers given from the interview about the importance of the market centers though the centers undergone constraints;
- Both the questionnaire as well as the interview identified that certain constraints such as seasonality of live animal production which instead creates cyclic shortage of meat supply, lack quarantine facility to meat animals, miss behavior of Addis Ababa abattoirs enterprise personnel and illegal brokers, existence of higher degree of uncontrolled illegal slaughter s, undeveloped nature of meat value chain activities, and poorly structured meat animal marketing system that created unfair competition among the meat value chain actors.
- Existence poor value chain governance

4.6. Indication for Future study

The researcher aimed to analyze the meat animal supply chain and the meat value chain performance of small ruminants and cattle from the two market centers selected to describe the constraints and opportunities. For time and cost reasons the economic analysis are not included in this study and left untouched. Then, it is a future area any researcher could consider.

Chapter Five

5. Conclusions and Recommendations

5.1. Conclusions

In conclusions, the production of meat from cattle, sheep and goat takes place in the Addis Ababa Abattoirs Enterprise, the temporary permit given to some individuals by the abattoirs and in individual households in different vestiges and holidays. Abattoirs around Addis that are ether possessed by the Oromya municipalities or individuals produce and supply meat from cattle, sheep and goat to Addis Ababa City. A great number of slaughters usually take place at holidays in most households and the abattoirs are busy at these times. In the normal days, the operations of the abattoirs is characterized by the butcheries order time especially on Friday for Saturday and Sunday market a number of slaughters happen whereas on Tuesday's it decreases while the next day is fasting day for most Christians. The in house slaughters where many meat animals are processed, the operations is a great concern over the quality of meat produced since the meat animals are not quarantined at any of the terminal market centers for any dangerous diseases that could harm the end users and contaminations. There are widely spread rumors about illegal slaughters in every corner of the city that smuggle quality compromised meat products from cattle, sheep and goats in to the market. These rumors are magnified by the inefficiency of the abattoirs with regard to their processing capacity and supply of meat to the channels and sub channels.

The outbound logistic, in general, nearly 13,140, wholesalers, local retailers, modern retailers, Food Service providers believed get meat from the abattoirs in and around Addis Ababa including the meat export sectors. The figure is according to the Addis Ababa trade and industry development Bauru.

The finding in chapter 4 shows that the movement of meat at every level has a number of problems that need attentions. The marketing and sales of meat also needs improvement. It highly lacks value chain development (competitiveness) as a market.

The Berchuko and Kerra market centers in Addis Ababa needs value chain-upgrading strategies for the most pressing constraints. Accordingly, the followings are options to minimize the constraints. Such as poor center management, lack of awareness on quality of meat production

Sample respondents indicated the meat value chain suffers starting from the market centers where facilities are neglected because of that meat quality is compromised. Governance in its every aspect of the term needs focus. Poor relationship among actors requires networking strategy to overcome the manifested constraints in to opportunities. Information flows between the live animal traders in market negotiation over price. The price setting mechanism of Sellers is base on the live animal age and the costs associated with feeds, transporting, and appearance of the live animal. In the market centers, environmental concerns are very weak.

The analysis of the value chain identified key problematic areas where interventions might be productive. These 'pressure points' are discussed below, with many overlapping and relating to each other.

- Compared to the supply of animals to Addis Ababa, the market centers are not adequate. In addition, the existing market centers do not have all the necessary facilities. Furthermore, technical backstopping is required for the development of the marketing system.
- The centers lack efficiency in value chain development of meat production, these are reflected in the poor services they provide for live animal traders;
- Lack of well-structured marketing system is testified by the findings.
- Addis Ababa Abattoirs Enterprise capacity is not satisfactory to process and supply meat to the locality, in light of satisfying the future demand for meat from cattle and small ruminants the enterprise capacity is poor.
- Lack of information technology hampered the communication In order to structure the market more the live animal markets.
- Poor governance is highly affecting the meat value chain as live animal traders and meat retailers testified

- The meat value chain in Addis Ababa is constrained by poor governance, illegal traders and brokers this intern reflects the lack of policy implementation, which is testified by the vast majority of sample respondents.

- Live animal markets coordination practice is not satisfactory in light of the value chain development approach since many of the variables assessed the meat value chain, need upgrading to help develop the meat value chain in Addis Ababa.

5.2. Limitations of the study

Some limitations of the research should be considered. First, the data are not time series. Although the researcher wanted to look the development in the meat value chain on specific time with respect to value chain variables, the data collected are opinion based from the respondents knowledge and understanding of the meat value chain movement. Moreover, respondents were very busy by the time of data collection and negligence by some respondents is noticed that may affect the validity of the analysis to some extent. In addition, this research totally depends on the opinion of the respondents to assess the meat value chain study in the specified areas, respondents' personal bias remain to be the limitation of this study.

5.3. Recommendations

The following recommendations have been made:

1. Constraints such as meat production ,processing and marketing are the major areas where this assessment exhibited from the data gathered from the sample respondents and policy makers and influencers should due attention about these three meat value chain problem to establish networking among the meat value chain actors, setting of standards for the value chain actors roles, activities and functions and its governance as well.

