SAINT MARY'S UNIVERSITY

INSTITUTE OF AGRICULTURE AND DEVELOPMENT STUDIES

GROSS MARGIN ANALYSIS OF CATTLE MARKETING IN WEST SHOA ZONE: A CASE STUDY OF GINCHI LIVESTOCK MARKET

BY

DEJENE TAKELE GEBISSA

JULY, 2014

ADDIS ABABA, ETHIOPIA

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DEJENE TAKELE GEBISSA

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DECLARATION

I declare that this thesis entitled "Gross Margin Analysis of Cattle Marketing in West Shoa Zone: The Case of Ginchi Livestock Market" is my original work and has submitted for the partial fulfillment of MSc. Degree in Agricultural Economics. The study has not been presented for a degree fulfillment in any university and that all sources of data used for the thesis have been duly acknowledged.

Name: Dejene Takele Gebissa   Signature: _____   Date: July, 2014

ENDORSEMENT

As thesis research advisor, I hereby certify that I have read and evaluated this thesis prepared, under my guidance, by Dejene Takele entitled "Gross Margin Analysis of Cattle Marketing in West Shoa Zone: A Case Study of Ginchi Livestock Market." I recommend that it be submitted as fulfilling the thesis requirement.

_____   _____   Date: July, 2014

        Advisor   Signature

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ACRONOMS AND ABBREVIATIONS

CC	Contingency Coefficient
CSA	Central Statistical Agency
HH	Household
GMM	Gross Marketing Margin
GMM_B	Gross Marketing Margin of Butchery
GMM_{FT}	Gross Marketing Margin of Farmer Trader
GMM_P	Gross Marketing Margin of the Producers
GMM_{RT}	Gross Marketing Margin of Receiver Trader
GMM_{ST}	Gross Marketing Margin of Supplier Trader
GPM_B	Gross Profit Margin of Butchery
GPM_{FT}	Gross Profit Margin of Farmer Trader
GPM_{RT}	Gross Profit Margin of Receiver Trader
GPM_{ST}	Gross Profit Margin of Supplier Trader
ILRI	International Livestock Research Institute
Km	Kilometre
NGOs	Non-Governmental Organizations
SPSS	Statistical Package for Social Sciences
TGMM	Total Gross Marketing Margin
TGPM	Total Gross Profit Margin
VIF	Variance Inflation Factor

ABSTRACT

Despite the cattle potentiality and the resultant enormous economic contribution, information on the performance of marketing and competitive behavior of actors in cattle marketing chain of Ginchi Livestock Market was highly scanty. This study was initiated to identify the main channels and participants; to estimate and specify the determinants of gross marketing margin of various categories of cattle. Secondary and primary data were analyzed using SPSS of version 20 descriptively and the determinants of gross marketing margin employing Multilinear Regression. Existences of very short to elongated and complex routes of marketing channels were, thus, identified. Market participants were producers, farmer traders, traders and butchery men (traders were those who directly supplied to Ginchi Livestock Market and those who received from the aforementioned market center to others terminal market). Total gross marketing margin moved up as the supply was away from the terminal market. It was higher in the case of cattle for slaughter due to the longer marketing route coverage where extra cost of marketing was incurred to the animal. The producers were fetching favorable share of consumer's price probably because of their improved bargaining power. Analysis of econometric model indicated that number of actors in the channels, marketing costs, distance to the terminal market, and selling price were significantly and positively influencing the gross marketing margin; purchasing price also affected significantly but inversely. Under the situation of producer's access to marketing information, gross marketing margin was demonstrated to be apparently reduced. Prices and gross marketing margin of cattle can be balanced by minimizing the number of actors in the marketing channel and creating competition with dealers that are irrationally the main escalator. Selling prices and Gross Marketing Margin of various categories of cattle were suggested to be balanced by creating competition with dealers. Design of systematic strategies which may not be the cause for further aggravation should be policy implication so that the final seller hardly the foremost actor of Gross Marketing Margin.

Keywords: Cattle for breeding; Cattle for traction; Cattle for slaughter; Gross marketing margin, and Ginchi Livestock Market

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Livestock systems represent a potential pathway to keep many smallholders out of poverty in the developing world. Like in many developing countries, the Ethiopian individual smallholders' level of livestock is important source of food (meat and milk), cash income, services (transport and traction) and manure (for soil fertility management and fuel). Livestock production also provides wide and year-round employment opportunities and has social and cultural values among producers.

Livestock population in Ethiopia is one of the largest, both in the world and Africa, comprising 50 million heads of cattle, 25 million heads of sheep and 21 million heads of goats (CSA, 2010). Despite the enormous contribution of livestock to the economy and potentiality of the country, livestock production and marketing is predominantly subsistence oriented and complicated by a number of fundamental constraints which subdue these outcomes. These constraints include traditional technologies, limited supply of inputs (feed, breed, stock, water), poor or non-existent of extension service, high diseases prevalence, poor marketing infrastructure, lack of marketing support service, lack of market information and limited credit services affect the livestock marketing conditions, in general and the cattle which are the most predominant and highly valued for rural households and other stakeholders engaged in cattle related activities, in particular (Berhanu *et al.,* 2007).

On the other hand, study reported by Getachew Beshargo (2002) indicated the marketing information concerned with cattle marketing structure which follows a four-tier system: the first tier whose main actors are local farmers and rural traders who transact at farm level with very minimal volume; second tier whose main actors are small traders from different corners who bring a few number of large animal and a fairly large number of small animals to the local market; third tier whose main actors are both smaller and larger traders, and fourth tier whose main actors are big traders and butchers who transact larger number of mainly slaughter type animals. There is also information which is criticizing that current income generating capacity of cattle in Ethiopia is not encouraging and share of final price going to the farmer is apparently small (Gizachew Getaneh, 2005). The primary reasons, among others, seem to be low

level of market participation by the smallholder farmers; inefficient marketing that is characterized by high margins and inadequate marketing facilities.

Pertaining to cattle marketing via Ginchi Livestock Market, information on economic aspects of cattle marketing, performance and structural characteristics of marketing and competitive behavior of actors in the marketing chains were also highly scanty.

Many studies are available which estimated marketing margins of major crops but only invisible studies are available which estimated marketing margins for seed cotton It worth to tangibly investigate knowledge gap regards to this information deficient of marketing system of study area including the dominant cattle suppliers and demanding actors. Specifically, analyzing channel oriented gross marketing margin for various categories of cattle is instrumental to partially investigate marketing efficiency and portion of the price paid by the consumer that goes to each actor. The general objective of this study is, therefore, to undertake analysis of marketing margin of various categories of cattle marketed via Ginchi Livestock Market.

1.2 Statement of the Problem

The livelihoods of many poor farmers in Ethiopia depend on the sale of their agricultural outputs in the market. Markets and marketing has long been the focus of investigation by the experts who have qualitatively studied it, where in general the producers have been the focus of attention. Marketing not only bridges the rural supply/demand with the urban demand/supply, but through this process, it also makes an active and positive contribution to economic development. Price information helps producers to make production decisions, which are allocatively efficient (Mojtaba *et al.,* 2010). Without having convenient marketing conditions, the possible increment in output, rural incomes and foreign exchange resulting from the introduction of improved production technologies could not be effective. Different scholars reported that an efficient, integrated, and responsive marketing mechanism, that is, market with good performance is of crucial importance for optimum allocation of resources in agriculture and for stimulating farmers to increase output (Jones, 1972; FAO, 1999; Acharya and Agarwal, 1999). An improvement in marketing efficiency which attracts the attention of many countries and viewed as an important national development strategy can partially be ensured by channels based marketing margin estimation (Wohlgenant, 2001) since it is a good tool to compute for profit margin and thus an indicator of the

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market structure and efficiency. Various factors affecting marketing margin is needed to be considered as well regardless the virtue of the degree of influence each factor has over time, it can fluctuate.

Recent information on specific sources of cattle for market, prices, margins, stock marketing routes and marketing information endowments of the study area are, however, lacking. There has also been very limited empirical information on how gross marketing margin volatility is affected by other variables is also totally overlooked for any tier of the cattle marketing channels. Comprehensively addressing of these gaps is, however, an instrumental in partially investigating the marketing efficiency which is the base for estimating portion of consumer's price that goes to each actor. Therefore, it is essential to carry out channel based gross marketing margin analysis for the different categories of cattle (classification given to cattle based on the principal purposes for which the animal can serve). Identifying the dominant marketing channels so as to determine cost-effective channels and coordinated supply chains which reduce the transaction costs is necessitude. The factors with their degree to which they affect gross marketing margin are also crucial to be identified.

1.3 Objectives of the Study

1.3.1   General Objective

The general objective of this study was to undertake analysis of marketing margin of various categories of cattle marketed via Ginchi Livestock Market

1.3.2   Specific Objectives

i. To identify the main channels and participants in cattle marketing;

ii. To specify the determinants of gross marketing margin of cattle marketed; and

iii. To estimate the gross marketing margin of various categories of cattle in the respective marketing channel

1.4 Research Questions

❖ What are the main channels and participants of cattle marketed via Ginchi Livestock Market and their level of participation?

❖ Is there significant variation for the gross marketing margin of various categories of cattle and marketing destination?

❖ Is there correlation between the gross marketing margin and various factors affecting cattle marketing?

1.5 Significance of the Study

This study generated useful information in order to formulate cattle marketing development projects and guidelines for interventions that would improve the efficiency of cattle marketing system. The potential users of the findings can confidentially be farmers (producers), traders, government organizations and NGOs that have keen interest in improving cattle marketing system. Researchers and other academician who wanted to pursue further investigation on cattle marketing may also use the result of this study.

1.6 Delimitation/Scope of the Study

The study focused on identifying cattle marketing channels and participants, and estimating the gross marketing margin of various categories of cattle marketed via Ginchi Livestock Market. The area coverage of this study was deliberately limited to all adjacent districts supplying to and other areas demanding cattle from Ginchi Livestock Market.

1.7 Organization of the Research Paper

This research paper comprised of five chapters with some sub-topics inside. Chapter 1 covered the introduction part under which the background; the statement of the problem; the research questions; the objectives; the significance; the scope, and the limitation of the study consecutively presented. Chapter 2 contains review of the related literature where definition and concepts of some marketing concepts; overview of cattle production and marketing of the study area, and review of the empirical studies of gross marketing margin were dealt. Chapter 3 deals with the research methodologies for successfully making effective the thesis. Chapter 4 deals with the results and discussion embracing the essential sub-topics. Chapter 5 is costing of the conclusion and recommendation which lastly wind up the overall content of this paper with the basic policy implication generated from the findings.

1.8 Limitations of the Study

As the study used survey data those were collected at a fixed point of time, price spreads which were expected to vary seasonally and greatly from one month to another, will not be captured systematically. However, available information allowed the researcher to make partial examination of such variations, and hence identify part of the causes and not all.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Definitions and Concepts of Cattle Marketing Gross Margin Analysis

2.1.1   Market and Marketing

Market is the set of the actual and potential buyers of a product (Kotler and Armstong, 2003). It is a point or a place or sphere within which price-making force operates and exchanges of title tend to be accompanied by the actual movement of the goods affected (Backman and Davidson, 1962; Andargachew, 1990). The market concept has also been linked to the degree of communication among buyers and sellers and the degree of substitutability among goods (John and Shahran, 1998). The most observable features of a market are its pricing and exchange processes and it is more than a physical place. No need to meet physically for a market to operate especially in today's information and communication technologies.

Marketing is where as the performance of all business activities involved in the flow of goods and services from the point of initial production until they are in the hands of ultimate consumers. According to Kotler and Armstrong (2003), marketing is a societal process by which individuals and groups obtain what they need and want through creating, offering, and freely exchanging products and services and value with others. The term marketing has been a very debatable concept and defined in so many different ways by different scholars. This is because marketing, or more specifically agricultural marketing, projects different impression to different groups of people in a society, like farmers, traders and consumers (Kohls and Uhl, 1985). Marketing scoped out to the concept of marketing system which includes both physical distribution of economic input and products and the mechanism of process or coordinating production and distribution (Andargachew, 1990). Marketing is an important, but often overlooked, phase of all production activities.

2.1.2   Marketing Price and Pricing Mechanism

Marketing   price is   the quantity of payment or compensation given   by   one party to another in return for goods or services(Barrett, 2001). It is sometimes refers to the quantity of payment requested by a seller of goods or services, rather than the eventual payment amount. This requested amount is often called the asking price or selling

price, while the actual payment may be called the transaction price or traded price. In the marketing process, the issue of price needs principal emphasis for its impact to the producer not only through their levels, but also in their variation over time. Variable producer prices for cattle, for instance, rank high among the concerns of East African pastoralists (Coppock, 2001). Finally, a focus on prices is important as prices are central measure of market performance and efficiency, an indicator of producer incentives and a basis of government revenues from cattle market related services (Jabbar and Ayele, 2003). Understanding price formation allows insight into these issues, and also provides information critical for forecasting future trends.

Pricing is setting price for the commodity while having understanding of the accuracy, precision, and speed with which prices reflect consumers' demands and are passed back through the market channels to producers has paramount importance in marketing. Prices are formed efficiently when large numbers of buyers and sellers, all with similar access to relevant market information, interact to agree on a basis of exchange, a price. This price sends signals to consumers about the resource costs of supplying the commodity to them. It simultaneously sends signals to producers about the willingness of consumers to pay the resource costs of production. Efficient price formation is essential to the efficient allocation of resources in a market-directed economy. Theoretically, cattle prices are very dependent on the overall market of cattle while many factors affect prices, but it appears that the most important is the supply/demand relationship at selling live animal and slaughtered products retail level, where prices are continually being renegotiated and the result of consumers' willingness to pay. But, principally eye-balling mechanism between the seller (trader) and the buyer (producer) is employed to sell cattle in the highland regions of Ethiopia.

2.1.3 Marketing Channels

Marketing channel is an organized network of different agencies and institutions which in combination perform all the activities required to link producers with consumers for accomplishing marketing tasks (Bennet, 1988; as cited by Jaleta, 2011). Marketing channels indicate how market intermediaries are set to accomplish the movement of a product from producer to the final consumer. The number of intermediaries involved in various channels of marketing has strong effect on marketing margins. Only a small portion of goods and services is consumed at the point of production and only a small

fraction of any output is purchased by the ultimate consumers directly from the initial producers because different marketers/intermediaries exist in channel arrangements to perform marketing functions that contribute to the product flow (Jaleta, 2011).

The channel follows a vertical structure where products flow from producer to the ultimate consumer and in which actors meet at each market for performing several functions by bridging the gap between production and consumption. The analysis of marketing channels provides a systematic knowledge of the flow of goods or services from their production areas to the final market or end users. Marketing channel may be short or long depending on the kind and quality of the product marketed, available marketing services, and prevailing social and physical environment (Islam *et al.,* 2001).

2.1.4   Marketing Costs

Marketing cost refers to those costs which are incurred to perform various marketing activities in the transportation of goods from producer to consumers. The costs are incurred mainly in adding utilities of time, form, place and possession which includes cost of packing and unpacking, costs of searching for a partner with whom to exchange, screening potential trading partners to ascertain their trustworthiness, bargaining with potential trading partners to reach an agreement, transferring the product, monitoring the agreement to see that its conditions are fulfilled, and enforcing the exchange of agreement (Holloway and Ehui, 2002). It can also be measured in terms of opportunity cost of labour involved and cost of holding inventory during search for market information and trading partner (Gebremedhin, 2001).

2.1.5   Marketing Information

Marketing information is the service that is periodically collected concerning all information relating to wholesale and retail pricing practiced in rural markets and brought regularly and in good time to the knowledge of farmers, traders, officials of the administration, governors and other economic players by disseminating it through the various available media (Samuel, 2001). Umali (1994) classified agricultural marketing information into two broad groups: pure agricultural information and agricultural information inherently tied to new physical inventions. Pure agricultural information refers to any information which can be used without the acquisition of a specific physical technology. It includes all types of self-standing advice on practices such as production techniques, farm management, marketing and processing and community

development. On the other hand agricultural inventions or technologies are those that come in the form of agricultural inputs, management technologies facilitating farm management, and marketing and processing equipment.

Marketing information is used to redress the information asymmetry between players, to help poor farmers; facilitate trade decisions for buying, selling and investing; improve small-scale farmers' negotiating capacity; improve market transparency, competition and trade-offs; improve the strategic guidelines given by public and private institutions; reduce transaction costs (Alec Bouchitté and Sylvain Dardel, 2012) which are the tools to provide market monitoring indicators and decision-making support to devise and steer agricultural and trade policies, and improve transparency and market efficiency by providing operators with information on prices and market conditions.

Access to information varies depending upon a number of factors including 1) distance to markets; 2) cost of collecting and analyzing the data 3) cost of disseminating the information; 4) availability, access, and cost of information from other sources and 5) communication infrastructure. The present improvement of the networking and better access to communication technology have an advantage in obtaining market information regardless huge challenges in stability and regularity of market monitoring compounded by a high turnover rate for the market monitors/staff, partly attributed to frequent restructuring within the institutions involved in livestock market monitoring program, places a huge challenge on regular livestock market data collection activity (Abdi Jama, *et al*; 2006).