2. Market centers are far from value chain development thinking and technical support to coordinators and value chain actors is recommended.

3. Animal pushers need to be trained in the quality dimension and handling live animals in the centers since their live animal handling practice is very poor they smash the live animal with a stick and this has impact on the meat quality when it is processed;

4. Specifically action researches should be encourage to change the alleged constraints in to opportunity, such as the market centers do not have environmental standards government should attract those who work on Social marketing to change animal wastes to energy sources;

5. In order to ensure better linkages among the value chains actors with respect to inbound logistics, the meat production process, outbound logistics and marketing system, the functional governance at every level has to be upgraded; the marketing scales, pricing scales and meat yield measurement at live animal markets are suggested to improve the existing value chain system.

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Annexes

Annex 1. Meat Animal Merchant/Trader Questionnaire
St. Mary's University
School of Graduate Studies
MBA Program

Introduction

The researcher who is carrying out this assessment is a student at St. Mary's University, School of Graduate Studies, participating in a graduate program in the field of Business Administration. As a partial fulfillment of the requirement for the completion of the program, I am under taking a research on "**MEAT VALUE CHAIN ANALYSIS FROM CATTLE AND SMALL RUMINANTS IN ADDIS ABABA, ETHIOPIA**". The purpose of this questionnaire is to collect first hand data and information only for academic purpose on meat value chain actors in Addis Ababa. Your full and cordial cooperation in responding the questions in the interview is the central theme to achieve the desired objective. I keep your individual opinions strictly confidential. In data analysis, the answers from all respondents will be combined unanimously and no reference will be made to individuals' opinion in particular. Therefore, feel free in responding to the questions to the best of your knowledge and perception to help realize the objective of this research.

Thank you in advance for your cooperation!

1. Gender: **M**   **F**

2. **Age:** _____

3 Type of *Suppliers:*   **Wholesaler**   **Retailer**

4. Characteristics of Sellers: **Individual farmer**   **Local trader**   **Rural Trader**

5. From whom do you buy meat animals?

Cattle   **Individual farmer**   **Local trader**   **Rural Trader**

Sheep   **Individual farmer**   **Local trader**   **Rural Trader**

Goat   **Individual farmer**   **Local trader**   **Rural Trader**

6. Who are your customers?

Cattle   **Food Service Provider**   **Butcheries**   **Supermarkets**   **Traders**   **AAAsE**   **HH Others**

Sheep   **Food Service Provider**   **Butcheries**   **Supermarkets**   **Traders**   **AAAsE**   **HH Others**

Goat   **Food Service Provider**   **Butcheries**   **Supermarkets**   **Traders**   **AAAsE**   **HH Others**

7. How do you get Information about the meat animal?

Cattle   **Seller** **Primary Market Broker** **Secondary Market Broker** **Terminal Market Brokers Others**

Sheep **Seller** **Primary Market Broker** **Secondary Market Broker** **Terminal Market Brokers Others**

Goat   **Seller** **Primary Market Broker** **Secondary Market Broker** **Terminal Market Brokers Others**

8. How much is the Prices of meat animal you sale

Cattle   **Mini_____**   **Max_____**

Sheep   **Mini_____**   **Max_____**

Goat   **Mini_____**   **Max _____**

9. Where do you get your meat animals? (If multiple sources: circle more than one)

   Cattle **Farmers** **Primary Market Sellers** **Secondary Market** **Terminal Market**   **Others**

Sheep **Farmers**   **Primary Market Sellers** **Secondary Market** **Terminal Market**   **Others**

Goat   **Farmers**   **Primary Market Sellers** **Secondary Market** **Terminal Market**   **Others**

10. HRM & Coordination of the Center &Abattoirs:

Assess Terminal Market Centres Efficiency on the following (1-5) value scale where: 1 = Very Poor, 2 = Less than Satisfactory, 3 = Average/Satisfactory, 4 = Above Average/Good, 5 = Excellent	Evaluation Rating
1)Assessment of quality of day-to-day centre management:	
Management of meat animal pushers	
Management of risk from the meat animals was adequate	
Relations/Coordination with meat animal value chain actors	
2)Coordinators awareness in meat animal quality management	

11. Market efficiency& VC governance of the cen

12. Primary Value Chain Activities:

	Evaluation Rating

Assess Terminal Market Centres Efficiency on the following (1-5) value scale where: 1 = Very Poor, 2 = Less than Satisfactory, 3 = Average/Satisfactory, 4 = Above Average/Good, 5 = Excellent	Evaluation Rating
1.Assessment of Contribution of the centre performance to meat animal value chain actors	
Availability of sound policies	
Availability of procedures	
Availability of any standards for meat animal transaction:	
Scale for yield measurements	
Scale for price setting	
Quality specification of meat animal	
Environment protection standards	
Implementation of policies in systems and sub systems	
Implementation of procedures in systems and sub systems	
Implementation of standards in systems and sub systems	
8. What does the meat value chain governance of Actors and their Activities look like in the Centre?	
9.What does the meat value chain governance of actors' Roles and functions look like in the Centre)	

Assess Terminal Market Centres Efficiency on the following (1-5) value scale where: 1 = Very Poor, 2 = Less than Satisfactory, 3 = Average/Satisfactory, 4 = Above Average/Good, 5 = Excellent	
1.Inbound logistics of the center:	
Meat animal warehousing effect on quality of meat production quality	
Centre capacity	
2.Meat Animal Operations Activities in the center:	
3.Out bound logistics Activities the center:	
4.Marketing and Sales Activities in the center:	

13. Infrastructure of the center:

Assess Terminal Market Centres Efficiency on the following (1-5) value scale where: 1 = Very Poor, 2 = Less than Satisfactory, 3 = Average/Satisfactory, 4 = Above Average/Good, 5 = Excellent	Evaluation Rating
Availability of following services:	
Quarantine,	
Vaccination service	
Feed	
Water in the centre	
2)Market Compound facility improvement:	
Shelter Safety	
Layout	
Cleanliness of market centers	

14. Transportation: Rate the meat animal transportation Service delivery (weak links) from the primary/ secondary livestock market to the Terminal Market according to their degree of seriousness over the quality of meat production or supply

Use a value scale of 1 to 5 where 1= not serious at all 2= moderately not serious 3= moderately serious 4= serious 5=very serious	Evaluation Rating
Loading and unloading	
Coordination amongst transport workers	
Cost of logistics	
Timeliness of delivery	
Logistic Asset Availability and size variety	
Logistic Standards	
Road Infrastructure	
Distance the meat animal travels	
Efficiency of vehicles	
Awareness of transportation workers	

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Thank you in advance for your cooperation!

1.Gender: M   F

2.Age:_____

3. From whom do you buy meat animals? (Circle More Than One If It Works For You)

Cattle   Farmers   Traders
Sheep   Farmers   Traders
Goat   Farmers   Traders

4. Meat animal slaughtered for your butchery. (Circle More Than One If It Works For You)

Cattle
Sheep
Goat

5.Number of meat animals butchered per week.

Cattle   ____   Mini _____   Max
Sheep   ____   Mini_____   Max
Goat   ____   Mini_____   Max

6.How are the carcasses/ butchered animals stored? (Circle More Than One If It Works For You)

Cattle   Freezer   Refrigerator   Cooler Room temp   Other_____
Sheep   Freezer   Refrigerator   Cooler Room temp   Other_____
Goat   Freezer   Refrigerator   Cooler Room temp   Other_____

7. The price of meat you sell in your butchery per kg.

Cattle   Raw meat(____)"Kitifo"(____)"Godin"(___) "Tibis"& "Yewot" (____) "Yehod Eka"Offal(___)
Sheep   Godin"(___)   "Tibis"& "Yewot" (____)   "Yehod Eka" / Offal(___)
Goat   Raw meat(____) " Godin"(___)   "Tibis"& "Yewot" (____)   "Yehod Eka" / Offal(___)

8. Rate the meat value chain weak links according to their seriousness in the value chain

Use a value scale of 1 to 5 where 1= not serious at all 2= moderately not serious 3= moderately serious 4= serious 5=very serious	Evaluation Ranking
Highly affected by the existence of Illegal brokers	
Severity of epidemic meat animal diseases on their health states before and after reaching slaughterhouses	

Use a value scale of 1 to 5 where 1= not serious at all 2= moderately not serious 3= moderately serious 4= serious 5=very serious	Evaluation Ranking
Existence of Poor governance across the value chain	
Lack of coordination and cooperation across the value chain	
Transportation problems	

9. Rate modernity of inbound logistics, outbound logistics, production, and marketing system in Meat Value Chain Development

Assess The Given Factors Using The Following (1-5) Value Scale: 1= Very Poor, 2= Less Than Satisfactory, 3= Average/Satisfactory, 4= Good, 5= Excellent	Evaluation Rating
Development Of Marketing And Sales Modernity	
Meat Processing Concerns After It Arrived Butchery Shop	
Improvement Of Packaging Methods	
Abattoirs' Workers Discipline And Management	
Contamination Prevention System	
Inspection Done By Public Heath, Veterinary, Government, Etc.	
Abattoirs Capacity In Giving The Processing Service	
Cattle, Sheep And Goat Supply For Local Consumption	
The Effect Of Meat Animal Disease On The Meat Value Chain	
10).The Cold Chain Facility of Abattoirs	
11) Ethics In The Competition In The Value Chain	
12) Sound Policies Implementation Across The Value Chain	
13) Standard Setting In The Value Chain For Traders	
14) Standard Setting In The Value Chain For Wholesalers	
15)Standard Setting In The Value Chain For Retailers	
16) Standard Setting In The Value Chain For Abattoirs	
17) Sound Policies Existence	
18) Control And Measure On Contraband Slaughterers	
19) Sanitation of meat shops	
20) Meat quality improvement	

10. Identify the relative importance of the major determinant factors for meat sales and marketing

Factors	1 Extremely Unimportant	2 Very Unimportant	3 Somewhat Unimportant	4 Somewhat Important	5 Very Important	6 Extremely Important
Quality						
Price						
Delivery Reliability						
Conformance to Specification						
Packaging						
Flexibility						
Availability						

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Thank you in advance for your cooperation!