2.1.6 Gross Marketing Margin

The gross marketing margin is the difference between what the consumer pays and what the producer receives for his product (Mendoza, 1995). Gross marketing margin or price spread is a commonly used measure of the performance of a marketing system (Abbott & Makeham, 1990). It is used as a way of figuring profitability but quite different from the gross margin (gross profit margin). This is because the magnitude of marketing margin is a good indicator of welfare distribution among production and marketing agents and thus higher gross marketing margin diminishes the producer's share and vice-versa. The larger value may result in little or no profit or even a loss for the seller involved depending upon the marketing costs as well as on the selling and

buying prices. A high gross marketing margin reflects a high level of profitability. It also reflects a high level of business stability, as it shows the business has the ability to pay for unexpected liabilities. Also, a high gross marketing margin shows a business has the ability to respond to new competitors in the market by reducing prices. A wide gross marketing margin means usually high price to consumers and low price to producers. Scarborough and Kydd (1992) investigated the three methods generally used in estimating gross marketing margin: (1) Detailed analyses of the accounts of trading firms at each stage of the marketing chain (Time Lag Method); (2) Computations of share of the consumer's price obtained by producers and traders at each stage of the marketing chain; and (3) Concurrent method (Comparison of prices at different levels of marketing over the same period of time). The total gross marketing margin, which is computed from gross marketing margin, is comprised of all the costs of marketing services and the profit margins gained in marketing process.

2.2 Overview of the Cattle Production and Marketing System of the Study Area

It was frequently revealed that livestock rearing employs the majority of people in many rural areas and it is by far the largest source of revenues in such areas (Thornton et al., 2002). Ethiopians have been engaged in livestock production and trade for centuries and much of the business of livestock production is not that much different today than what it has been over the years. Yet in a hyper-competitive global economy that demands instantaneous changes to product design and ever higher standards of quality and supply, gaining and maintaining market share, even in one own market is more challenging than ever. The report of Agricultural Growth Program (2013) illustrated that in order to gain more than the one-tenth of one percent of the world's global meat exports (Ethiopia's current share), the industry and government need to adopt new approaches to the livestock trade (and to its many by-products like leather and dairy) and change old habits and customs that are only preventing the industry from taking a significantly larger share of global trade. The report of Sintayehu Gebre Mariam et al (2010) revealed that livestock contribute 15 to17 percent of GDP and 35 to 49 percent of agricultural GDP, and 37 to 87 percent of the household incomes but it was at large extensive production system which was right for subsistence. The federal responsibility for livestock development lie with a newly-established Animal Resource

Development Office which has been charged with representing the livestock sector, but has less embedded technical expertise on marketing and commercialization.

The case of this study area resembles to those findings with the dominant characteristics of mixed crop-livestock production system where livestock production is subsistence-oriented and is an important component of the mixed farming system and is well integrated with crop production (Belay *et al*; 2012). Livestock species kept by the farmers comprise cattle, sheep, equines, chicken and goats. Cattle are the dominant species, mainly used for draught power, followed by milk and meat production, income and manure for fuel than for maintaining soil fertility. Mixed farming is an opportunity for cattle rearing as the residue of dominant crops grown in the area, namely teff (*Eragrostis teff*), wheat, barley, chick pea, rough pea/grass pea and noug (*Guizotica abassynica*) are the potential feed resources.

The structure and performance of animal market is generally perceived to be poor. Underdevelopment and lack of market-oriented production, lack of adequate information on cattle resources, inadequate permanent animal route and other facilities like water and holding grounds, less provision of transport, ineffective and inadequate infrastructural and institutional set-ups, prevalence of diseases, and inadequate market information (internal and external) are generally mentioned as some of the major reasons for the poor performance of this sector (Belachew and Jemberu, 2002; Yacob, 2002). The primary reason for selling cattle is to generate income to meet unforeseen expenses. Sales of live animals are taken as a last resort and the animals are generally sold when they are old, culled, or barren. In the highlands, large numbers of cattle are kept to supply draft power for crop production. On the other hand, the buyers have their own purposes of purchasing various categories of cattle. According to the report of Belay *et al* (2012) heifers are exclusively bought for breeding while steers are bought to be employed for traction but it can serve for breeding awaiting the castration. Buyers purchase physically fit oxen to employee for own land traction or resell to those requiring for same purpose. On the other hand, old and culled cattle of any age are bought for slaughter purpose.

The markets of Ethiopian highland were divided into primary markets, distributive markets (secondary or else tertiary) and terminal markets (Herman, 1979; Solomon and Nigusie, 1983; and Ayele, 1976) mainly on the basis of types of major market

participants and the frequency the animals are transacted. Primary markets were those having high potential in cattle and in which the producers are directly engaged in from the very inception cattle disposing. The secondary markets are the next market where the cattle from primary market are supplied for further transacting to the terminal markets. The terminal market supply cattle to the consumers, and slaughterhouses and slabs. The meat from slaughterhouses and slabs reaches consumers through a different channel and a different set of traders/businesses: purchase of live animals directly from the terminal market and slaughter by themselves or they may get meat from markets, which by-pass the formal procedures through abattoirs; or they may access from butchers who process the meat via abattoirs.

2.3 Review of Empirical Studies of Marketing Margin

There are quite a number of studies that had been undertaken to investigate the farm to slaughter product retail or live cattle price spreads or marketing margin. Wohlgenant (2001) reviewed the studies on marketing margins and developed empirical models from the significantly determinant factors. Aside from the variables that come in when using a structural model he looked at the farm, retail, and input market equilibrium, he also discussed other possible explanatory variables that had been included in studies that used reduced-form models instead of a complete structural model. Live cattle and beef marketing is primarily based on the Relative Price Spread Model, wherein assuming profit maximization, firms are expected to provide marketing services until the marginal value of such services are equal to marginal cost. The previous study of Wohlgenant and Mullen (1987) was also basically employing Relative Price Spread Model which can allow simultaneous changes of both demand and supply unlike the Markup Price Model for specifying price spread or marketing margin associated with the U.S. beef industry. Relative Price Spread Model was preferable to Markup Price Model that was developed by Gardner (1975) since the relationship of farm to live cattle or retail price spread cannot be depicted accurately in the later model incase the changes to both supply and demand occur simultaneously. In addition to the aforementioned variables, demand shifter, population size, farm to market distance, and the dummy variables like access to market information and mode of transportation are also a number of other relevant variables that can influence the size of marketing margins (Holloway and Hertel, 1996; Schroeter and Azzam, 1991). The analysis of

marketing margins has to consider the interaction of all these variables as may be relevant for a particular commodity being analyzed.

Studies conducted by different scholars on different agricultural commodities marketing based on market margin and profit analysis indicated that margin and profit received by different marketing actors and level of market efficiency varied with respect to location and size of marketing channels (number and type of intermediaries involved). Yacob (2002) found that butcheries operating in Addis Ababa got total gross margins of 31.7% from average purchase price. Moreover, his study identified that the increase in the profit margin was not transferred to the producer. He further noted that the producer's share of the retail price was decreased from 76% in 1983/84 to 55% in 1995. Solomon (2004) conducted a study using marketing cost and margin analysis on performance of cattle marketing system in southern Ethiopia with special emphasis to Borana found that butchers at Addis Ababa (Kera) market received relatively a larger share from total gross marketing margin amounting to 69.5%, 63.4% and 61.6% for cattle supplied from Yabello, Negelle and Dubluk markets, respectively. Regarding producers' portion, which is the portion of the price paid by the end consumer that goes to the producers, he found that the highest percentage was found for cattle supplied from Dubluk market (21.9%), and followed by Negelle and Yabello characterized with gross margins of 20.6% and 18.6%, respectively.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Description of the Study Area

West Shewa zone lies between 8°16'- 9° 56' N and 37° 01'- 38° 46'E astronomical grids, just in the western central part of Oromia Regional State. The zone has surface area of about 21,327 km^2, 23 districts and 46 urban centers. Dendi is one of the largest districts of the zone which is located about 90 km west of Addis Ababa on the highway to Ambo town. The district is surrounded by some districts and is the crossroads to other districts at Ginchi town (districts capital) as depicted in Figure 1.
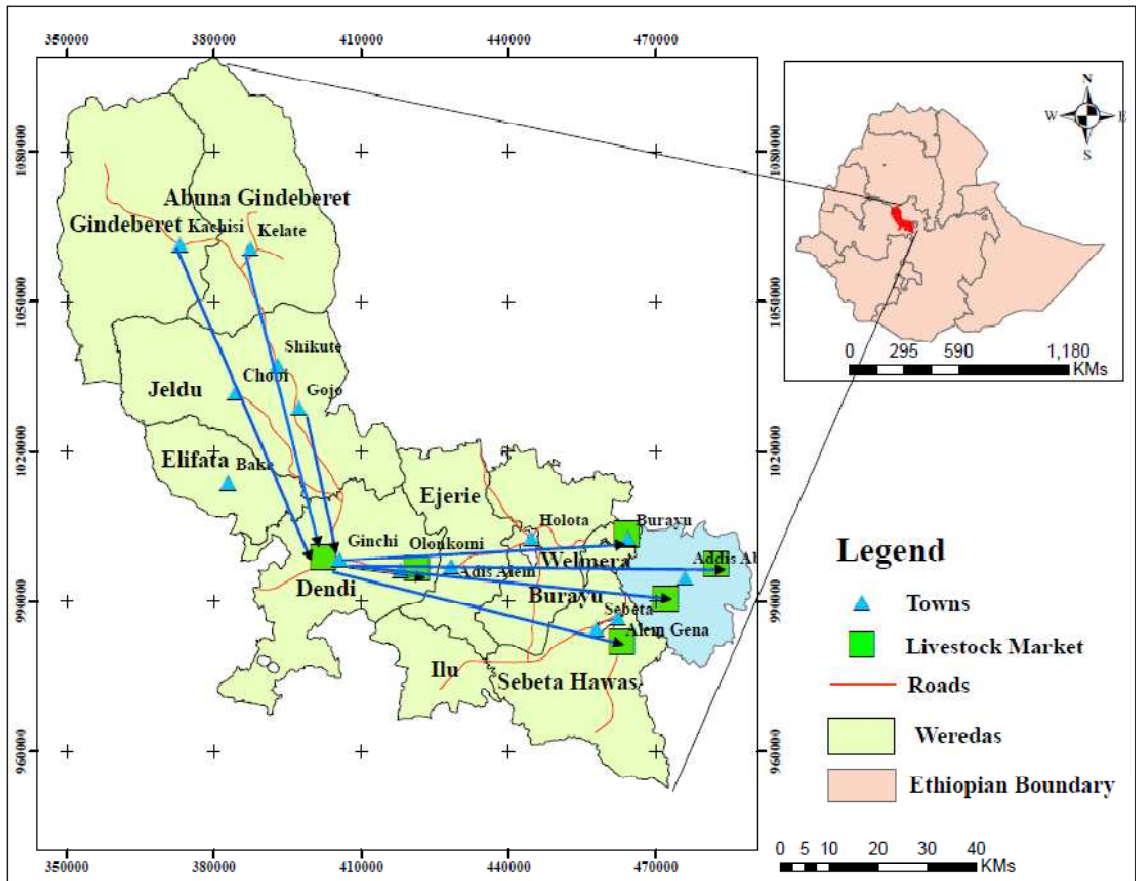
Figure 1: Map of the study area

Dendi and the adjacent districts have four main seasons: long rainy season *Ganna* (June to August); the short rains *Arfassa* (March to May); harvesting period *Birra* (September to November), and the dry season *Bona* (December to February). The district is characterized with mixed crop-livestock farming where the dominant livestock species were cattle, donkeys, poultry, shoats, horses and mule in the order of their importance.

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By large, the livestock population is of indigenous breeds which are kept mainly to produce replacement herd. Two livestock market centers are available in the district where one of it (Ginchi Livestock Market) is the potential center and ideal place for the cattle emanated from Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dandi district (Getachew, 2002). Ginchi Livestock Market is located at the northwestern outskirts of the town which is the primary market for the cattle from Dendi district and secondary to adjacent districts. Few traders from Guder also offer animals for sale at Ginchi on transit to Addis Ababa.

3.2 Research Design

The blueprint of effectively conveying this study was reviewing the literature for information synthesis and conducting discussion with Zonal and District's Officials for secondary data collection and then carrying out interview with the target group particularly the producers and traders for the primary data assessment. In collaboration with the experienced producers and traders, categorization of cattle supplied to primary market and enroute to Ginchi Livestock Market was ahead based on the purposes utilization towards various actors. The study conducted by Belay *et al* (2012) which states the principal categories of cattle supplied to market, like young heifer and bull; dry and lactating cows; pregnant heifer and cow; well-fed oxen, would serve as a bench mark of categorization. The cattle were tagged by separate identification at the very inception of the departure from primary market to the next actors. All the desired information was thoroughly assessed both before exit of the primary market and subsequently pending it was safely reached the final destination.

3.3 Population and Sampling Techniques

The sampling procedure for the producers was purposive sample selection techniques since only the suppliers of cattle to the respective market center during the cross-sectional data collection were recognized. Similarly, traders were selected deliberately since cattle traders during the same cross-sectional data collection were part of the study. But, butchery men were randomly from the registered lists at municipality of respective district's capital town or Trade and Market Development Office. Consequently, all of the traders (33 Farmer Traders; 19 Traders supplying to Ginchi Livestock Market; 16 Traders Receiving cattle from Ginchi Livestock Market and 9 Butchery men), and 73 producers who were engaged in the market center of the

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respective district were purposively selected for primary data collection. Indeed, the proportion of selected producers from each district was accompanied with the secondary information on the estimated number of producers supplying cattle to the present market center. The market centers were extended beyond the Ginchi Livestock Market following the pre-identified channels during reviewing the secondary data. Specifically, the initial cattle supplying districts like Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi, and terminal receivers namely Ginchi and Burayu towns; Addis Ababa City, and Olonkomi and Sebeta Livestock Market were coverage areas

3.4 Types of Data and Tools of Data Collection

Data was mainly collected from secondary and primary sources. Secondary data was gathered from research findings; Zonal and Districts' Livestock Development and Marketing Agencies, and Trade and Market Development Offices. Primary data was collected from interview schedule administered to respondents from the producers and cattle traders within the study area.

Making use of checklist for secondary information and semi-reviewing structured questionnaires for primary data gathering, essential information was thoroughly reviewed. After reviewing the literature information like the marketing channels; participates of cattle marketing; common cattle categories for marketing and any other relevant information were synthesized. Assessment of documented data from Zonal and Districts' Offices included socio-economic profile of the existing suppliers of cattle to domestic market, any other consumers and/or utilizers for other purposes; number of various categories of cattle, meat and other by-products supplied to market along with their prices, and any other relevant data were collected for the purpose of the study. For cross checking the aforementioned secondary data, producers were interviewed to gather data on the categories of traded cattle based on the probable purpose for which the cattle was employed with their numbers; the usual marketing channel for supplying cattle to market and reasons for choice of respective channel/s; the marketing cost they incurred for and the price they fetch from selling the animal, and distance covered and mode of transportation for selling their cattle. Concurrently, traders were exhaustively interviewed for the primary data on sources of cattle for purchase; probable quantities of various categories of cattle, and meat and other by-product; the marketing costs and prices, and distance covered and mode of transportation for selling.

3.5 Procedures for Data Collection

The checklist was designed so that the discussion was held with Zonal and Districts' Livestock Development and Marketing Agencies and Trade and Market Development Offices to identify the channels for cattle marketing and asses all other secondary information. Testing of structured questionnaire was done and scheduled interview was carried out for primary data collection. On spot compiling and editing of the questionnaires and gathered data was taken place to generate reliable data and hence ensure the quality of the study.

3.6 Data Analysis

Descriptive statistics for gathered secondary and primary information synthesis and marketing margin analysis, and Multiple Linear Regression Model was employed for econometric analysis for marketing margin.

3.6.1 Descriptive Analysis

Employing SPSS software of version of 20, the descriptive analysis was for the process of examining and describing household and trader characteristics, marketing system, and mapping marketing channel and the preference for various channels was carried out. Similarly, the pattern for the marketing margin across the marketing channels was analyzed. The profit margin (gross profit margin and profit margin of each actor) analysis of each channel as percentages of marketing margin was conducted. Along with the outcome of the result of the analysis, the probable reasons for the happening were also identified.

Computation of marketing margin was essential where gross marketing margin (GMM) was base for all other analysis. GMM was commonly used to examine the differences between producer and consumer prices for a commodity (Mendoza, 1991).

$$GMM = \text{End Buyer Price} - \text{First Seller Price} \text{ ....} (1)$$

Computation of total gross marketing margin (TGMM) was always related to the final price paid by the end buyer and was expressed as a percentage.

$$TGMM = \frac{\text{Gross Marketing Marging}}{\text{End Buyer Price}} \text{ X } 100 \text{ ....…....} (2)$$

The gross marketing margin at a given stage 'i' (GMMi) would be essential identify its pattern of distribution which was given as:

$$GMM_i = \frac{SP_i + PP_i}{TGMM} \text{ X } 100 \text{ .... (3)}$$

Where, SP_i is selling price at i^{th} link and PP_i is purchase price at i^{th} link

It was also useful to introduce the idea of producer's participation, producer's portion, or producer's gross margin (GMM_p) which was the portion of the price paid by the consumer that went to the producer.

$$GMM_p = \frac{End\ Buyer\ Price - Marketing\ Gross\ Margin}{End\ Buyer\ Price} \text{ X } 100 \text{ .... (4)}$$

Profit margin was also required for identifying the performance of cattle marketing and thus total gross profit margin (TGPM) was computed as:

$$TGPM = TGMM - TOE \text{ ....……..………... (5)}$$

Where, TOE is total operating expenses obtained by summing up all the variable costs

Calculation of profit margin at a give stage (GPM_i) has paramount importance in determining the allocation pattern of profit to the actors and given as:

$$GPM_i = \frac{GMM_i - OE_i}{TGPM} \text{ X } 100 \text{ ....……...….. (6)}$$

Where, OE_i is operating expense to take the commodity at i^{th} link

3.6.2   Econometric Analysis

Some of the factors that influence the marketing margin of various categories of cattle within the pre-identified channels of marketing were separately determined quantitatively using the following Multiple Linear Regression Model:

$$Y = f(x_1, x_2, x_3, x_4, x_5, x_6, x_7)$$

Where, Y is gross marketing margin of cattle for traction, breeding and slaughter; x_1 is number of actors in the marketing channel; x_2 is total marketing cost; x_3 is distance from cattle market; x_4 is access to market information; x_5 is mode of transportation; x_6 is purchase price of cattle, and x_7 is total selling price of live cattle for traction and breeding, and slaughter product.