1. Rate the meat value chain weak links according to their seriousness in the value chain

Use a value scale of 1 to 5 where 1= not serious at all 2= moderately not serious 3= moderately serious 4= serious 5=very serious	Evaluation Ranking
Highly affected by the existence of Illegal brokers	
Severity of epidemic meat animal diseases on their health states before and after reaching slaughterhouses	
Existence of Poor governance across the value chain	
Lack of coordination and cooperation across the value chain	
Transportation problems	

2. Rate modernity of inbound logistics, outbound logistics, production, and marketing system in Meat Value Chain Development

Assess The Given Factors Using The Following (1-5) Value Scale: 1= Very Poor, 2= Less Than Satisfactory, 3= Average/Satisfactory, 4= Very Good, 5= Excellent	**Evaluation Rating**
Development Of Marketing And Sales Modernity	
Meat Processing Concerns After It Arrived the Shop	
Improvement Of Packaging Methods	
Abattoirs' Workers Discipline And Management	
Contamination Prevention System	
Inspection Done By Public Heath, Veterinary, Government, Etc.	
Abattoirs Capacity In Giving The Processing Service	
Cattle, Sheep And Goat Supply For Local Consumption	
The Effect Of Meat Animal Disease On The Meat Value Chain	
10).The Cold Chain Facility of Abattoirs	
11) Ethics In The Competition In The Value Chain	
12) Sound Policies Implementation Across The Value Chain	
13) Standard Setting In The Value Chain For Traders	
14) Standard Setting In The Value Chain For Wholesalers	

Assess The Given Factors Using The Following (1-5) Value Scale: 1= Very Poor, 2= Less Than Satisfactory, 3= Average/Satisfactory, 4= Very Good, 5= Excellent	Evaluation Rating
15)Standard Setting In The Value Chain For Retailers	
16) Standard Setting In The Value Chain For Abattoirs	
17) Sound Policies Implementation	
18) Control And Measure On Contraband Slaughterers	
19) Sanitation of meat shops	
20) Meat quality improvement	

16. Identify the relative importance of the major determinant factors for meat marketing

Factors	1 Extremely Unimportant	2 Very Unimportant	3 Somewhat Unimportant	4 Somewhat important	5 Very Important	6 Extremely Important
Quality						
Price						
Delivery Reliability						
Conformance to Specification						
Packaging						
Flexibility						
Availability						

Annex 4. Addis Ababa Butcheries Association interview
St . Mary's University
School of Graduate Studies
MBA Program

1. What are your mandate as an association?
2. How many members do you have in Addis?
3. What are the general problems in the meat value chain? What specific problems need attention?
4. What are the Meat product marketing problems of the butcheries in Addis Ababa?
5. How do you work in assisting the butcheries meet government regulations and other standards and compliances?
6. Do you help butcheries to have relationship with cattle traders, farmers or fatteners?
7. What policies, procedures and standards are brought forward and implemented by the government to improve and create efficiency across the meat value chain systems and sub systems explicitly in Addis Ababa and implicitly across the meat value chain in the country?
8. How are the government regulations and other standards and compliances affecting the meat supply chain?
9. How do you see the meat value chain governance
10. How do you see the meat production performance of farmers, intermediaries, traders, processors, wholesalers and retailers (Butcheries & supermarkets) based on capacity, efficiency and effectiveness?
11. What constraints and opportunities are there in the meat value chain in Addis Ababa?

12. How do the butcheries determine the price of meat they butcher?

Annex 5. Two of the livestock markets centers in Addis Ababa: Coordinators Interview Checklists

1. Facility and availability:
   a) Shelter,
   b) feed access,
   c) Environmental issues,
   d) Water access,
   e) Quarantine access,
   f) Vaccination access
2. When does market demand and supply Increase or decrease?
3. Which regions mainly supply livestock to the market center?
4. Who are the buyers in this market centers?
5. Marketing problem in the center and their characteristics
6. What policies, procedures and standards are brought forward and implemented by the government to improve and create efficiency across the meat value chain systems and sub systems centers?
7. What constraints and opportunities are there in the meat value chain in centers?
8. Other things they may add.

Table of Statistical Outputs

Table 12, .Kerra traders' Response Descriptive Statistics according the variables

	N	Range	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Management of meat animal pushers	20	1.00	1.3000	.10513	.47016	.221	.945	.512	-1.242	.992
Management of risk from the meat animals was adequate	20	1.00	1.4000	.11239	.50262	.253	.442	.512	-2.018	.992
Relations/Coordination with meat animal value chain actors	20	2.00	1.7000	.14690	.65695	.432	.396	.512	-.547	.992
Coordinators awareness in meat animal quality management	20	1.00	1.4500	.11413	.51042	.261	.218	.512	-2.183	.992
Assessment of Contribution of the centre performance to meat animal value chain actors	20	3.00	4.3500	.20869	.93330	.871	-1.671	.512	2.465	.992
Availability of sound policies	20	2.00	4.1000	.16059	.71818	.516	-.152	.512	-.880	.992
Availability of procedures	20	3.00	3.6000	.24495	1.09545	1.200	-.149	.512	-1.220	.992
Scale meat yield measurements	20	1.00	1.1500	.08192	.36635	.134	2.123	.512	2.776	.992
Scale for price setting	20	1.00	1.1500	.08192	.36635	.134	2.123	.512	2.776	.992
Scale for quality of meat animal	20	1.00	1.1500	.08192	.36635	.134	2.123	.512	2.776	.992
Environment protection standards	20	2.00	1.2000	.13765	.61559	.379	2.888	.512	7.037	.992
Implementation of policies to create efficiency across the meat value chain systems and sub systems	20	2.00	2.6000	.13377	.59824	.358	-1.245	.512	.783	.992
Implementation of procedures to create efficiency across the meat value chain systems and sub systems	20	1.00	2.5500	.11413	.51042	.261	-.218	.512	-2.183	.992
Implementation of standards to create efficiency across the meat value chain systems and sub systems	20	1.00	2.5500	.11413	.51042	.261	-.218	.512	-2.183	.992
What does the meat value chain governance of Actors and their Activities look like in the Centre	20	2.00	1.8500	.19568	.87509	.766	.315	.512	-1.667	.992
What does the meat value chain governance of actors' Roles and functions look like in the Centre?	20	2.00	1.8500	.19568	.87509	.766	.315	.512	-1.667	.992
Meat animal warehousing effect on quality of meat production quality	20	3.00	2.8500	.19568	.87509	.766	.839	.512	.254	.992
Centre capacity	20	3.00	3.6000	.21026	.94032	.884	.101	.512	-.798	.992
Operations Activities in the center:	20	4.00	2.7000	.20647	.92338	.853	-.214	.512	1.790	.992
Out bound logistics Activities the center:	20	4.00	2.4500	.18460	.82558	.682	1.423	.512	3.893	.992
Marketing and Sales Activities in the center:	20	4.00	2.7500	.26031	1.16416	1.355	-.347	.512	-.397	.992
Quarantine,	20	.00	1.0000	.00000	.00000	.000	.	.	.	.
Vaccination service	20	.00	1.0000	.00000	.00000	.000	.	.	.	.
Feed	20	3.00	3.0000	.21764	.97333	.947	.761	.512	-.159	.992
Water in the centre	20	3.00	3.6000	.23396	1.04630	1.095	.319	.512	-1.279	.992
Shelter Safety	20	1.00	4.8000	.09177	.41039	.168	-1.624	.512	.699	.992
Layout	20	3.00	3.4500	.22331	.99868	.997	.681	.512	-.759	.992
Cleanliness of market centers	20	3.00	1.6000	.19735	.88258	.779	1.449	.512	1.526	.992
Loading and unloading	20	2.00	4.1000	.17622	.78807	.621	-.186	.512	-1.308	.992
Coordination amongst transport workers	20	2.00	3.9000	.14327	.64072	.411	.080	.512	-.250	.992
Cost of logistics	20	2.00	3.2500	.12301	.55012	.303	.132	.512	-.076	.992

	N	Range	Mean	Std. Error	Std. Deviation	Variance	Skewness	Std. Error	Kurtosis	Std. Error
Timeliness of delivery	20	3.00	2.8500	.22094	.98809	.976	-.763	.512	-.134	.992
Logistic Asset Availability and size variety	20	2.00	3.9500	.15347	.68633	.471	.062	.512	-.630	.992
Logistic Standards	20	2.00	4.0500	.16975	.75915	.576	-.086	.512	-1.154	.992
Road Infrastructure	20	2.00	3.9000	.16059	.71818	.516	.152	.512	-.880	.992
Distance the meat animal travels	20	2.00	4.1000	.17622	.78807	.621	-.186	.512	-1.308	.992
Efficiency of vehicles	20	2.00	4.1000	.17622	.78807	.621	-.186	.512	-1.308	.992
Awareness of transportation workers	20	2.00	3.9500	.16975	.75915	.576	.086	.512	-1.154	.992
Valid N (listwise)	20									

Source: Survey findings 2015

Table 13, Berchuko Sheep and Goat traders' Response Descriptive Statistics according the variables