3.6.2.1 Model specification

This study was employed a modified version of the Relative Price Spread Model developed by Wohlgenant and Mullen (1987) to estimate determinants of beef marketing margins. Hence, the model for regression of the marketing margin of cattle

for traction, breeding and slaughter against the main factors of marketing was explicitly designed in the function form as follows:

$$Y = \alpha + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + U_1$$

Where, Y is dependent variable; α is Constant term; x_1-x_7 are as earlier defined; $b_1 - b_7$ are the coefficients of independent variables, and U_1 is the error terms.

The parameter to be estimated via the above model might not be Best Linear Unbiased Estimator (BLUE) when some of the assumptions of the Classical Linear Regression (CLR) models were violated. Thus, it was important to check the presence of multicollinearity among the variables that affect marketing margin of cattle in the area. According to Gujarati (2003), there are two measures that are often suggested to test the existence of multicollinearity. These are: Variance Inflation Factor (VIF) for association among the continuous explanatory variables and Contingency Coefficients (CC) for dummy variables. Statistical package for Social Science (SPSS) of version 20 will be used to compute multicollinearity of both variables.

To detect multicollinearity problem for continuous variables, variance inflation factor (VIF) was defined as:

$$VIF\ (X_j) = (1 - R_j^{2})^{-1}$$

Where, R_j^{2} is the coefficient of determination in the Auxiliary regression.

As R_j^{2} increase towards unity, that is, as the collinearity of X_j with the other regressors increase, VIF also increases and in the limit it can be infinite. The larger the value of VIF, the more troublesome or collinear is the variable X_j. As a rule of thumb, if the VIF greater than 10, which would happen if Rj^{2} is greater than 0.90, that variable is said to be highly collinear (Gujarati, 2003).

On the other hand, contingency coefficient was used to check multicollinearity of discrete (dummy) variables. It measures the relationship between the row and column variables of a cross tabulation. The formula for contingency coefficient is as follows:

$$CC = \sqrt{\chi^2 / (n + \chi^2)}$$

Where, CC is contingency coefficient, $\chi2$ is chi-square value and N is total sample size. According to Gujarati (2003), the decision criterion with the contingency coefficient is that if the value of CC is greater than 0.75, the variables are said to be collinear.

3.6.2.2 Definition of Variable and Construction Hypothesis

As furthermore described separately below, the indicators necessary to make farm level indices on social, economic, demographic and efficiency comparable across different cattle marketing destination were covered. The number of cattle and slaughter products engaged in the selected market with its incurred cost and fetched price were also some of the emphasized variables.

a. Dependent variable

Marketing Margin (MM): A marketing margin is a continuous variable which is the percentage of the final weighted average selling price taken by each stage of the marketing chain and expressed in terms of birr per head of animal. The price obtained from cattle for slaughter was determined based on the total sell of slaughter product. Mendoza (1995) reported that the size of marketing margin is largely dependent upon a combination of the quality and quantity of marketing services provided; the cost of providing such services, and many other factors which are discussed under the explanatory variables.

b. Independent variables

Number of Actors in the Marketing Channel (NAMC): It is a continuous variable which is the count of intermeddlers (including the producers and the final consumers) engaged in cattle marketing activities. It was clear that each actor drives the benefit from the purchased animal or slaughter product which in turn widens the gap between the very inception of purchase price and the ultimate selling price and thus it was positively associated to the gross marketing margin.

Marketing Costs (MC): It is a continuous variable which is the sum total of all the expenditures while transporting the cattle from the producers to the final consumers. These costs include feeding cost; transportation cost; marketing charge, and rental charge. Marketing cost determines the size of returns to the actors and thus the size of marketing margins. This is because in competitive market, marketing margin is obtained by summing up normal profit to cost of supplying. However, under uncompetitive market marketing margin rises with the increment of the marketing cost. Therefore, it was hypothesized, in this study, that marketing cost is positively related to the gross marketing margin.

Distance to Cattle Market (DCM): It is a continuous variable which is the detachment of the producer or trader from the market place and it is measured in kilometer**.** The closer the market, the lesser would be the marketing costs; reduced walking time; better access to market information and facilities Holloway et al (2002). It, hence, determines the gross marketing margin. The distance from market center positively affects the gross marketing margin, as per the hypothesis of this study.

Access to Market Information (AMI): Access to information refers to whether the actors obtain information from available public media, co-farmers, friends and farmers' organization on cattle prices. Market information is vital to minimize information uncertainties that exist in the agricultural sector. It is a dummy variable taking a value of 1 if the actor has access to marketing information and 0 otherwise. According to Goetz (1992) and Jaleta (2011) better information significantly raises the probability of market participation and improves the bargaining power on the ongoing price of market day. Therefore, it is hypothesized, in this study, that market information is negatively related to cattle gross marketing margin.

Mode of transportation (MT): Mode of transportation is the means by which cattle are availed to the market. According to Dugasa Dirbaba and *et al* (2009), supply of live animals from the producers to the different categories of markets (primary, secondary and terminal markets) and slaughterhouses in the country is mainly carried out either by trekking or trucking or combination of both. Trekking is used widely to take live animals from the producers to the primary and secondary markets. Most cattle marketing actors prefer to trek their animals as it is cheaper than transporting with trucks and hence lessen the magnitude of marketing margins (Berhanu, *et al.,* 2007). On the other hand, trucking is largely used to transport animals from the secondary to terminal markets; from secondary markets to feedlots; and from feedlots to the port for export. Traders also prefer to truck fattened animals, apparently to avoid weight loss and deterioration in body conditions during transportation. Therefore, mode of transportation is a dummy variable taking a value of 1 for trekking and 0 for trucking. It is hypothesized, in this study, that trekking and tracking were positively and negatively related to gross marketing margin of cattle, respectively.

Purchasing price of cattle (PPC): Purchase price is the price by which different actors own various categories of cattle from the producers. It is a continuous variable that is

cash payment for the producers for their cattle supplied to market. According to the study conducted by Marsh and Brester (2004), cattle producers have a vested interest in marketing margin behavior because of the potential impacts on farm prices. It is inversely related to the gross marketing margin of live cattle for traction and breeding, and slaughter beef, as per the hypothesis of this study.

Total selling price of cattle/slaughter (TSPC/TSPS): The selling price is the charge levied by various actors in transacting cattle and slaughter beef to the end buyer. It is a continuous variable that is measured by birr per head of live cattle or total kg of beef and beef by-product. Total selling price is one of the most determinants in marketing margin analysis. According to the study conducted by Hall, Schimtz and Cotthern (1979), Wohlgenant and Mullen (1987) and Marsh and Brester (2004) selling price of live animal (for traction and breeding) and beef usually widen the marketing margins of the respective categories. It is hypothesized, in this study, selling price is positively related live cattle and beef gross marketing margin. The details of the dependent variable and independent variables for regression were described in Table 1 in summarized form.

Table 1: Description of the dependent and independent variables used in the model

Variables	Description	Types	Values
GMM	Gross Marketing margin	Continuous	Birr
NAMC	Number of actors in the marketing channel	Continuous	Number
MC	Marketing costs	Continuous	Birr
DCM	Distance to cattle market	Continuous	Kilometer
AMI	Access to market information	Dummy	0=no,1= Yes
MT	Mode of transportation	Dummy	0=Trekking, 1=Tracking
PPC	Purchasing price of cattle	Continuous	Birr
TSPC/TSPS	Total selling price of cattle/slaughter	Continuous	Birr

CHAPTER FOUR

RESULTS & DISCUSSION

4.1 Descriptive Results and Discussion

Having the eight sub-topics this chapter presents the major findings of the study. The first sub-topic deals with the results of demographic and socio-economic characteristics of sampled households. The second section deals with marketing participants and channel for disposing various categories of cattle and its determinants to choice. The third sub-topic section deals with quantity of cattle supplied and marketed via Ginchi Livestock Market. The fourth sub-topic deals with prices of cattle and the slaughter products marketed via Ginchi Livestock Market. The fifth sub-topic deals with costs of cattle and slaughter product marketed via Ginchi Livestock Market. The sixth sub-section deals with cattle marketing auction duration, mode transportation and information system. The seventh sub-section deals with marketing margin analysis which includes gross marketing margin, marketing margin at a given stage, producers share and the profit margin along each channel. The eighth sub-topic presents the challenges and opportunities of cattle marketing via Ginchi Livestock Market.

4.1.1   Socio-Demographic Characteristics of Sampled Households

4.1.1.1 Demographic and Socio-economic Characteristics of Sampled Farmers

Household characteristics, namely sex, age, marital status, education and family size are believed to influence marketing decision of farmers in different aspects. The details is shown in Table 2 where about 13(86.6%), 12(80%), 10(83.3%), 10(91%) and 18(90%) of sampled farmer households of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts were male respondents, respectively. The remaining portions of each district were female respondents. The educational level of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts also indicated that 11(73.3%), 10(66.6%), 10(83.3%), 10(91%) and 16(80%) were illiterate, respectively. The remaining portion of each districts were capable of, at least, read and write where it was relatively higher for the Gindeberat and Abuna Gindeberat districts. About 14(93.3%), 13(86.7%), 10(83%), 9(81.8%) and 17(85%) of the sampled farmer were married with few numbers of divorced women in each district of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi, respectively.

Table 2: Demographic and socio-economic characteristics of farmers of the districts supplying cattle to Ginchi Livestock Market

Description			Gindeberat (n = 15)		Abuna Gindeberat (n = 15)		Jeldu (n = 12)		Ilfeta (n = 11)		Dendi (n = 20)	
			Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Demographic characteristics	Sex	Male	13	86.6	12	80	10	83.3	10	91	18	90
		Female	2	13.4	3	20	2	16.7	1	9	2	10
	Educational level											
	Illiterate		11	73.3	10	66.6	10	83.3	10	91	16	80
	Literate (read and write)		4	26.7	5	33.4	2	16.7	1	9	4	20
	Marital Status	Single	0	0	1	6.7	1	8.3	1	9	1	5
		Married	14	93.3	13	86.7	10	83	9	81.8	17	85
		Divorced	1	6.7	1	6.6	1	8.7	1	9.2	2	10
	Family size	1 - 4	3	16.6	4	26.6	3	25	2	18.2	3	15
		5 - 7	9	65	8	53.5	6	50	6	54.5	11	55
		8 - 10	2	14.2	2	13.3	2	16.6	2	18.3	4	20
		>10	1	4.2	1	6.6	1	8.4	1	9	2	10
Socio-economic characteristics	Major crops	Teff	11	73	5	33.4			1	9	14	70
		Wheat	2	13.4	9	60	2	16.3	1	9	4	20
		Barley					7	58.7	7	64	2	10
		Potato			1	6.6	3	25	2	18		
		Others	2	13.6								
	Livestock Production											
	Main activity		0	0	0	0	0	0	0	0	0	0
	Secondary activity		15	100	15	100	12	100	11	100	20	100
	Purpose of cattle rearing		0	0	0	0	0	0	0	0	0	0
	Subsistence		15	100	15	100	12	100	11	100	20	100

Source: Own computation from survey data of 2013

Correspondingly, 9(65%), 8(53.5%), 6(50%), 6(54.5%) and 11(55%) of the sampled farmer of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts possessed 5 to 7 family members. The respondents who possessed the planned (1 to 4) and large (8 and more) family size were almost equivalent in all the districts.

The socio-economic characteristics of all the districts supplying cattle to Ginchi Livestock Market was characterized by mixed crop-livestock farming system where livestock is the integral part of cropping since it is hardly successful in the negligence of livestock. The farm practices of sampled farmers like majorly grown crops, and livestock rearing practices and utilization pattern of the districts were considered as depicted in Table 2. Thus, *Teff* was the major crop type (accounted about 73% and 70% of the respondents of Gindeberat and Dendi districts, respectively) where wheat was the second crop for both districts. There were other crop types namely maize and *Niger/Noug* which simultaneously accounted 13.6% cropping in Gindeberat district. Farmer respondents of Abuna Gindeberat were practicing wheat as the major crop which covered 60% of the farming of the specific area, with *Teff* as the second crop type. Majorly 58.7% and 64% of the respondents of Jeldu and Ilfeta districts growing barely, respectively. Potato was also relatively competing crop type of Jeldu and Ilfeta districts. Livestock production was the secondary to cropping activity which was not market oriented.

4.1.1.2 Demographic and Socioeconomic Characteristics of Sampled Traders

The profile of trader participants supplying to and demanding cattle from Ginchi Livestock Market specifically the sex categories, education level, religious and average year of experience in cattle trading is depicted in Table 3. All the sampled traders of the entire districts were male. The educational level of the sampled traders indicated that almost all of them had that capacity to at least read and write where some proportion of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts traders supplying to and demanding cattle from Ginchi Livestock Market was 72.7%, 78.6%, 77%, 69.2% and 83.3%, respectively.

Table 3: Demographic and socio-economic characteristics of traders supplying to and demanding cattle from Ginchi Livestock Market (% and average)

	Description		Gindeberat (n = 11)		Abuna Gindeberat (n = 14)		Jeldu (n = 13)		Ilfeta (n = 9)		Dendi (n = 24)	
			Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Demographic characteristics	Sex	Male	11	100	14	100	13	100	9	100	24	100
		Female	0	0	0	0	0	0	0	0	0	0
	Educational Level											
	Illiterate		3	27.3	3	21.4	4	30.8	3	33.3	4	16.7
	Literate (read and write)		8	72.7	11	78.6	9	69.2	6	66.9	20	83.3
	Religion	Orthodox	3	27.3	2	14.3	7	53.8	8	88.9	19	79.2
		Protestant	8	72.7	12	85.7	6	46.2	1	11.1	4	16.6
		Muslim	0	0	0	0	0	0	0	0	1	4.2
	Experience in Cattle Trading (Years)		11	13[a]	14	19[a]	13	17[a]	9	15[a]	24	21[a]
Socio-economic characteristics	Type of Trader											
	Farmer trader		7	63.6	9	64.3	7	53.8	5	55.5	5	20.8
	Trader supplying cattle to Ginchi Livestock Market		4	36.4	5	35.7	6	46.2	4	44.5	0	0
	Trader receiving cattle from Ginchi Livestock Market		0	0	0	0	0	0	0	0	16	66.7
	Butcher		0	0	0	0	0	0	0	0	3	12.5
	Purpose of Cattle for Trading											
	Cattle for breeding		6	23	4	14.3	6	24	10	50	14	31.8
	Cattle for traction		18	69.3	20	71.4	13	52	5	25	6	13.7
	Cattle for slaughter		2	7.7	4	14.3	6	24	5	25	24	54.5

Note: [a] mean value and n is number of respondents

Source: Own computation from survey data of 2013

The sampled traders were significantly Protestant religion follower, with none of the follower of Islam religion, in Gindeberat and Abuna Gindeberat districts. Jeldu respondents were equally Protestant and Orthodox religions followers. Orthodox religion was largely followed in Ilfeta and Dendi districts. None and less number of the former and the later districts' sampled traders those were supplying to and demanding cattle from Ginchi Livestock Market were the follower of Muslim religion. So far the trader participants supplying to Ginchi Livestock Market had on average 13, 19, 17, 15 and 21 years experience of trading cattle, respectively.

All the traders engaged in cattle marketing of Ginchi Livestock Market from Gindeberat, Abuna Gindeberat, Jeldu and Ilfeta were farmer traders and traders supplying cattle to Ginchi Livestock Market where the proportion of the former categories of trader were higher in all the districts. Large number of traders was engaged in receiving cattle from Ginchi Livestock Market to the subsequent other market centers. About 69.3%, 71.4% and 52% of cattle supplied from Gindeberat, Abuna Gindeberat and Jeldu districts to Ginchi Livestock Market were those which were required for traction, respectively. Unlike the Dendi, Jeldu and Ilfeta districts from where the majority (54.5%, 24% and 25%, respectively) cattle category supplied to Ginchi Livestock Market was cattle for slaughter. Small number was supplied from Gindeberat and Abuna Gindeberat districts.

4.1.2   Cattle Marketing Participants and Channels via Ginchi Livestock Market

It was highlighted on the map of the marketing chain that there was the involvement of numerous participants in cattle marketing. However, the difficulty of obtaining time series data for all participants limited this studies to those were initial suppliers (producers) and could be easily addressed. The lengthy and complexity of cattle marketing channels were attributed to geographic dispersion of production and different categories of cattle for marketing. Thus, the actors at the bottom were from Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts. The diverse consumers at the top were from Olonkomi and Sebeta area, Ginchi and Burayu town, and Addis Ababa City.

Main suppliers of cattle to Gindeberat, Abuna Gindeberat, Jeldu and Ilfeta Livestock Market were the local farmers and farmer traders whereas the traders taking away

cattle from the respective districts enroute to Ginchi Livestock Market. These traders were known in this study as the traders supplying cattle to Ginchi Livestock Market. On the top of those participants, with the exclusion of supplier traders, all other participants like the receiver traders, butcher and consumers were common to Dendi districts for marketing cattle via Ginchi Livestock Market. There were local farmers, and local and outdoor traders at the Olonkomi Livestock Market which is about 12 km from Ginchi Livestock Market. Farmers of Sebeta area who were purchasing cattle for breeding and traction, the butchery and consumer of Burayu town and Addis Ababa city were also some of the ultimate participants for Ginchi Livestock Market. Moreover, the flow of marketing chain of cattle for breeding and cattle for traction, and cattle for slaughter were mapped into the following main distribution pathway as depicted in Figure 2 and Figure 3, respectively.