	N	Range	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Management of meat animal pushers	40	2.00	1.6250	.09928	.62788	.394	.480	.374	-.581	.733
Management of risk from the meat animals was adequate	40	2.00	1.6250	.09259	.58562	.343	.290	.374	-.662	.733
Relations/Coordination with meat animal value chain actors	40	4.00	1.8500	.14119	.89299	.797	2.127	.374	6.418	.733
Coordinators awareness in meat animal quality management	40	4.00	1.8500	.14119	.89299	.797	1.673	.374	3.822	.733
Assessment of Contribution of the centre performance to meat animal value chain actors	40	3.00	4.7250	.09465	.59861	.358	-2.849	.374	10.154	.733
Availability of sound policies	40	4.00	3.8750	.12500	.79057	.625	-1.408	.374	3.938	.733
Availability of procedures	40	4.00	3.7500	.13751	.86972	.756	-1.200	.374	1.957	.733
Scale meat yield measurements	40	3.00	2.3250	.21599	1.36603	1.866	.325	.374	-1.780	.733
Scale for price setting	40	1.00	1.2000	.06405	.40510	.164	1.559	.374	.451	.733
Scale for quality of meat animal	40	3.00	1.2750	.09465	.59861	.358	2.849	.374	10.154	.733
Environment protection standards	40	3.00	1.3000	.10253	.64847	.421	2.589	.374	7.483	.733
Implementation of policies to create efficiency across the meat value chain systems and sub systems	40	3.00	2.0250	.16207	1.02501	1.051	.550	.374	-.898	.733
Implementation of procedures to create efficiency across the meat value chain systems and sub systems	40	2.00	2.4000	.10622	.67178	.451	1.453	.374	.862	.733
Implementation of standards to create efficiency across the meat value chain systems and sub systems	40	2.00	2.4000	.10622	.67178	.451	1.453	.374	.862	.733
What does the meat value chain governance of Actors and their Activities look like in the Centre	40	3.00	2.3000	.14850	.93918	.882	.715	.374	-.295	.733
What does the meat value chain governance of actors' Roles and functions look like in the Centre?	40	4.00	1.9750	.19770	1.25038	1.563	.961	.374	-.508	.733
Meat animal warehousing effect on quality of meat production quality	40	3.00	3.0000	.10742	.67937	.462	.516	.374	.967	.733
Centre capacity	40	3.00	3.9250	.10370	.65584	.430	-.498	.374	1.098	.733
Meat Animal Operations Activities in the center:	40	4.00	3.0250	.11029	.69752	.487	-.034	.374	2.184	.733
Out bound logistics Activities the center:	40	4.00	2.8750	.12500	.79057	.625	-.097	.374	1.181	.733
Marketing and Sales Activities in the center:	40	4.00	3.3500	.16231	1.02657	1.054	-1.219	.374	.622	.733
Quarantine,	40	3.00	1.1500	.09164	.57957	.336	4.155	.374	17.492	.733
Vaccination service	40	3.00	1.2000	.10253	.64847	.421	3.349	.374	10.781	.733
Feed	40	4.00	2.6750	.18738	1.18511	1.404	.969	.374	-.068	.733
Water in the centre	40	3.00	3.7500	.15085	.95407	.910	-.210	.374	-.871	.733
Shelter Safety	40	4.00	4.2250	.16207	1.02501	1.051	-1.832	.374	3.589	.733
Layout	40	3.00	4.3250	.12602	.79703	.635	-.988	.374	.382	.733

	N	Range	Mean	Std. Error	Std. Deviation	Variance	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
Cleanliness of market centres	40	3.00	1.9000	.12810	.81019	.656	1.102	.374	1.554	.733
Loading and unloading	40	3.00	3.8000	.13009	.82275	.677	.105	.374	-.940	.733
Coordination amongst transport workers	40	2.00	3.7250	.10119	.64001	.410	.310	.374	-.601	.733
Cost of logistics	40	3.00	3.3250	.11540	.72986	.533	1.484	.374	1.351	.733
Timeliness of delivery	40	2.00	3.6500	.10470	.66216	.438	.527	.374	-.637	.733
Logistic Asset Availability and size variety	40	2.00	3.5500	.12378	.78283	.613	1.008	.374	-.573	.733
Logistic Standards	40	2.00	4.1500	.14119	.89299	.797	-.308	.374	-1.709	.733
Road Infrastructure	40	2.00	3.4250	.11259	.71208	.507	1.399	.374	.529	.733
Distance the meat animal travels	40	3.00	3.4250	.12345	.78078	.610	1.112	.374	.182	.733
Efficiency of vehicles	40	2.00	4.2750	.13862	.87669	.769	-.583	.374	-1.464	.733
Awareness of transportation workers	40	2.00	4.2750	.14317	.90547	.820	-.589	.374	-1.550	.733
Valid N (listwise)	40									

Source: Survey findings 2015

Table 14, the retailing price of meat of cattle and Goat at butcheries market

	N	Minimum	Maximum	Mean	Std. Deviation
the price of raw meat from cattle per kg	24	90.00	160.00	116.6667	26.64854
the price of meat for"kitifo" from cattle per kg	24	90.00	160.00	117.0833	27.26348
the price of meat for "Godin" from cattle per kg	24	50.00	80.00	60.4167	13.34465
the price of meat for"Tibis" and"Yewot" from cattle per kg	24	80.00	120.00	101.2500	17.76966
the price of meat for "YehodEka" or Offal from cattle per kg	24	50.00	80.00	60.8333	13.16011
Valid N (listwise)	24				
the price of raw meat from cattle per kg	8	140.00	190.00	161.2500	20.31010
the price of meat for"kitifo" from cattle per kg	8	120.00	160.00	150.0000	15.11858
the price of meat for "Godin" from cattle per kg	8	50.00	90.00	73.7500	19.95531
the price of meat for"Tibis" and"Yewot" from cattle per kg	8	80.00	130.00	96.2500	22.63846
the price of meat for "YehodEka" or Offal from cattle per kg	8	50.00	60.00	53.7500	5.17549
the price of raw meat from Goat per kg	8	280.00	300.00	291.2500	8.34523
the price of meat for "Godin" from Goat per kg	8	50.00	90.00	68.7500	15.52648
the price of meat for"Tibis" and"Yewot" from goat per kg	8	150.00	190.00	172.5000	14.88048
the price of meat for "YehodEka" or Offal from goat per kg	8	60.00	80.00	65.0000	9.25820
Valid N (listwise)	8				
the price of raw meat from Goat per kg	16	280.00	300.00	290.6250	9.28709
the price of meat for "Godin" from Goat per kg	16	50.00	90.00	78.1250	14.59166
the price of meat for"Tibis" and"Yewot" from goat per kg	16	150.00	190.00	168.7500	14.20094
the price of meat for "YehodEka" or Offal from goat per kg	16	60.00	80.00	67.5000	10.00000
Valid N (listwise)	16				
Total N of Butchery Respondents	40				

Source: Survey findings 2015

Table 15, the supermarket respondents' descriptive statistics

Supermarket respondents	N Statistic	Range Statistic	Mean Statistic	Mean Std. Error	Std. Deviation Statistic	Variance Statistic	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error

	N	Minimum	Maximum	Std. Error	Std. Deviation	Variance	Skewness	Std. Error	Kurtosis	Std. Error
Highly affected by the existence of Illegal brokers	20	1.00	4.7000	.10513	.47016	.221	-.945	.512	-1.242	.992
Severity of epidemic meat animal diseases on their health states before and after reaching slaughterhouses	20	2.00	4.2000	.15560	.69585	.484	-.292	.512	-.734	.992
Existence of Poor governance across the value chain	20	3.00	4.1000	.22827	1.02084	1.042	-1.207	.512	.691	.992
Lack of coordination and cooperation across the value chain	20	3.00	4.2000	.23620	1.05631	1.116	-1.334	.512	.777	.992
Transportation problems Development	20	2.00	4.2000	.17168	.76777	.589	-.372	.512	-1.131	.992
Development Of Marketing And Sales Modernity	20	3.00	3.5000	.23508	1.05131	1.105	.000	.512	-1.100	.992
Meat Processing Concerns After It Arrived the Shop	20	2.00	4.1000	.16059	.71818	.516	-.152	.512	-.880	.992
Improvement Of Packaging Methods	20	2.00	3.8000	.18638	.83351	.695	.412	.512	-1.434	.992
Abattoirs' Workers Discipline And Management	20	3.00	1.7000	.20647	.92338	.853	1.123	.512	.359	.992
Contamination Prevention System	20	4.00	2.5000	.27625	1.23544	1.526	.744	.512	-.152	.992
Inspection Done by Public Heath, Veterinary, Government, Etc.	20	4.00	2.2000	.23620	1.05631	1.116	1.048	.512	1.334	.992
Abattoirs Capacity In Giving The Processing Service	20	3.00	2.0000	.21764	.97333	.947	.761	.512	-.159	.992
Cattle, Sheep And Goat Supply For Local Consumption	20	2.00	2.0000	.14510	.64889	.421	.000	.512	-.279	.992
The effect of meat animal disease control on the meat value chain	20	2.00	2.2000	.17168	.76777	.589	-.372	.512	-1.131	.992
The Cold Chain Facility of Abattoirs	20	2.00	2.1000	.17622	.78807	.621	-.186	.512	-1.308	.992
Ethics In The Competition In The Value Chain	20	2.00	2.0500	.16975	.75915	.576	-.086	.512	-1.154	.992
Sound Policies Implementation Across The Value Chain	20	2.00	1.7500	.14281	.63867	.408	.253	.512	-.439	.992
Standard Setting In The Value Chain For Traders	20	2.00	1.7000	.14690	.65695	.432	.396	.512	-.547	.992
Standard Setting In The Value Chain For Wholesalers	20	2.00	1.6000	.15218	.68056	.463	.712	.512	-.446	.992
Standard Setting In The Value Chain For Retailers	20	2.00	1.6000	.15218	.68056	.463	.712	.512	-.446	.992
Standard Setting In The Value Chain For Abattoirs	20	2.00	1.8000	.17168	.76777	.589	.372	.512	-1.131	.992
Sound Policies Implementation	20	3.00	2.6000	.19735	.88258	.779	-.082	.512	-.474	.992
Control And Measure On Contraband Slaughterers	20	3.00	2.2000	.20000	.89443	.800	.059	.512	-.859	.992
Sanitation of meat shops	20	4.00	2.9000	.26057	1.16529	1.358	.656	.512	-.422	.992
Meat quality improvement	20	3.00	2.1500	.20869	.93330	.871	.107	.512	-1.077	.992
Assess the relative importance of the quality as a determinant factor for meat marketing	20	.00	6.0000	.00000	.00000	.000	.	.	.	.
Assess the relative importance of the price as a determinant factor for meat marketing	20	1.00	4.4500	.11413	.51042	.261	.218	.512	-2.183	.992
Assess the relative importance of the delivery Reliability as a determinant factor for meat marketing	20	1.00	5.4000	.11239	.50262	.253	.442	.512	-2.018	.992
Assess the relative importance of the conformance to specification as a determinant factor for meat marketing	20	1.00	5.5500	.11413	.51042	.261	-.218	.512	-2.183	.992
Assess the relative importance of the packaging as a determinant factor for meat marketing	20	1.00	5.4500	.11413	.51042	.261	.218	.512	-2.183	.992
Assess the relative importance of the flexibility as a determinant factor for meat marketing	20	1.00	5.7000	.10513	.47016	.221	-.945	.512	-1.242	.992
Assess the relative importance of the availability as a determinant factor for meat marketing	20	1.00	5.5500	.11413	.51042	.261	-.218	.512	-2.183	.992
Valid N (listwise)	20									