Ginchi Livestock Market was enriched with all the categories of cattle where the proportion of each category was insignificant. About 42.6% & 42.9% of cattle were for breeding and traction were remained at Dendi district, respectively. While the higher proportion of cattle for breeding and cattle for traction was directly transported to the terminal market of Sebeta and Olonkomi (Figure 2). This result indicated that cattle for breeding and for traction were significantly demanded for own utilization of local farmers of Dendi district, and Olonkomi and Sebeta area. However, almost all the traders (95%) at Ginchi Livestock Market were purely purchasing cattle for slaughter for delivering to the livestock market of Addis Ababa city and Burayu town despite the relative fewness towards the later terminal market. About 40.6% of cattle for slaughter were also remained at Ginchi town and other was delivered to Addis Ababa city and Burayu town market centers (Figure 3).

Producers of Cattle for Breeding and Traction = 83% and 81%

- Gindeberat = 11% & 17%
- Abuna Gindeberat = 7% & 14%
- Jeldu = 9% & 14%
- Ilfeta = 14% & 13%
- Dendi = 42% & 23%

Others = 17% &19%

21% & 18%   28.2% % & 25.2%

2.8% & 3.4%   Farmer Traders = 21% & 18%   6.6% & 8%

17.8% & 24.5%

33% &32.3%   8.2% & 6.4%

6.7% & 6.7%   Traders Supplying Cattle to Ginchi
Livestock Market= 26% & 30.9%

12.2% & 13.8%   9.3% &14.5%

Traders Receiving Cattle from Ginchi
Livestock Market = 51.9% & 49.8%   7.8% & 9.7%

30.3% & 22%   19% & 20.8%

Olonkomi Farmers	Sebeta Farmers	Dendi Farmers
(9.5% & 10.1%)	(49.3% & 42.8%)	(42.6% & 42.9%)

Source: Own computation from the survey data of 2013 (values in the box and on the arrow
are monthly proportion of cattle for breeding and traction, respectively)

Figure 2: Marketing Flow of Cattle for Breeding and Traction via Ginchi Livestock Market

Producers 66%

- Gindeberat 5%
- Abuna Gindeberat 7%
- Jeldu 11%
- Ilfeta 13%
- Dendi 30%

Others 34%

36%

26%

12.7%

20.5%

Farmer Traders 26%

1.3%

11%

8%

5.7%

14.3%

Traders Supplying Cattle to Ginchi Livestock Market 47%

3.5%

29.2%

Trader Receiving Cattle from Ginchi Livestock Market 57.7%

Ginchi Butchery

4.8%

25%

32.3%

31%

Burayu Butchery 25%

Addis Ababa Butchery 32.3%

9%

14.4%

26.4%

Burayu Town Consumer 9%

Addis Ababa City Consumer 40.8%

Ginchi Town Consumer 40.6%
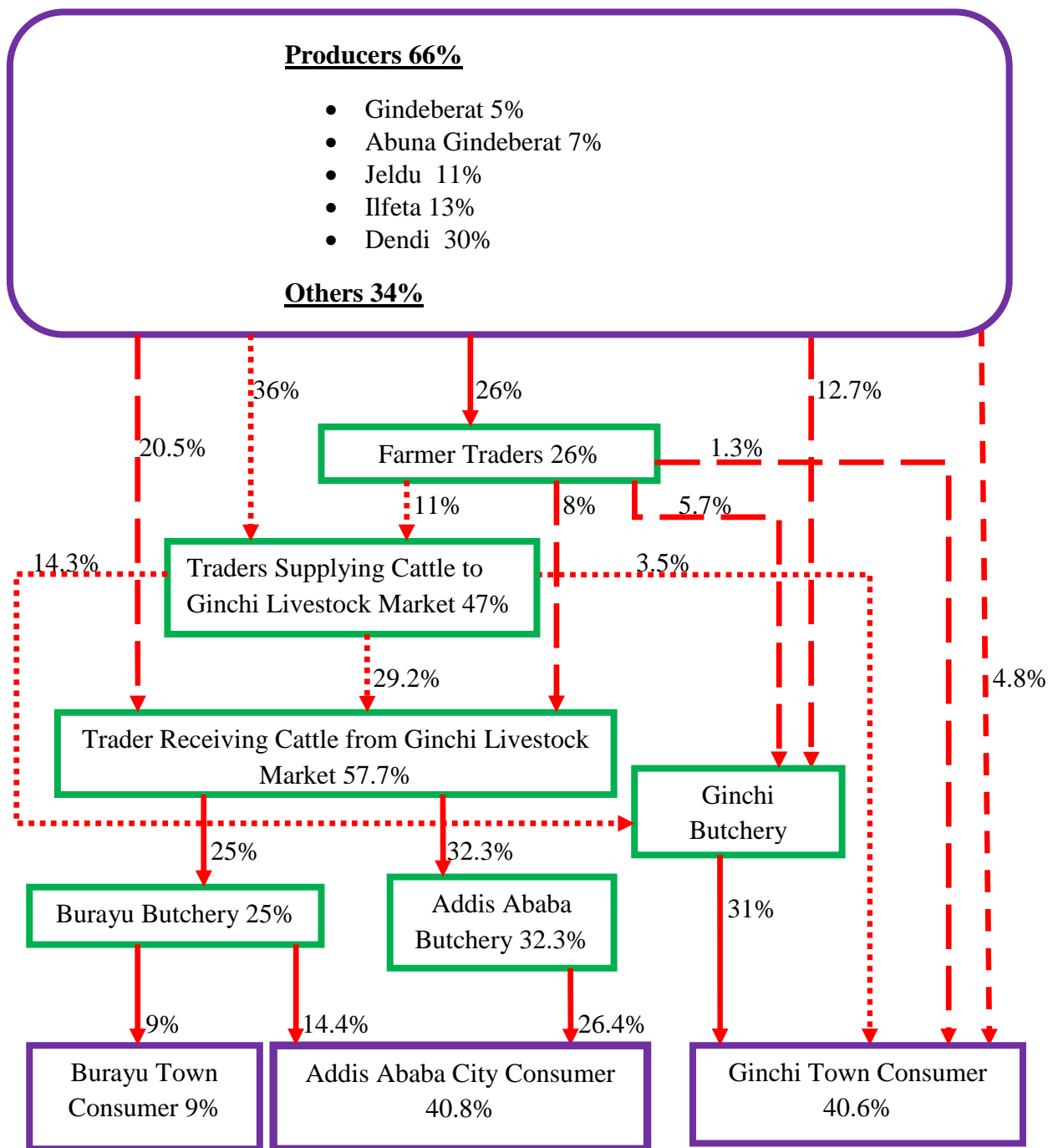
Source: Own computation from the survey data of 2013

Figure 3: Marketing Flow of Cattle for Slaughter via Ginchi Livestock Market

The marketing flow was further mapped to the marketing channels through which various categories of cattle and slaughter product moved to the ultimate consumers in different destination. The channels were separately mapped on Figure 4 and Figure 5 for breeding and traction cattle, and cattle for slaughter, respectively.
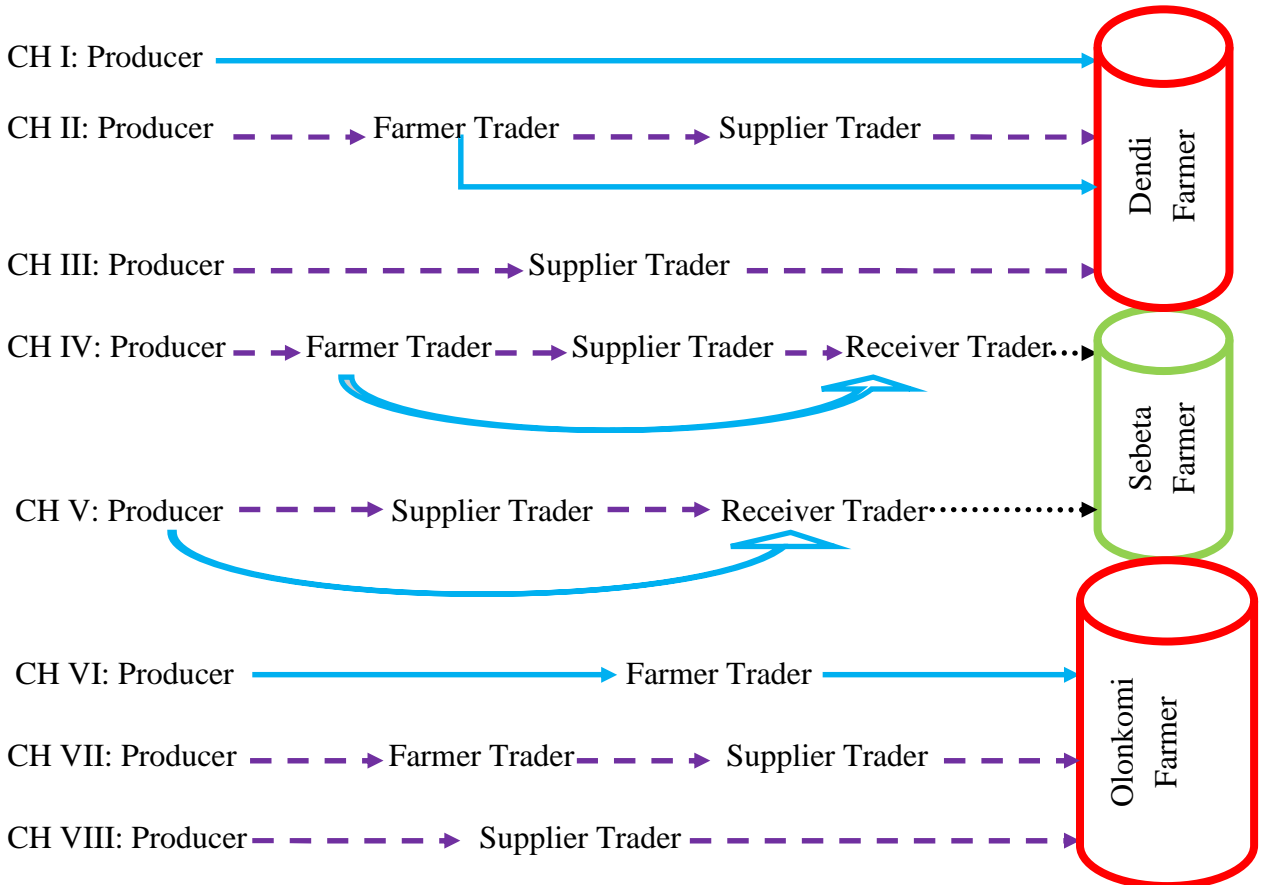
Note: The smoothed, dashed and dotted arrows indicate supply to Ginchi Livestock Market from Dendi, other than Dendi and the entire districts, respectively

Figure 4: Marketing Channels of Cattle for Breeding and Traction via Ginchi Livestock Market

CH I: Producer

CH II: Producer - - - ▶ Farmer Trader - - - ▶ Supplier Trader - - - - - - - - - - - - ▶

CH III: Producer - ▶ Farmer Trader - - ▶ Supplier Trader - - ▶ Ginchi Butchery - - - - - - - - - ▶

CH IV: Producer - - - - - - - - ▶ Supplier Trader - - - - ▶ Ginchi Butchery ················▶

CH V: Producer - - ▶ Farmer Trader - - ▶ Supplier Trader - - ▶ Receiver Trader ····▶ Burayu Butchery ····▶

CH VI: Producer - - ▶ Supplier Trader - - ▶ Receiver Trader ········▶ Burayu Butchery ····················▶

CH VII: Producer - ▶ Farmer Trader - - ▶ Supplier Trader - ▶ Receiver Trader ·····▶ Burayu Butchery ·········▶

CH VIII: Producer - - ▶ Supplier Trader - - ▶ Receiver Trader ·········▶ Burayu Butchery ····················▶

CH IX: Producer - ▶ Farmer Trader - ▶ Supplier Trader - ▶ Receiver Trader ····▶ Addis Ababa Butchery ·········▶

CH X: Producer - ▶ Supplier Trader - ▶ Receiver Trader ·······▶ Addis Ababa Butchery ····················▶

Note: The smoothed, dashed and dotted arrows indicate supply to Ginchi Livestock Market from Dendi, other than Dendi and the entire districts, respectively

Figure 5: Marketing Channels of Cattle for Slaughter via Ginchi Livestock Market

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As illustrated on the map of channels of cattle breeding and traction, eight marketing channels of delivering cattle to the ultimate utilizers were identified (Figure 4). However, Channel II and Channel IV of the marketing channels from Gindeberat, Abuna Gindeberat, Jeldu and Ilfeta Livestock Market were not efficient since only small volume of the total monthly supply of cattle for breeding and cattle for traction was handled within those channels. The same held true for the channels (Channel VI, Channel VII and Channel VIII) of delivering cattle for breeding and for traction to Olonkomi livestock market. On the other hand, it was identified that there were about ten marketing channels in delivering cattle for slaughter to the terminal consumers where most of the channels from Gindeberat, Abuna Gindeberat, Jeldu and Ilfeta Livestock Market like Channel II, Channel III, Channel V, Channel VII and Channel IX were inefficient as they handled insignificant number of cattle for slaughter and hence excluded from the analysis. Channel III was inefficient for the case of cattle for slaughter destined from Dendi district as well.

4.1.2.1 Producers

The producers were selling cattle when they wanted to replace the well fed cattle for slaughter and aged draught oxen and cows, or looked for cash to repay outstanding farm loans or cover wedding and paying taxes as well. The producers were monthly selling 21%, 17.8%, 23%, and 38.2% of cattle for breeding to farmer traders, traders supplying cattle to Ginchi Livestock Market, traders receiving cattle from Ginchi Livestock Market and other farmers of Dendi districts, respectively. While 18%, 24.5%, 22%, and 35.2% of monthly supply of cattle for traction was sold to farmer traders, traders supplying cattle to Ginchi Livestock Market, traders receiving cattle from Ginchi Livestock Market and other farmers of Dendi districts, respectively. Correspondingly, those producers were monthly selling 26%, 36%, 20.5%, 12.7% and 4.8% of cattle for slaughter to farmer traders, traders supplying cattle to Ginchi Livestock Market, traders receiving cattle from Ginchi Livestock Market, Ginchi butchery and the consumers in Ginchi town, respectively. Irrespective of the higher share of cattle from other participants than the targeted five sample market center, the query of who were those other participants supplying cattle to Ginchi Livestock Market has not been well documented. Producers in all sample markets preferred to supply cattle to the nearby primary market of the respective district so as to minimize the resultant transportation cost. The preoccupation of the producers by farm and

off-farm activities was also the plausible determinants for the delimitation to the proximate primary market. The report of a study conducted by Ferto and Szabo (2002) also identified transaction costs as the variable influencing producers' decision regarding the choice of market places. But, the preference of the actors for whom to deliver was decided based on the information of market price. This findings was coinciding with the report of Goetz (1992) and Staal et al. (2006) who showed, respectively, that the better market information of food marketing and the better the price offered by milk market channel the more significantly raised likelihood of market participation of households.

4.1.2.2 Farmer Traders

Farmer traders sometimes called local collectors or part time traders were those whose main occupation was farming. They came in cattle trading business when they were through with their farm activities and during busy transaction periods. As illustrated in Figure 1, respectively, 8.2% and 6.4% of cattle for breeding and for traction was monthly sold to the traders supplying exclusively to Ginchi Livestock Market. Whereas, the proportion of sale to the traders demanding cattle for breeding and for traction from Ginchi Livestock Market was 4.6%, and 3%, respectively. The farmer traders of only Dendi district monthly sold 6.6% and 1.6% of cattle for breeding, and 8% and 1.6% of cattle for traction to other farmer of Dendi and Olonkomi districts, respectively. On the other hand, farmer traders of Dendi district were delivering 11%, 8%, 5.7% and 1.3% of cattle for slaughter to the traders supplying solely to Ginchi Livestock Market, traders demanding from Ginchi Livestock market, Ginchi butchery and Ginchi town consumers, respectively (Figure 3). They bought cattle at the farm gate and remote markets and resold them in the nearby primary markets. They also bought cattle for later sale in the same markets with the aim of taking the advantage of increased prices or feeding the animals in favor of improving body weight and body condition as well. Like the producers, farmer traders preferred the nearby market center to deliver the cattle at his/her hand.

4.1.2.3 Traders

Traders were individuals engaged in cattle transaction who were found in the nearby primary, secondary and terminal markets. The traders under this category were classified as those receiving cattle from the primary market in favor of supplying solely to Ginchi Livestock Market and those receiving cattle from Ginchi Livestock Market in favor of

supplying them to various markets. Traders offering cattle solely to Ginchi Livestock Market was emanated from Gindeberat, Abuna Gindeberat, Jeldu and Ilfeta districts. Respectively, about 9.3% and 7.8% of cattle for breeding was monthly sold to other traders receiving cattle from Ginchi Livestock Market and other farmers in Dendi district who were looking for cattle rearing (Figure 2). It was also 9.7% and 16.4% of cattle for traction en route from the traders of cattle supplier of Ginchi Livestock Market to other traders and Dendi farmers demanding cattle from Ginchi Livestock Market, respectively. The proportion of cattle for slaughter monthly sold by the traders supplying cattle to Ginchi Livestock Market to other traders demanding cattle from Ginchi Livestock Market, Butchery of Ginchi town and local consumer of Ginchi town was 29.2%, 14.3% and 3.5%, respectively (Figure 2).

The trader purchasing cattle from Ginchi Livestock Market was reselling them to other market center. Thus, the per month sale of cattle for breeding and traction was, correspondingly, 8.8% and 14.8%, and 29.3% and 21.6% to the farmers around Olonkomi and Sebeta area. The traders receiving cattle was, however, monthly delivering 25% and 32.3% of cattle for slaughter to Burayu and Addis Ababa butchery at the terminal market of Burayu town and Addis Ababa city (Kera Market Center), respectively. In most cases the traders have been choosing the channel/s with the market center where large volume of cattle could be off-taken at the sound selling price.