Source: Survey findings 2015

Table 16, the butchery respondents' descriptive statistics

	N	Range	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Highly affected by the existence of Illegal brokers	40	2.00	4.4500	.11294	.71432	.510	-.926	.374	-.408	.733
Severity of epidemic meat animal diseases on their health states before and after reaching slaughterhouses	40	3.00	2.2000	.16486	1.04268	1.087	.006	.374	-1.485	.733
Existence of Poor governance across the value chain	40	3.00	3.2250	.16207	1.02501	1.051	.724	.374	-.524	.733
Lack of coordination and cooperation across the value chain	40	3.00	3.3500	.14566	.92126	.849	.053	.374	-.799	.733
Transportation problems	40	4.00	3.0000	.19612	1.24035	1.538	-.339	.374	-.971	.733
Development Of Marketing And Sales Modernity	40	3.00	2.9500	.18588	1.17561	1.382	.899	.374	-.740	.733
Meat Processing Concerns After It Arrived Butchery Shop	40	2.00	3.1000	.12810	.81019	.656	-.189	.374	-1.444	.733
Improvement Of Packaging Methods	40	3.00	2.4750	.17167	1.08575	1.179	-.059	.374	-1.264	.733
Abattoirs' Workers Discipline And Management	40	3.00	2.3000	.14412	.91147	.831	-.009	.374	-.885	.733
Contamination Prevention System	40	4.00	2.5750	.20534	1.29867	1.687	.048	.374	-1.530	.733
Inspection Done By Public Heath, Veterinary, Government, Etc.	40	3.00	2.5250	.16403	1.03744	1.076	-.070	.374	-1.112	.733
Abattoirs Capacity In Giving The Processing Service	40	2.00	1.4250	.10056	.63599	.404	1.240	.374	.504	.733
Cattle, Sheep And Goat Supply For Local Consumption	40	4.00	2.4250	.16751	1.05945	1.122	.547	.374	.108	.733
The Effect Of Meat Animal Disease On The Meat Value Chain	40	2.00	3.1250	.10245	.64798	.420	-.121	.374	-.520	.733
The Cold Chain Facility of Abattoirs	40	2.00	1.5000	.10742	.67937	.462	1.033	.374	-.086	.733
Ethics In The Competition In The Value Chain	40	1.00	1.4000	.07845	.49614	.246	.424	.374	-1.919	.733
Sound Policies Implementation Across The Value Chain	40	1.00	1.5750	.07916	.50064	.251	-.315	.374	-2.003	.733
Standard Setting In The Value Chain For Traders	40	1.00	1.4000	.07845	.49614	.246	.424	.374	-1.919	.733
Standard Setting In The Value Chain For Wholesalers	40	1.00	1.1250	.05296	.33493	.112	2.357	.374	3.741	.733
Standard Setting In The Value Chain For Retailers	40	3.00	2.8750	.17242	1.09046	1.189	-.615	.374	-.879	.733
Standard Setting In The Value Chain For Abattoirs	40	3.00	2.6750	.16167	1.02250	1.046	-.199	.374	-1.043	.733
Sound Policies Existences	40	3.00	3.7000	.12506	.79097	.626	-.052	.374	-.392	.733
Control And Measure On Contraband Slaughterers	40	4.00	2.6750	.16559	1.04728	1.097	.284	.374	-.283	.733
Sanitation of meat shops	40	2.00	3.6250	.10554	.66747	.446	.604	.374	-.603	.733
Meat quality improvement	40	4.00	2.9750	.16979	1.07387	1.153	.052	.374	-1.152	.733
evaluate the relative importance of quality as a major determinant factor for meat marketing	40	2.00	5.8500	.06746	.42667	.182	-3.013	.374	9.225	.733
evaluate the relative importance of price as a major determinant factor for meat marketing	40	2.00	4.9750	.08388	.53048	.281	-.032	.374	.887	.733
evaluate the relative importance of Delivery Reliability as a major determinant factor for meat marketing	40	2.00	5.0000	.14322	.90582	.821	.000	.374	-1.824	.733
evaluate the relative importance of Conformance to Specification as a major determinant factor for meat marketing	40	2.00	5.2750	.13391	.84694	.717	-.574	.374	-1.369	.733
evaluate the relative importance of packaging as a major determinant factor for meat marketing	40	3.00	4.4250	.12854	.81296	.661	.255	.374	-.291	.733
evaluate the relative importance of Flexibility as a major determinant factor for meat marketing	40	2.00	5.4250	.13815	.87376	.763	-.972	.374	-.973	.733
evaluate the relative importance of Availability as a major determinant factor for meat marketing	40	1.00	5.5250	.07996	.50574	.256	-.104	.374	-2.097	.733
Valid N (listwise)	40									

Source: Survey findings 2015