4.1.2.4 Butcheries

These were meat traders who maintained butchery in primary, secondary or terminals markets who bought cattle only for slaughter so as to convert the animal to slaughter product for selling. The butchery for this case study was found at Ginchi town and Burayu town and Addis Ababa City. According to the current survey data, about 31% of the animal brought to the market was slaughtered and the product was monthly sold to the consumers of Ginchi town. Those located in Burayu town was, however, joined the two routes where 9% and 14.4% of the cattle was slaughtered in favor of supplying to the consumers' of Burayu town and Addis Ababa City, respectively. The consumers of Addis Ababa city were gainful of additional 26.4% of cattle slaughtered by Addis Ababa butcheries. No preference of marketing channel by the butcheries of Ginchi town and Addis Ababa City since it was solely to locally available consumers for delivering

slaughtered products. The butcheries of Burayu town were, however, explained that they went for the consumers of Addis Ababa City as an alternative to local consumers since the former actors worthy better return of selling slaughtered products.

4.1.3   Quantity of Cattle Supplied and Marketed via Ginchi Livestock Market

The cross-sectional observation and the time series data during the survey session of cattle supplied to Ginchi Livestock Market revealed that almost the entire cattle of all categories were the indigenous breed. All the categories of cattle were local zebu where there were insignificantly Horo breed for the slaughter cattle. Due to lack of weighing facilities, mostly cattle transaction is done 'based on evaluation and assessing the body conditions, which tend to be highly subjective. The monthly supply and sale in different market center of the districts supplying cattle to Ginchi Livestock Market during the year of 2013 to 2014 for the various categories were characterized by significant variation as depicted in Table 4.

Table 4: Average Number of Cattle Supplied to and Sold at Different Market Center

Market Center	Number of Cattle Monthly Supplied to the Market Center for (Mean$\pm$SD)			Number of Cattle Monthly Sold at the Market Center for (Mean$\pm$SD)		
	Breeding	Traction	Slaughter	Breeding	Traction	Slaughter
Gindeberat	118$\pm$42	104$\pm$99	62$\pm$60	96$\pm$34	90$\pm$48	51$\pm$67
Abuna Gindeberat	88$\pm$39	100$\pm$56	76$\pm$72	76$\pm$28	54$\pm$48	54$\pm$75
Jeldu	90$\pm$33	129$\pm$55	87$\pm$54	78$\pm$41	109$\pm$55	77$\pm$46
Ilfeta	68$\pm$25	58$\pm$38	74$\pm$52	56$\pm$24	50$\pm$35	64$\pm$51
Dendi & other suppliers	226$\pm$132	236$\pm$143	308$\pm$107	199$\pm$105	216$\pm$100	253$\pm$107
F	28.253	7.157	6.003	25.738	6.666	5.600
Sig	0.000	0.000	0.000	0.034	0.010	0.000

About 118, 88, 90, 68 and 226 heads of cattle for breeding was monthly supplied to the market centers of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts, respectively. Cattle for traction was supplied to the market center of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts, respectively, at the average monthly quantity of 104, 100, 129, 58 and 236 animals. An average of 62, 67, 87, 74 and 308 cattle for

slaughter was monthly supplied to the market center of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts, respectively. The analysis revealed that there was significant variation on the quantity of all the categories of cattle supply to the market centers of the respective districts (sig. = 0.00). Though there was no supply variation among the former three districts, the market supply of cattle for breeding and traction significantly lower at Ilfeta and higher at Dendi district's market center. Supply of cattle for slaughter was lower in Gindeberat and Abuna Gindeberat with the reverse scenario in the market center of Dendi district as significantly higher number of cattle was monthly supplied than all the others market center of the respective districts'. From the market supply, an average of 96(81%), 76(86%), 78(87%), 56(82%) and 199(81%) cattle for breeding; 90(87%), 89(89%), 109(84%), 50(86%) and 216(92%) cattle for traction, and 51(81%), 54(81%), 77(88%), 64(86%), 253(82%) of cattle for slaughter was sold monthly at the market center of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts, respectively. Except Dendi district, where significantly higher proportion of the supply was sold, there was no significant discrepancy (sig. = 0.061) along the market center of the respective districts on the proportion of all the categories of cattle monthly sold from the supply as shown in the table above.

The conveyed assessment on the proportion of cattle supplied to Ginchi Livestock Market from each district was also revealed that the market center was enriched with cattle from Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta, and Dendi districts and other suppliers. Other suppliers were extended to Western corners which covered Ambo and Toke Kutaye districts, and parts of Wollega via Guder Livestock Market Center. However, addressing the market center beyond those mentioned in Figure 6 was inconvenient for the difficulty of reaching at the producers linked with the complexity of channel of supply.

The analysis of the secondary data from Zonal Trade and Market Development Office indicated that 17(17.70%), 12(13.50%), 16(20.50%), 29(51.80%) and 152(100%) of the cattle for breeding was monthly supplied from Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts and other suppliers, respectively. Despite the fewer breeding cattle with insignificant difference for the former two districts, the relatively higher proportion was from Ilfeta and Dendi districts where the whole animal from Dendi district was delivered to Ginchi Livestock Market.
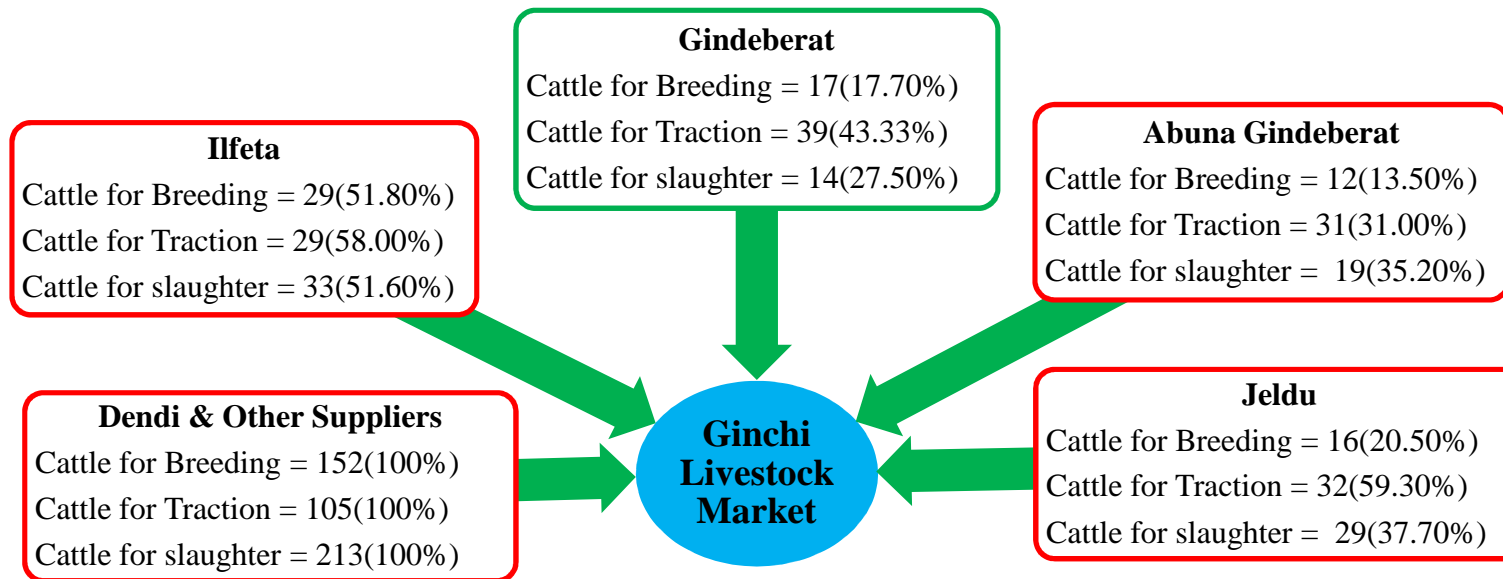
Figure 6: Proportion of Various Categories of Cattle Monthly Supplied to Ginchi Livestock Market

About 39(43.33%), 31(31.00%), 32(59.30%), 29(58.00%) and 105(100%) of cattle for traction was monthly supplied from Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts, respectively. Regardless of the distance of Gindeberat and Abuna Gindeberat districts and the apparently lower proportion of cattle supply, cattle for traction highly demanded by Ginchi Livestock Market shared the highest value. Higher proportion of cattle for traction was from Jeldu, Ilfeta and Dendi districts with the larger share were Dendi districts. Less cattle for slaughter was supplied from Gindeberat and Abuna Gindeberat districts while the meaningful proportion was from Jeldu and Ilfeta districts. The highest proportion was from Dendi district and other suppliers. On the other hand, cattle for slaughter augmented higher share to meet the demand from local consumer and butcher in Ginchi and Burayu towns, and Addis Ababa City.

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There was a slight increment on the number of cattle sold at Ginchi Livestock Market while compared to the previous study conducted by Belay *et al* (2012) who reported 27.8 % and 38.1% of cattle for breeding and traction were purchased, respectively. But, there was seasonal variation of cattle supply to Ginchi Livestock Market as depicted in Figure 7.
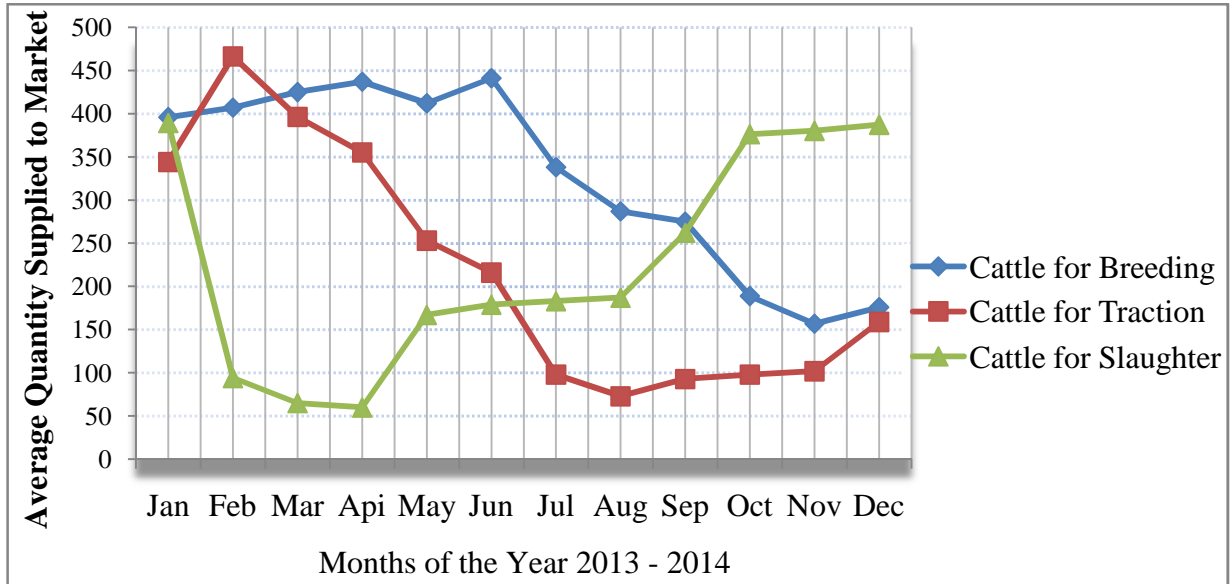

Figure 7: Trend of Various Categories of Cattle Supplied to Ginchi Livestock Market

Generally, it was observed that peak cattle were supplied to the market mainly during the month of September and the months of April and December, periods which coincide with the new year festivities, increased demand for grain (for food security during the rainy season), increased demand for cattle draft and occurrence of weddings during these periods. There has been a steady rise in the number of cattle for breeding during the months of January to June with the declining trend thereafter. The trend of supplying cattle for traction was, however, the reverse in that it has been dramatically increasing from the months of August to February with the decrement trend thereafter. It has been the increasing trend for the months of August to January with the higher quantity of cattle for slaughter supply to the market which was peak during December, January during the major holidays. February to November was the months of lower supply of cattle for slaughter. The trend of cattle for slaughter was in line with the study conducted at Northern part of our country where the supply peaks after the October – January rainy season then drops precipitously (Agricultural Growth Program- Livestock Market Development, 2013).

4.1.4 Prices of Cattle and Slaughter Product Marketed via Ginchi Livestock Market

Coupled with the categories and quantity of cattle, the price at the respective market center supplying to and demanding various categories of cattle from Ginchi Livestock Market was recognized with some discrepancy. The price discrepancy of each category of cattle was associated with the distance at which the districts were located which limited the market behavior (supply and demand) of the cattle which is the base for settling price by the interplay of each other. Under a given supply and demand situation, price variation in cattle markets under consideration was caused by differences in animal characteristics particularly the purposes for which it was bought and the season of marketing. The analysis of the time series data and the information from conveyed interview to farmer trader and other actors on purchase price at the village/farm gate and purchase price at the identified market center via which cattle for breeding, traction and slaughter was supplied to Ginchi Livestock Market was summarized in Table 5.

Table 5: Purchase Price (in Birr/Cattle) of Various Categories of Cattle via Ginchi Livestock Market (2013 - 2014)

Supplier of Various Categories of Cattle		Purchase Price at Farm Gate (Birr/Cattle)			Purchase Price at the Market Center (Birr/Cattle)		
		Cattle for Breeding	Cattle for Traction	Cattle for Slaughter	Cattle for Breeding	Cattle for Traction	Cattle for Slaughter
Gindeberat	Mean	3134	4401	6510	3565	4993	6908
	St. D	655	861	1096	1118	1089	1168
Abuna Gindeberat	Mean	3507	4678	6394	3771	5248	6989
	St. D	983	970	1466	1054	1107	1449
Jeldu	Mean	3164	5255	7604	3562	6498	8500
	St. D	293	540	961	357	720	979
Ilfeta	Mean	3306	5125	7393	3589	6443	8448
	St. D	445	391	880	352	737	978
Dendi	Mean	3411	6011	8101	4125	7025	9185
	St. D	666	678	1083	787	634	920
F-test		0.816	9.462	5.613	2.504	14.783	11.932
Significance Value		0.520	0.000	0.001	0.038	0.000	0.003

Despite the general observation of the farm gate purchase price discrepancy for various categories of cattle supplied to Ginchi Livestock Market, it was not statistically different for breeding cattle among the market center of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi (F = 0.816, Sig. = 0.520) since it was reported to be Birr 3134, 3507, 3164, 3306 and 3411, respectively. The farm gate price of cattle meant for traction and slaughter was generally observed that there was statistical difference. Higher price was for cattle from Jeldu (0.035) and Dendi (0.00) than the other supplier of cattle for traction. The farm gate price of slaughter cattle from Dendi was also higher than the price at Gindeberat and Abuna Gindeberat districts (Sig. = 0.005 and Sig. = 0.002, respectively).

The same situation held for the purchase price of various categories of cattle at market center of the districts supplying animal to Ginchi Livestock Market. The price variation might be the distance of production area combined with poor road and railway infrastructure which were factors that drove producer prices down. For instance, occurrence of bad infrastructure leads part of the money that the dealer could pay to the producer would be used to pay for transport; therefore, the dealer would tend to bring down the price offered to the producer in order to make up for the high costs of transport. The average purchase price of cattle for breeding was Birr 3565, 3771, 3562, 3589 and 4125 at the market center of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts, respectively, which was statistically different when the entire districts were generally observed (F = 2.504, Sig. = 0.038). Likewise, it was statistically different for the cattle employed for traction and slaughter (F = 14.783, Sig. = 0.000, and F = 11.932, Sig. = 0.000, respectively). However, the result of Post Hoc Tests for Multiple Comparison indicated that the purchase price of cattle for slaughter was not significantly different at the market center of Gindeberat and Abuna Gindeberat, and Jeldu and Ilfeta districts (Sig. = 0.974 and Sig = 0.965, respectively).

The price was inclusive of the selling price of live cattle and slaughtered product at the respective terminal market as depicted in Table 6. The selling price of various categories of cattle exhibited the variation at the existing terminal markets despite no significant difference for breeding cattle supplied Ginchi terminal market from Gindeberat, Abuna Gindeberat and Jeldu districts. Though there was insignificant difference between Ilfeta and Dendi districts on selling price of cattle for breeding at Ginchi Livestock Market, that price was varied from cattle of other districts (Sig. = 0.035).

Table 6: Selling Price of Cattle and Slaughter Product via Ginchi Livestock Market at Various Terminal Market (Birr/Cattle)

Supplier of Various Categories of Cattle		Ginchi Terminal Market			Olonkomi Terminal Market		Sebeta Terminal Market		Burayu Terminal Market	Addis Ababa Terminal Market
		Cattle for Breeding	Cattle for Traction	Slaughter Product	Cattle for Breeding	Cattle for Traction	Cattle for Breeding	Cattle for Traction	Slaughter Product	Slaughter Product
Gindeberat	Mean	4650	5713	9073	3698	5659	4880	6427	10935	11220
	St. D	655	861	1096	1118	1089	920	686	535	484
Abuna Gindeberat	Mean	4213	5616	10088	3515	5573	4466	5805	10997	11089
	St. D	983	970	1466	1054	1107	985	710	511	490
Jeldu	Mean	4118	5311	10639	3869	5549	4389	6303	10635	10772
	St. D	293	540	961	357	720	1045	590	425	467
Ilfeta	Mean	3531	5148	8918	*	*	4004	6060	10687	10809
	St. D	445	391	880	*	*	950	630	541	513
Dendi	Mean	3478	5295	9786	3450	5444	3857	6058	11499	11949
	St. D	666	678	1083	787	634	860	687	407	560
F - test		9.462	1.764	5.613	1.204	0.983	7.564	11.485	8.568	7.906
Significance Value		0.035	0.058	0.001	0.050	0.060	0.046	0.010	0.043	0.046

* Indicates non-supply of the cattle categories from the market center to the terminal market of the same column

Regardless of the higher demand imposed to cattle for traction from Gindeberat, Abuna Gindeberat and Jeldu districts at the market center away from its native districts, there was invisible selling price difference of cattle from other districts (Sig. = 0.058). Insignificant variation of selling price of cattle for breeding and traction delivered to Olonkomi Market from Gindeberat, Abuna Gindeberat, Jeldu and Dendi districts (Sig. = 0.050 and 0.060, respectively). Unlikely, the price of cattle for breeding and traction delivered to Sebeta market center was significantly different since it was lower to those from Ilfeta and Dendi districts. Reversely it has been easy to scrutinize the selling price increment in favor of further moving animals to the longer route of marketing. The higher price of cattle at Sebeta market center and slaughter product at Burayu and Addis Ababa butchery was an illustrative instances.

The selling of slaughter product at the terminal market of Ginchi town, Burayu town and Addis Ababa city for the cattle brought from various supplying districts was highly discrepant. But, invisible variation was observed at the respective terminal market even if the sources of cattle for slaughter were recognized. Burayu terminal market was unique in mode of auctioning product in that various edible organs (locally called Shinxii, Salganyaa, Warchi, Garaacha, Shifillaa, Ciqinnaa, Tiru, Hamatu Somba, and Maanjirat.) of the slaughter animal were cut to sub-unit which was locally called *Medeb* and totally retailed to the local consumers.

The price of various categories of cattle marketed in Ginchi Livestock Market was fluctuated widely across the seasons of the year 2013 - 2014 like what was well-known at the market center of other parts of the country. The season of higher market price for one category of cattle was lower for the others categories (Figure 8).
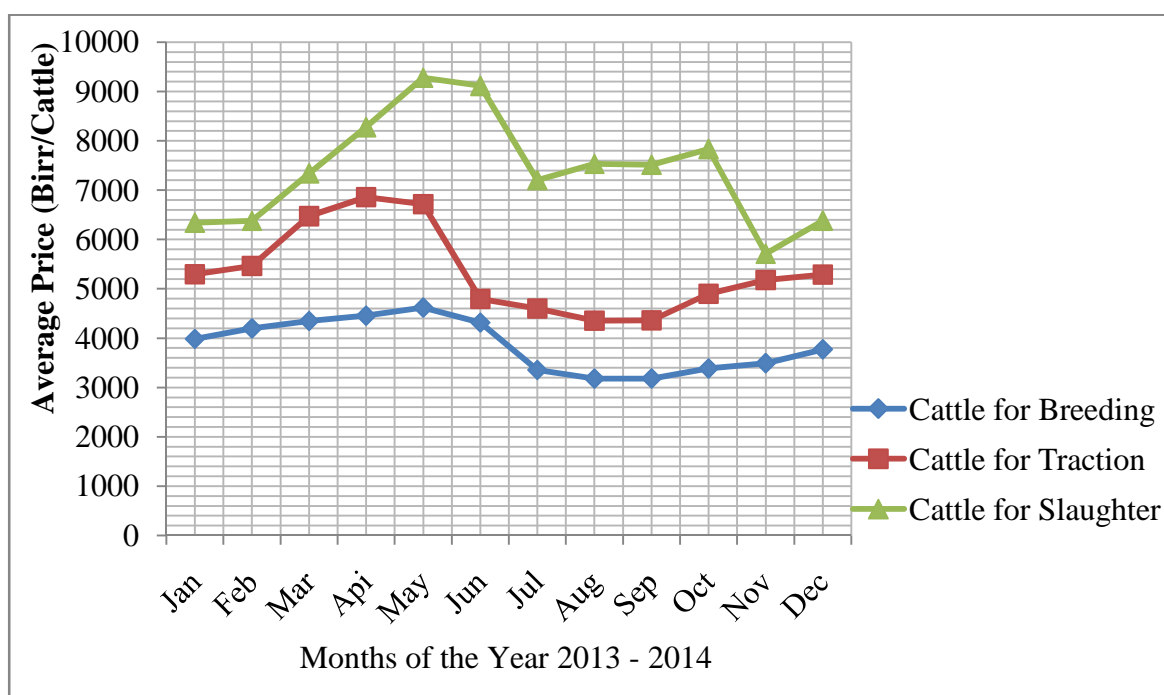

Figure 8: Trend on the Prices of Various Categories of Cattle Supplied to Ginchi Livestock Market

There has been a steady rise in the price of cattle for breeding beginning from September to May where the peak price (an average of 4618 Birr) was for later month of the year. Whilst, June to August was peculiar with sharp drop of the marketing price of cattle for breeding at decreasing trend due to the reduced buying capacity by local farmers which was resultant in lessening of the demand. Cattle for traction has

been upraising from September to April where the later three months were apparently the season of higher marketing price. Like the price of cattle for breeding, June to August were the months of lower marketing price and decreasing trend of the prices of cattle for traction. The trend of marketing price of cattle for slaughter was apart from other categories in view of the fact that it began to increase from March to June during which the peak market price was recorded. It was stagnant during the months of July to October and even it was reversed to the worst price during the months of November to December.

4.1.5 Costs of Cattle and Slaughter Product Marketed via Ginchi Livestock Market

The knowledge of marketing cost has paramount importance in determining the charges that the organizations make in providing marketing service that is reasonable in relation to the service being offered. The true marketing costs are often ignored because many of these costs are hidden and only come to light with patient investigation and reconstruction of the whole marketing process. The transaction cost and service fees associated with cattle and slaughter product marketing regardless of excluding some other overheads such as license fees, cost of product losses, utilities and own labour in the calculation was presented in Table 7.

It was identified that some of the most important costs in cattle and slaughter product marketing were sales tax at market gate, transit (checkpoint) tax, annual tax of municipality, transportation fee, feeding cost, charge for rent barn, abattoir service for slaughter cattle and cost of butchery house renting. From the gross marketing margin, total transaction cost of taking cattle from the suppliers of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts to Ginchi Livestock Market was 104 Birr, 94 Birr, 72 Birr, 25 Birr and 0 Birr, respectively. All other structure of costs was equivalent regardless of the cost for transportation, feeding and rent of barn which was the cause for the discrepancy of total cost (Table 7). Sales tax at market gate was 10 Birr at each market center which was common throughout the market center supplying cattle to Ginchi Livestock Market, but difference in value was mattered from the number of market center where a given cattle was delivered.

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Table 7: Marketing Costs of Cattle Supplied to Various Terminal Markets via Ginchi Livestock Market (Birr/Cattle)

From Primary/Secondary to Terminal Market	Category of Cattle/ Slaughter Product	Transaction Cost of per Various Category of Cattle Or Slaughter Product								
		Taxation at Market Gate	Transportation Cost	Checkpoint Cost	Feeding Cost	Rent of Barn	Annual Taxation	Abattoir Service	Butchery House Rent	Total Cost
Gindeberat to Ginchi Livestock Market	Cattle for Breeding	10	60	10	17	7	0	0	0	104
	Cattle for Traction	10	60	10	17	7	0	0	0	104
	Cattle for Slaughter	10	60	10	17	7	0	0	0	104
Abuna Gindeberat to Ginchi Livestock Market	Cattle for Breeding	10	50	10	17	7	0	0	0	94
	Cattle for Traction	10	50	10	17	7	0	0	0	94
	Cattle for Slaughter	10	50	10	17	7	0	0	0	94
Jeldu to Ginchi Livestock Market	Cattle for Breeding	10	40	5	12	5	0	0	0	72
	Cattle for Traction	10	40	5	12	5	0	0	0	72
	Cattle for Slaughter	10	40	5	12	5	0	0	0	72
Ilfeta to Ginchi Livestock Market	Cattle for Breeding	10	10	5	0	0	0	0	0	25
	Cattle for Traction	10	10	5	0	0	0	0	0	25
	Cattle for Slaughter	10	10	5	0	0	0	0	0	25
Dendi to Ginchi Livestock Market	Cattle for Breeding	0	0	0	0	0	0	0	0	0
	Cattle for Traction	0	0	0	0	0	0	0	0	0
	Cattle for Slaughter	0	0	0	0	0	0	0	0	0
Ginchi Livestock Market to Ginchi Butchery	Cattle for Slaughter	10	0	0	0	0	0	0	0	10
Ginchi Butchery to Local Consumer	Slaughter Product	0	0	0	0	0	38	105	219	362
Ginchi to Sebeta Livestock Market	Cattle for Breeding	10	70	5	18	9	0	0	0	112
	Cattle for Traction	10	70	5	18	9	0	0	0	112
Ginchi to Burayu Butchery	Cattle for Slaughter	10	50	20	12	5	0	0	0	97
Ginchi to Addis Ababa Butchery	Cattle for Slaughter	10	50	20	12	5	0	0	0	97
Burayu Butchery to Addis Ababa Consumer	Cattle for Slaughter	14	0	0	0	0	49	175	172	410
Burayu Butchery to Local Consumer	Slaughter Product	14	0	0	0	0	49	133	172	368
Addis Ababa Butchery to Local Consumer	Slaughter Product	25	0	0	0	0	55	187	299	568

Numerous checkpoints, where the municipality and districts' finance office forced the traders to pay per animal, was found for the cattle supplied to various terminal market from the primary market. Thus, it was comprised of one to four checkpoints which incurred 5 Birr to 20 Birr per animal to deliver various categories of cattle to the ultimate consumer. The animals were trekked for 2 to 6 days (about 30 km per day) while it incurred 10 Birr to 60 Birr per animal for transportation, 5 Birr to 35 Birr per animal for feeding and watering, and 5 Birr to 16 Birr per animal for rent of barn to stay in during the night time. Cattle traders to the route of Ginchi Livestock Market were not licensed and thus no levying of annual taxation to the actors.

4.1.6 Marketing Auction Duration, Mode of Transportation and Information System

Market clearing of cattle supplied to market was dependent on source of market supply and seasons. It would take on the average 2.5, 2, 1.8, 2 and 1.5 market days for the producers of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts supplying cattle for breeding purposes, respectively. However, the market clearance has been speeded up during the months of January to June when the trend for selling of cattle for breeding has been escalating. Correspondingly, an average of 1.8, 1.5, 1.5, 2 and 1.5 market days were spent to take off cattle for traction from the producers of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts. The months of August to February were the fastest seasons of clearing cattle for traction by all the suppliers. It was apart for the case of cattle for slaughter since the cattle supplied by the producers was highly demanded and thus merely one market day was sufficient to clear. On the other hand, the information obtained from the butchery of Ginchi and Burayu town, and Addis Ababa city indicated that 1.5, 4 and 3.5 animals could be cleared per week, respectively.

Farmers trekked their cattle to primary markets covering the possible shortcut distance which did not exceed 14 km. As that distance took a few hours, the need for providing feed and water did not seem to be important. Because of the wide dispersion of the sources of animals for the market, there were no established traditional stock route between villages and primary markets. On the other hand, all traders responded that they were similarly using trekking as a mode of transporting

cattle coming to primary, secondary and terminal markets but through traditional stock routes with the entire long distance (about 14 to 188 km). The distant source took 2 to 5.5 days to deliver cattle to the desired terminal market which imposed the traders to look for feeding, drinking water, barn for night time and guard for their cattle. However, the distance that the cattle were trekked per day from the primary to the final destination was estimated at 30 km per day but it was reliant of the number of days available before the following market day in the next higher markets. There was the emerging practices of trucking cattle with good body condition though it was not worth mentioning as long as the attempts made to ascertain as to why the traders did not use vehicles have revealed that it was due to its high cost which covered 132 Birr to 164 Birr per cattle from the primary market to its respective ultimate terminal market coupled with the inconvenience of the road.

Marketing information is the decisive factors in price determination in view of the fact that if producers know what prices were quoted in the area of production beforehand, they could better negotiate with dealers or take their products to the markets where prices are higher rather than sell them to the local dealer. In the study areas, producers had some marketing information from the nearby Development Agents who were weekly informed by Trade and Market Development Office of the respective district on the price of the previous week for enabling the producers to predict the upcoming market day price. Others were attending the weekly cattle market price report of the dominant market center of the zone that has been broadcasted by Oromia Radio Agency. Interestingly, an approximate of 13%, 16%, 9%, 11% and 23% of farmers of Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta and Dendi districts were, respectively, indigenously knowledgeable to identify the efficient season of selling various categories of cattle, and the effective channels of delivering the cattle. Although the producers were relatively well informed of the market price, there was complain on the scenario of controlling the price of cattle by a few traders particularly during the time farmers were obliged to repay the loans they took for the purchase of their farm inputs.

4.1.7 Cattle Marketing Margin and Profit Margin Analysis

4.1.7.1 Marketing Margin Analysis

The time series data used in the marketing margin estimation, to a much larger extent, were price information coupled with cost accounted obtained from the respective district Trade and Market Development Offices and the terminal market specifically the municipality of Burayu and Addis Ababa, reflecting the marketing cycle. Hence, based upon the data of buying and selling prices with the application gross marketing margin calculation formulae (GMM), the marketing margins of the participants in the marketing channels of the cattle for breeding, cattle traction and cattle for slaughter is shown in Tables 8, 9 and 10, respectively.

Without considering channel I which was specific to Dendi district where the producers were directly selling to the consumer, the total gross marketing margin (TGMM) is the highest in Channel V followed by Channel IV in all the routes supplying to and demanding cattle for breeding from Ginchi Livestock Market (Table 8). It was reverse for the two channels for the case of cattle for traction where total marketing margin was highest in the later channel followed by the former (Table 9). On the other hand, TGMM was significantly rising as the suppliers were moving away from Ginchi Livestock Market (Tables 8, 9 and 10). TGMM of cattle for breeding was lowest mostly in Channel VIII while it was in Channel III of cattle for traction with the exception of Dendi district where it was at Channel II (Tables 8 and 9). Purchasing behaviors of consumer and geographical proximity between end buyers and producers are the foremost influencing factors. This may leads to higher marketing cost directly or indirectly if supplied by individual producer.

It is obviously understandable that producers enjoy best share if they sell their product directly to consumers. The case of this study area was apart from this reality as the share of producers (GMMp) in the consumer's price was surprisingly highest. That was probably resultant from the relatively adequate marketing information at the producers level which improve their bargaining power and enable them to decide the effective season and the receiver from whom they were worthy of the optimum return from cattle sell.

Table 8: Marketing Margin of Cattle for Breeding via Ginchi Livestock Marketing routes

Suppliers	Channels	Ginchi Terminal Market			Sebeta Terminal Market		Olonkomi Terminal Market		
		CH I	CH II	CH III	CH IV	CH V	CH VI	CH VII	CH VIII
Gindeberat	TGMM	**	9.92	12.04	16.08	25.05	**	15.18	8.70
	GMM_{FT}	**	1.12	**	2.10	**	**	4.79	**
	GMM_{ST}	**	9.06	12.04	4.8	6.30	**	10.92	8.70
	GMM_{RT}	**	**	**	9.18	18.75	**	**	**
	GMM_{P}	**	89.91	87.96	83.91	74.95	**	84.82	91.30
Abuna Gindeberat	TGMM	**	9.92	7.59	15.15	19.92	**	13.82	8.43
	GMM_{FT}	**	1.68	**	2.13	**	**	5.09	**
	GMM_{ST}	**	8.38	7.59	5.22	7.77	**	9.19	8.43
	GMM_{RT}	**	**	**	7.80	12.15	**	**	**
	GMM_{P}	**	90.09	92.41	84.85	80.08	**	86.18	91.57
Jeldu	TGMM	**	12.68	8.48	17.14	19.75	**	9.91	6.28
	GMM_{FT}	**	0.98	**	1.86	**	**	2.80	**
	GMM_{ST}	**	11.85	8.48	5.54	4.16	**	7.33	6.28
	GMM_{RT}	**	**	**	9.74	15.59	**	**	**
	GMM_{P}	**	86.24	91.52	82.86	80.25	**	90.09	93.72
Ilfeta	TGMM	**	9.13	7.25	15.38	16.08	**	**	**
	GMM_{FT}	**	1.47	**	2.00	**	**	**	**
	GMM_{ST}	**	7.78	7.25	7.08	3.12	**	**	**
	GMM_{RT}	**	**	**	6.30	12.96	**	**	**
	GMM_{P}	**	90.87	92.75	84.62	83.92	**	**	**
Dendi	TGMM	**	3.82	**	13.35	13.80	4.64	**	**
	GMM_{FT}	**	3.82	**	2.78	**	4.64	**	**
	GMM_{RT}	**	**	**	10.08	10.08	**	**	**
	GMM_{P}	100	96.18	**	86.65	89.20	**	**	**

Source: Own computation from the survey data

Table 9: Marketing Margin of Cattle for Traction via Ginchi Livestock Marketing routes

Suppliers	Channels	Ginchi Terminal Market			Sebeta Terminal Market		Olonkomi Terminal Market		
		CH I	CH II	CH III	CH IV	CH V	CH VI	CH VII	CH VIII
Gindeberat	TGMM	**	8.84	7.41	15.44	12.47	**	8.7	7.52
	GMM_{FT}	**	1.06	**	2.72	**	**	2.06	**
	GMM_{ST}	**	7.86	7.52	4.94	3.72	**	8.5	7.41
	GMM_{RT}	**	**	**	7.78	8.75	**	**	**
	GMM_{P}	**	91.16	92.48	84.56	87.53	**	91.3	92.6
Abuna Gindeberat	TGMM	**	7.22	6.62	19.51	14.91	**	6.9	6.69
	GMM_{FT}	**	1.55	**	2.25	**	**	1.7	**
	GMM_{ST}	**	5.8	6.62	6.41	5.17	**	6.8	6.69
	GMM_{RT}	**	**	**	10.85	9.74	**	**	**
	GMM_{P}	**	92.78	93.38	80.49	85.09	**	93.1	93.31
Jeldu	TGMM	**	5.6	5.11	14.68	9.43	**	6.5	5.54
	GMM_{FT}	**	1.15	**	1.2	**	**	1.87	**
	GMM_{ST}	**	4.5	5.11	4.71	3.09	**	6.36	5.54
	GMM_{RT}	**	**	**	8.77	5.53	**	**	**
	GMM_{P}	**	94.4	94.89	85.32	90.57	**	93.5	94.46
Ilfeta	TGMM	**	4.7	3.71	9.52	8.83	**	**	**
	GMM_{FT}	**	1.47	**	1.53	**	**	**	**
	GMM_{ST}	**	3.27	3.71	**	5.08	**	**	**
	GMM_{RT}	**	95.31	96.29	7.99	3.75	**	**	**
	GMM_{P}	**	98.03	**	90.48	91.17	**	**	**
Dendi	TGMM	**	1.66	**	6.12	5.6	4.48	**	**
	GMM_{FT}	**	**	**	1.38	**	4.48	**	**
	GMM_{RT}	**	**	**	4.9	5.6	**	**	**
	GMM_{P}	100	98.78	**	93.89	94.4	95.52	**	**

Source: Own computation from the survey data

Table 10: Marketing Margin of Cattle for Slaughter via Ginchi Livestock Marketing routes

Suppliers	Channels	Ginchi Terminal Market				Burayu Terminal Market		Addis Ababa Terminal Market			
		CH I	CH II	CH III	CH IV	CH V	CH VI	CH VII	CH VIII	CH IX	CH X
Gindeberat	TGMM	**	24.78	31.75	24.53	26.56	25.18	32.05	47	38.46	38.42
	GMM_{FT}	**	1.44	3.37	**	2.12	**	3.11	**	2.87	**
	GMM_{ST}	**	11.14	12.98	13.47	5.82	8.64	5.85	14.03	7.07	8.56
	GMM_{RT}	**	**	**	**	5.83	6.43	6.35	10.9	6.7	7.8
	GMM_B	**	**	18.83	12.78	15.4	12.48	20.46	30.83	36.87	26.96
	GMM_P	**	75.23	68.26	75.47	73.44	74.82	67.95	53	61.54	61.58
Abuna Gindeberat	TGMM	**	23.2	26.9	28.77	24.55	29.34	34.5	38.65	44.74	36.98
	GMM_{FT}	**	2.39	1.63	**	1.51	**	3.07	**	5.55	**
	GMM_{ST}	**	10.86	13.06	15.88	3.8	8.88	3.95	9.11	9.98	8.78
	GMM_{RT}	**	**	**	**	5.56	9.95	6.81	7.62	9.79	7.33
	GMM_B	**	**	14.53	15.32	15.93	13.89	24.5	26.94	28.02	25.46
	GMM_P	**	76.8	73.1	71.23	75.45	70.66	65.5	61.35	55.26	63.02
Jeldu	TGMM	**	18.51	27.22	23.62	26.22	23.75	29.01	31.84	34.9	35.94
	GMM_{FT}	**	0.74	2.09	**	2.45	**	2.16	**	2.12	**
	GMM_{ST}	**	7.79	9	9.45	2.75	7.57	5.26	5.59	4.79	5.04
	GMM_{RT}	**	**	**	**	5.79	5.35	4.6	4.54	6.41	5.59
	GMM_B	**	**	18.32	15.65	17.46	12.85	19.73	24.37	25.38	19.63
	GMM_P	**	81.49	72.78	76.38	73.78	76.25	70.99	68.16	65.09	72.06
Ilfeta	TGMM	**	20	22	19.72	28.45	26.76	28.1	30.45	34.14	36.24
	GMM_{FT}	**	0.32	2.28	**	2.16	**	1.63	**	2.43	**
	GMM_{ST}	**	8.69	7.4	9.04	3.15	6.70	3.48	4.02	4.37	6.94
	GMM_{RT}	**	**	**	**	6.1	8.85	5.23	6.82	7.51	9.12
	GMM_B	**	**	13.8	17.19	19.59	13.66	20.1	21.44	23.69	31.16
	GMM_P	**	80	78	75.33	71.55	72.86	71.9	65.02	65.9	58.22
Dendi	TGMM	13.26	16.88	14.44	13.86	24.6	21.47	28.16	36.28	35.22	33.46
	GMM_{FT}	**	3.14	2.25	**	1.96	**	2.52	**	3.15	**
	GMM_{RT}	**	**	**	**	6.68	5.76	3.88	4.83	5.67	9.61
	GMM_B	**	**	12.47	16.54	21.34	16.67	23.33	6.7	29.1	29.7
	GMM_P	100	83.12	85.56	81.67	75.41	78.53	71.84	63.72	65.86	63.54

The results of this study also revealed that relative share of producers of consumer's price was the highest in the entire channels with the exception of Channel IV and Channels V which were opted with insignificantly lower producer's share (Tables 8 and 9). Unlike the live cattle marketing of the current study, the share of the producer of cattle for slaughter was lower, but it was still higher than the share other market actors (Table 10). The producers' share in other channels was lower than channel one because the producers sold their produce through the traders (traders of all scales including butchers) who reaped away large amount from the consumers Birr. The higher share of producers of the consumer's price was an indication that the proportion of the consumer price going to the farmer was favorable. In terms of net price received by the producer in all channels, it was foremost the same neglecting the cost of the producers for its difficulty for the researcher to estimate.

The share of the market actors was different along each channel. For instance, in the channel where the supplier traders to Ginchi Livestock Market was the ultimate actors they were the earner of the largest gross marketing margin however it was the receiver traders who collected the highest gross marketing margin in case the movement of cattle extended to other market center subsequent of being received from Ginchi Livestock Market Center. Farmer traders were the collectors of the lowest gross marketing margin since there was an unimportant gap between the purchasing price from producers in their locality and the selling price to the proximate primary market.

4.1.7.2 Profit Margin Analysis

The dealer who engaged in transacting various categories of cattle from the producer to the final consumer has been making their profit from the difference between the price at which they purchase from the producers and that at which they sell it to consumers as it is presented in Tables 11, 12 and 13 for detailed illustration of the profit margin of cattle for breeding, cattle for traction and cattle for slaughter, respectively. The higher the numbers of those actors in a commodity market the more profit they retain for their services whether they added value to the traded item or not. Tables 11, 12 and 13 demonstrate the total profit and profit that each actor along the chain made from cattle for breeding, for traction and for slaughter, respectively.

Table 11: Estimated Gross Profit Margin and Profit Margin of Various Actors for Marketing Cattle for Breeding (in Birr)

Suppliers	Channels	Ginchi Terminal Market			Sebeta Terminal Market		Olonkomi Terminal Market		
		CH I	CH II	CH III	CH IV	CH V	CH VI	CH VII	CH VIII
Gindeberat	TGPM	**	387.38	343.74	670.34	830.8	**	429.90	275.32
	GPM_{FT}	**	14.18	**	16.35	**	**	34.86	**
	GPM_{ST}	**	85.82	100	12.17	23.82	**	65.14	100
	GPM_{RT}	**	**	**	71.48	**	**	**	**
Abuna Gindeberat	TGPM	**	360.87	272.28	471.39	665.6	**	363.03	263.18
	GPM_{FT}	**	19.34	**	18.80	**	**	39.15	**
	GPM_{ST}	**	80.65	100	18.46	35.10	**	57.82	100
	GPM_{RT}	**	**	**	62.74	64.9	**	**	**
Jeldu	TGPM	**	542.91	244.78	560.08	636.2	**	293.18	200.28
	GPM_{FT}	**	8.86	**	14.10	**	**	35.19	*
	GPM_{ST}	**	91.14	100	42.10	16.67	**	54.57	100
	GPM_{RT}	**	**	**	43.80	83.33	**	**	**
Ilfeta	TGPM	**	335	205.07	538.09	528.90	**	**	**
	GPM_{FT}	**	17.30	**	15.30	**	**	**	**
	GPM_{ST}	**	82.70	100	36.51	19.65	**	**	**
	GPM_{RT}	**	**	**	48.19	**	**	**	**
Dendi	TGPM	94	135	**	350.08	370.91	150.08	**	**
	GPM_{FT}	**	100	**	28.84	**	100	**	**
	GPM_{ST}	**	**	**	**	**	**	**	**
	GPM_{RT}	**	**	**	71.16	100	**	**	**

Table 12: Estimated Gross Profit Margin and Profit Margin of Various Actors of Marketing Cattle for Traction (in Birr)

Suppliers	Channels	Ginchi Terminal Market			Sebeta Terminal Market		Olonkomi Terminal Market		
		CH I	CH II	CH III	CH IV	CH V	CH VI	CH VII	CH VIII
Gindeberat	TGPM	**	396.8	267.47	548.96	604.51	**	302.77	299.3
	GPM_{FT}	**	14.98	**	23	**	**	31.8	**
	GPM_{ST}	**	86.15	100	23.77	21.07	**	68.2	100
	GPM_{RT}	**	**	**	53.23	78.93	**	**	**
Abuna Gindeberat	TGPM	**	328.5	277.15	843.8	686.4	**	299.4	270.2
	GPM_{FT}	**	17.6	**	16.55	**	**	32.4	**
	GPM_{ST}	**	75	100	20.2	29.74	**	67.6	100
	GPM_{RT}	**	**	**	63.25	70.26	**	**	**
Jeldu	TGPM	**	341.18	209.62	723.25	499.05	**	305.87	337.14
	GPM_{FT}	**	21.12	**	12.64	**	**	35.5	**
	GPM_{ST}	**	76.5	100	37.57	28.4	**	64.5	100
	GPM_{RT}	**	**	**	49.79	71.6	**	**	**
Ilfeta	TGPM	**	226.11	161.61	454.94	465.12	**	**	**
	GPM_{FT}	**	38.73	**	19.43	**	**	**	**
	GPM_{ST}	**	66.21	100	25.97	48.86	**	**	**
	GPM_{RT}	**	**	**	54.6	51.14	**	**	**
Dendi	TGPM	111.47	350.90	**	304.14	239.43	269.73	**	**
	GPM_{FT}	**	35.62	**	24.52	**	100	**	**
	GPM_{ST}	**	**	**	75.48	**	**	**	**
	GPM_{RT}	**	**	**	**	100	**	**	**

Table 13: Estimated Gross Profit Margin and Profit Margin of Various Actors of Marketing Cattle for Slaughter (in Birr)

Suppliers	Channels	Ginchi Terminal Market				Burayu Terminal Market		Addis Ababa Terminal Market			
		CH I	CH II	CH III	CH IV	CH V	CH VI	CH VII	CH VIII	CH IX	CH X
Gindeberat	TGPM	**	1762.42	2122.38	1869.08	2389.4	2113.68	1900.56	3096.99	4085.51	3440.43
	GPM_{FT}	**	23.31	9.28	**	7.74	**	12.54	**	5.4	**
	GPM_{ST}	**	75.07	34.86	54.06	15.70	34.28	25.05	21.83	14.3	18.6
	GPM_{RT}	**	**	**	**	17.01	22.68	22.09	13.6	10.44	21.6
	GPM_{B}	**	**	55.86	34.97	67.29	43.63	52.86	64.57	69.86	59.8
Abuna Gindeberat	TGPM	**	1874.87	2305.25	2134.05	2559.52	2302.78	2819.84	2945.22	3268.85	3212.41
	GPM_{FT}	**	20.24	5.45	**	5.67	**	7.09	**	8.54	**
	GPM_{ST}	**	75.71	45.39	42.67	9.68	28.44	9.50	18.65	17.04	19.11
	GPM_{RT}	**	**	**	**	16.40	30.17	14.14	30.08	14	13.11
	GPM_{B}	**	**	49.16	57.33	68.25	41.39	69.27	51.27	60.42	67.78
Jeldu	TGPM	**	1591.73	2251.97	2212.58	2275.96	1947.59	3007.56	3164.47	3562.49	4104.14
	GPM_{FT}	**	14.19	6.82	**	8.81	**	6.32	**	4.7	**
	GPM_{ST}	**	80.60	32.27	37.41	9.06	33.52	16.23	14.59	11.14	12.05
	GPM_{RT}	**	**	**	**	15.38	25.03	11.65	32.25	11.24	14.15
	GPM_{B}	**	**	60.91	62.59	66.75	41.45	65.8	53.16	72.92	73.8
Ilfeta	TGPM	**	1520.6	1769.12	1309.27	2396.82	2430.05	2876.42	2760.50	3134.53	3388.38
	GPM_{FT}	**	11.62	10.13	**	6.69	**	5.02	**	5.7	**
	GPM_{ST}	**	86.52	34.09	47.57	9.03	19.80	11.11	17.90	10.7	14.02
	GPM_{RT}	**	**	**	**	16.72	30.25	13.43	34.69	14.15	20.27
	GPM_{B}	**	**	55.78	52.40	67.56	49.95	70.44	47.41	69.45	65.71
Dendi	TGPM	858.88	1301.32	1131.71	997.90	2406.74	250.03	2634.42	3188.30	3419.06	3057.13
	GPM_{FT}	**	100	32.13	**	7.4	**	7.98	**	6.99	**
	GPM_{ST}	**	**	**	**	**	**	**	**	**	**
	GPM_{RT}	**	**	**	**	21.54	21.29	17.30	26.70	8.46	22.56
	GPM_{B}	100	**	64.87	100	71.06	78.42	74.72	70.90	84.55	76.34

Note: ** indicates non existence of the value of the same row in the channel heading the column

Scrutinizing further into profit distribution of various categories of cattle along the value chains of Ginchi Livestock Market, the total gross profit margin (TGPM) was expressed to be larger as both the cattle for breeding and cattle for traction were moved away from their native area (Tables 11 and 12). It was highest for Channel IV and Channel V (with varying value) of marketing cattle for breeding and for traction. Producers of all districts followed by the supplier traders (in the channel where it was the final actors) were found to be the highest earner from cattle for breeding and for traction (Tables 11 and 12). Regardless of the producers who fetched the largest share of profit on the course of cattle sale, none of other actors have been getting the profit equivalent to the traders receiving cattle for breeding and cattle for traction from Ginchi Livestock Market to the final terminal market (Tables 11 and 12). On the other hand, the farmer traders of the entire districts who collected cattle for breeding and for traction at the village level for delivering to the respective primary markets were found to lead from tail (Tables 11 and 12). These all results revealed that the longer channels were comparatively profitable for sale of cattle in the study area. It was noted that all the situation of cattle for slaughter was apart from the other categories of cattle. The variation of marketing channels for cattle transaction and the enormity of selling price of slaughter product which could by no way be weighed with the purchase price and thus amplified the profit of some actors with the ignorance of the producers made it unique. Butchery was reporting that there was an instance of widening the profit margin when they sourced the cattle from the distant market center. This route enabled the butchery owners to accrue significant savings from lower purchase prices (that offset additional transport costs). However, the increase in the profit margin was not transferred to the producer.

4.1.8 Challenges and Opportunity of Cattle Marketing via Ginchi Livestock Market

Cattle marketing was constrained with some problems whose severities were mattered with various factors like seasons of marketing, locational discrepancy of cattle production and the market, and embedded environment factors that they were independently segmented via market to which they belong and roles of actors cattle marketing. Generally, the tradition route of stock marketing which was characterized with poor feeding, watering and transportation facilities has been stressing which, in

turn, accounted for the substantial downfall of cattle price. The entire traders were likewise indicating that animals were suffered considerable weight loses associated on hoof transportation practice. The farmers were complaining for multiple taxation system where they were forced to pay annual tax for producing and taxation at market entrance; even those who wanted to take back their animals' home for they could not sell at the price they expected were forced to pay the tax at the entrance of the respective market center enclosure. To avoid such taxation, a number of farmers and traders were observed keeping their animals outside of the market enclosure. Butchery men complained about the heavy annual tax to be paid frequently to the Revenue and Custom Authority in addition to the lessened off-take of slaughter product. It was investigated that the procedure for tax levying was not transparent and the weakened rules and regulation of monitoring cattle and its slaughter product marketing were aggravating the meat price to the consumer and that might be the cause for declining per capita consumption. Such a procedure would be more likely to open up ways for corruption. The fasting days by the Orthodox Christians when a large part of the population does not consume meat products for about 200 days per year has paramount importance in impeding cattle for slaughter marketing. Unlike the pastoral area where younger stock are purchased for feeding and finishing on feedlots, the older and exhausted oxen by draughting at the end of productive life with less acceptance for edible carcass was utilized for slaughter. The custom of keeping the records of costs by the producers and small dealers was not usual and thus it was difficult to capture all the costs incurred by producers and small dealers for appropriate estimation of marketing efficiency.

Nonetheless of those impinging factors, the area is resemble to be the potential land for cattle marketing development due to mainly the immense cattle stock and the plenty of feed resources from crop residue which allow the producers to have an incentive to further expand cattle for market. The proximity of the area to the market center of the central country specifically Addis Ababa and the newly booming towns like Ambo, Ginchi, Holeta and Burayu, where the demand for cattle and cattle product was considerably higher, was an opportunity of cattle marketing. The generalized growing domestic demand, which results from increased urbanization and rising population, offers significant incentive for increased market oriented cattle

production. For those well aware of its benefit, deployment of development agents at each PAs based on their academic background and provision of infrastructure facilities like telecommunication are also important opportunity dimensions that facilitate the marketing of cattle in the study area.

4.2   Empirical Results of Gross Marketing Margin

Prior to running the regression, all the hypothesized explanatory variables were checked for the existence of multicollinearity problem. The study used Variance Inflation Factor (VIF) to investigate the degree of multicollinearity among continuous explanatory variables and Contingency Coefficient (CC) among discrete (dummy) variables which was computed employing a statistical package known as SPSS of window version 20. The values of VIF ranged from 3.822 to 136.923, 2.023 to 54.523, and 2.521 to 8.293 for the cattle for breeding, traction and slaughter, respectively (Appendix 2). The computation revealed that there was problems collinearity among the variables for the analysis of gross marketing margin of breeding and traction cattle. The result of stepwise methods of linear regression indicated that it was specifically marketing cost and selling price which were strongly correlated that is resultant in the difficult of estimating the relative contribution of each variable to the prediction of gross marketing margin. As long as the model satisfies the residual assumptions and has a satisfactory predicted R^2 a model with a multicollinearity problem can produce great predictions since the severity can be removed simply by standardizing the predictors. Likewise, the values of CC ranged from 0.708 to 0.713, 0.092 to 0.374 and 0.708 to 0.713 for breeding, traction and slaughter cattle, respectively (Appendix 3). On the other hand, multicollinearity could not be suspected and was not a serious problem among the continuous variables in the case of cattle for slaughter.

The overall goodness of fit of the regression model is measured by the coefficient of determination (R^2). It tells what proportion of the variation in the dependent variable is explained by the explanatory variables. In this model, estimating the coefficient of determination (R^2) indicated that about 91%, 91.4%, and 98.6% of changes in the gross marketing margin of cattle for breeding and traction, and slaughter product have been described by variables inserted in the model, respectively.

Using the standard regression procedure where all of the explanatory variables were entered simultaneously into the model, the overall regression effect of the model for the entire three categories of cattle were statistically significant (p = 95%) indicating that prediction of the dependent variable, the gross marketing margin (GMM), was accomplished better than can be done by chance (Appendix 1). The value of the constant substantively implied that the predicted value of gross marketing margin is equal to 2.597, -73.185 and 192.581 for breeding, traction and slaughter cattle, respectively.

The estimation of the variables influencing gross marketing margin indicated that some variables were positively and others were negatively affecting, except the dummy variable particulate to mode of transportation which did not. Despite the additional cost incurred from trucking cattle via vehicle than trekking on hoof, insignificant difference of predicting gross marketing margin was observed for mode of transportation. That was because the actors were deprived off the advantage of reduced transportation cost by other costs like feeding, trekker and herder, and rent of night time staying as trekking required longer days. To further examine which independent variables significantly predicted the dependent, the result of regression coefficients (p = 95%) of cattle for breeding, traction and slaughter was summarized as depicted in Tables 14, 15 and 16, respectively.

The relative contribution of variable with varying unit of measurement to the model was given by Standardized Beta Coefficients. Here the results of the estimation showed that gross marketing margin function of cattle for breeding had a direct and significant relationship with NACH, MC, DCM, and SPC in the way that one unit increase in all the respective variables caused 0.003, 0.005, 0.011 and 3.717 units increase in gross marketing margin, respectively. Whilst it was negatively for PPC with one unit increment of the variable resulted in 0.983 unit decrease of gross marketing margin, after controlling for the other variables in the model (Table 14).

Table 14: Coefficients of Regression Analysis of GMM for Cattle for Breeding

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.597	3.909		0.664	0.509
NACH	0.942	1.235	0.003	0.763	0.045
MC	0.015	0.030	0.005	0.506	0.048
DCM	0.048	0.027	0.011	1.770	0.041
AMI	-0.419	1.383	-0.001	-0.303	0.037
MT	-0.556	2.417	-0.001	-0.230	0.438
PPC	-0.983	0.007	-3.495	-145.864	0.000
SPC	0.982	0.007	3.717	140.866	0.000

$R^2 = 0.91$

$R^{-2} = 0.90$

F value = 28087.749

Table 15: Coefficients of Regression Analysis of GMM for Cattle for and Traction

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-73.185	77.154		-0.949	0.346
NACH	35.361	14.492	0.124	2.440	0.017
MC	1.071	0.333	0.325	3.214	0.002
DCM	0.859	0.354	0.194	2.428	0.018
AMI	-22.691	20.790	-0.040	-1.091	0.079
MT	35.340	34.663	0.057	1.020	0.535
PPC	-0.424	0.063	-1.786	-6.764	0.000
SPC	0.419	0.061	1.733	6.860	0.000

$R^2 = 0.914$

$R^{-2} = 0.905$

F value = 102.165

Table 16: Coefficients of Regression Analysis of the Variables for GMM of Cattle for
Slaughter

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	192.581	213.020		0.904	0.369
NACH	35.371	19.803	0.042	1.786	0.049
MC	0.363	0.507	0.030	0.717	0.047
DCM	0.604	0.369	0.040	1.635	0.017
AMI	-66.234	31.901	-0.032	-2.076	0.042
MT	-51.801	48.005	-0.031	-1.079	0.225
PPC	-0.986	0.026	-1.456	-37.394	0.000
SPSP	1.004	0.027	1.525	37.238	0.000

$R^2 = 0.986$

$R^{-2} = 0.984$

F value = 648.655

The regression coefficients of the gross marketing margin of cattle for traction and slaughter also exhibited similar condition that was observed in cattle for breeding. Estimating parameters related to the dummy variables, access to marketing information, demonstrated that gross marketing margin was apparently reduced for producers with access to marketing information (Tables 14, 15 and 16). Various scholars also explained that accurate and timely market information enhances market performance by improving the knowledge of buyers and sellers concerning prices, price trends, and demand conditions at each level of the market (Scarborough and Kydd, 1992; Khol and Uhls, 1985). Thus, as long as awareness and knowhow of the actors on the effect of animal stress toward cattle meat quality and breeding and traction performance was less, estimating coefficient of mode of transportation was not significantly important.

CHAPTER FIVE

CONCLUSIONS AND POLICY IMPLICATIONS

5.1 Conclusions

From the results of this study it is possible to wind up that cattle marketing via Ginchi Livestock Market were dominantly enriched with Cattle for breeding, traction & for slaughter. These cattle were originated from Gindeberat, Abuna Gindeberat, Jeldu, Ilfeta & Dendi districts, & other supplier enroute to the ultimate utilizers following very short to elongated channels. The main marketing agents, through whom various categories of cattle were channeled from producer to final consumers, were producers, farmer traders, supplier traders, receiver traders, and butchery men. Calculation of gross marketing margin (GMM) indicates that the producer portion of the entire price of the breeding, traction and slaughter cattle is more than that of life cattle selling and slaughter product retailing. The total gross profit margin (TGPM) was highest in Channel V and Channel IV for the Cattle meant for Breeding and Traction. Of this, TGPM the largest share was taken by the supplier traders for the actors whose terminal market was exclusively Ginchi Livestock Market, but for the cattle further moved to other terminal market the traders receiving cattle from Ginchi Livestock Market was collected the largest share. Who so ever the supplier of cattle for slaughter were, the selling price of slaughter product at the respective terminal market was by no way be weighed by purchase price where the largest share was taken by butchery men. The gross marketing and profit margin of cattle for breeding, traction and slaughter were apparently highest in the channels with larger number of actors for marketing participation. In most instances, the tremendous drivers of GMM of cattle for breeding and traction, and slaughter product were number of actors in the marketing channels, marketing cost, distance to the cattle market, access to market information, purchasing price of cattle and selling price of cattle. All the variables, except access to market information and purchase price which were negatively and significantly affecting, all have positive and significant relationship with GMM. Surprisingly, mode of transportation did not affect GMM since the advantage of cost reduction from hoof trekking infrequently contributed in the lessening of selling price because of deriving off the advantage of reduced transportation cost by others

transaction costs. It is clear that, in this way, prices and GMM of cattle become more balanced by creating competition with dealers that are irrationally the main factor of increasing GMM. Knowledge of the determinants of the GMM of cattle for breeding, traction and for slaughter offers information to policy makers and cattle enterprise that may improve decision-making.

5.2 Policy Implications

Based on the descriptive and empirical results, the key policy recommendations can be suggested. Improvements in necessary public services and market infrastructure (like all seasoned roads to the market center and feeder roads which can promote cattle marketing in remote areas, and weighing scale, feeding trough and watering trough at the market center) are important for marketing development, generally, and narrowing the gross marketing margin, in particular. Selling prices is the most important factor in widening the gross marketing margin of various categories of cattle and thus it ought to be more balanced by creating competition with dealers. On the other hand, it is suggested that designing of systematic control strategies for the selling price of slaughter which may not be the cause for further aggravation should be necessitude so that the final sellers cannot be the main cause of increasing gross marketing margin. It is predicted that gross marketing margin has a significant increment with the increasing number of actors which in turn worsen the share of the producers to the consumer's price and thus policies related to its reduction can already be planned. Access to market information affected the gross marketing margin of various categories of cattle negatively and significantly since it increases producers' bargaining capacity to negotiate with buyers for the betterment of producers' price which in turn negatively and significantly affected the gross marketing margin and thus an institution that can convey reliable and timely market information required by all stakeholders simultaneously will sustainably in need. Capacity building programmes should be designed for the producers pertaining to when, how, for whom and how many of cattle to produce to the market. Moreover, there is a need for comprehensive research on the existing cattle marketing system, cattle marketing channels, marketing facilities, and factors influencing variation in cattle price across markets and over time in order to establish reliable marketing system.

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APPENDICES

Appendix 1: ANOVA of Gross Marketing Margin Regression for Various Categories of
Cattle

Categories of Cattle	Model	Sum of Squares	df	Mean Square	F	Sig.
Cattle for breeding	Regression	4256515.687	7	608073.670	28087.749	0.000[a]
	Residual	1407.190	65	21.649		
	Total	4257922.877	72			
Cattle for traction	Regression	3316493.488	7	473784.784	102.165	0.000[a]
	Residual	310709.658	67	4637.458		
	Total	3627203.147	74			
Cattle for slaughter	Regression	47723254.860	7	6817607.837	648.655	0.000[b]
	Residual	683174.263	65	10510.373		
	Total	48406429.123	72			
a. Predictors: (Constant), SPC, AMI, MT, NACH, DCM, MC, PPC						
b. Predictors: (Constant), SP, DCM, AMI, MT, NACH, PPC, MC						

Appendix 2: VIF for Testing of Multicollinearity of Continuous variables of Various
Categories of Cattle

Continuous Variables	Cattle for Breeding		Cattle for Traction		Cattle for Slaughter	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
Number of actors in the channel	0.262	3.822	0.494	2.023	0.397	2.521
Marketing cost	0.057	17.622	0.125	7.977	0.121	8.293
Distance to cattle market	0.131	7.630	0.201	4.970	0.372	2.689
Purchase price of cattle	0.009	112.943	0.018	54.523	0.143	6.980
Selling price of cattle	0.007	136.923	0.020	49.932		
Selling price of slaughter product	**	**	**	**	0.129	7.725

Source: Own Computation of Survey Data

Appendix 3: CC for Testing Multicollinearity of Dummy Variables of Various
Categories of Cattle

Categories of Cattle	Description	Access to Market Information	Mode of Transportation
Cattle for Breeding	Access to market information	1.000	0.708
	Mode transportation	0.713	1.000
Cattle for Traction	Access to market information	1.000	0.092
	Mode transportation	0.374	1.000
Cattle for Slaughter	Access to market information	1.000	0.708
	Mode of transportation	0.713	1.000

Source: Own computation from Survey Data

Appendix 4: Summary of Survey Questionnaires

A. **Cattle Producers Survey**

1. Name of the producer _____

2. District _____

3. Kebele_____

4. Education level _____

5. Indicate the category, the quantity and the price per head of cattle you sold today.

Category of cattle	Quantity of sold	Price per head of cattle

6. Why did you sell animals today?   a) For fertilizer loan and tax payment b) For
school fee payment   c) For replacement d) Due to family starvation e) Because
of the animal complete their productive life   f) To meet social obligation
(weddings, funeral services, etc)

7. What is the mode of cattle transportation you have been using?   a) Self
Trekking   b) Rental Trekking   c) Trucking

8. How many heads can one drove manage in the following mode of transportation?
a) Trekking _____ b) Trucking _____

9. How far is the desired terminal market for cattle selling from your vicinity?

    a) Trekking _____ b) Trucking _____

10. How long does it take you to arrive at the market you are selling cattle? _____

11. What is per head payment for rental trekking and trucking to various destinations?

Name of Markets	Per head payment Trekking	Per head payment for trucking

12. How long does it take you to clear the cattle supplied to market?   a) One single market day   b) Within 1 to 2 weeks   c) Within 2 to 3 weeks   d) Over 3 weeks

13. Which is the fastest season you clear cattle supplied to market? _____

14. Is there price variation in market you usually sell cattle?   a) Yes   b) No.

15. If yes, at what season could it be high or low and what could be the possible reasons you think?

Categories of cattle	Season for Increment	Season for Deterioration	Possible Reasons for Increment	Possible Reasons for Deterioration

16. Indicate the seasonal pattern of various categories of cattle supplied to market and its probable reasons.

Category of cattle	Season of selling	Probable reasons

17. To whom mostly do you sell the cattle?   a) Farmers who need for traction and breeding   b) Rural traders   c) Other traders   d) Consumers e) Restaurant f)Butchers g) Others (specify) _____

18. Why do you prefer to sell the cattle for indicated actor/s in Question No 17?

    _____

19. How do you undertake cattle selling?   a) Yourself   b) Brokers   c) Friends

    d) Partners   e) Others (Specify) _____

20. If brokers, how do you pay them per head of sold animal? _____

21. State the problems that brokers created on your business.   a) No problem due to

    their interference   b) I cannot sale without their participation   c) Unnecessary

    cost because of their interference

22. What are the possible lists of cattle marketing channels of your districts?

    _____

23. Which channel of marketing do you prefer for selling the cattle?

    _____

24. Why do you prefer the indicated channel for selling your cattle? _____

    _____

25. How much of various category of cattle are usually supplied to each channel of

    marketing?

Channel of marketing	Quantity of cattle for traction	Quantity of cattle breeding	Quantity of cattle for slaughter

26. Do you have market information before you supply cattle to market? a)Yes b) No

27. If yes, what is the source of information for your cattle marketing?   a) Public

    media (Radio, TV, etc)   b) Co-farmers   c) Farmers Organization

    d) Others (specify) _____

28. What are the main opportunities for cattle marketing of your districts?

    _____

29. What do you think are the main constraints for cattle marketing of your districts?

    _____

    _____

    _____

B. Cattle Traders Survey

1. Name of the trader _____   3. Kebele_____

2. District _____   4. Education level _____

5. Main Occupation a) Cattle trader b) Cattle Broker/Commission c) Butcher   d) If other please list _____

6. How long have you been in cattle trade?   a) Less than a year   b) 1 to 3 years c) 3 to 6 years   d) Over 6 years

7. From where did you purchase cattle? a) From village, name of village _____ b) From market, name of market _____

8. Which category of cattle did you prefer for trading and reasons for doing so?

Category of cattle	Reasons for trading the specific category

9. From whom do you usually purchase various categories of cattle? _____

10. Indicate the category, the quantity and the price per head of cattle you purchased today.

Category of cattle	Quantity purchased	Purchase Price per head of cattle

11. In what form do you pay the money to the seller of cattle?   a) In-cash   b) On credit c) In-kind

12. Do you obtain the maximum quantity of cattle you demand for purchase? a) Yes b) No

13. If No, why less?   a) Shortage of working capital   b) Sometimes price will be high c) Sometimes supply is low   d) The animals are too small in size to be demanded

14. Is there the practice of mobilizing the supplier of cattle at the season of better demand? a) Yes   b) No

15. If yes, who do it? a) Government agent   b) Farmers cooperative c) Employed agent by you c) Others (specify) _____

16. If done by employment, how much do you pay per head of animal? _____

17. What is the selling price per head of various categories of cattle you purchased?

Category of cattle	Quantity of sold	Price per head of cattle

18. Is there price variation in market you usually buy cattle?   a) Yes   b) No.

19. If yes, at what season it could be high or low and what could be the possible reasons?

Categories of cattle	Season for Increment	Season for Deterioration	Possible Reasons for Increment	Possible Reasons for Deterioration

20. Where is the source of the following categories of cattle you used to buy most of the time?

Categories of cattle	Source	Reasons
a. For traction		
b. For breeding		
c. For slaughter		
d. Any others		

21. Who will take care of your tradable cattle?   a) Yourself   b) Laborer   c) My family

22. If you use laborers, on what base and how much do you pay them?

Mode of Payment	Amount of Payment in Birr
a. On daily bases	
b. On monthly bases	
c. On yearly bases	
d. On per animal bases	
e. Any others	

23. Where do you supply the cattle you purchased today?   Region _____ Zone _____

    Woreda _____ Market _____ Distance from market _____

24. What is the mode of transportation you have been using?　　a) Self Trekking
b) Rental Trekking　　　　　　　c) Trucking

25. What is per head payment for trekking and trucking to various destinations?

Terminal Markets	Payment Trekking	Payment for trucking

26. How many heads can one drove manage?　a) Trekking _____ b) Trucking _____

27. How long does it take you to reach the cattle to the terminal market?

　　a) Trekking _____　　　　　b) Trucking _____

28. How long does it take you to clear the supplied cattle to market?　a) A single market day　b) Within 1 to 2 weeks　c) Within 2 to 3 weeks　d) Over 3 weeks

29. What do you do if you cannot sell the cattle offered to the market?

　　a) Take them back to home　　b) Take them to other market(s)　　c) Sell at lower price　d) Others (specify) _____

30. Where do you stay the cattle until you sell? _____

31. If you allow them in rental barn how much does it require per day? _____

32. To whom mostly do you sell the purchased cattle?　a) Other farmer who need the cattle for traction or breeding　b) Other traders　c) Brokers　d) Local collector for fattening e) Consumer f) Wholesaler after slaughter g) Retailer after slaughter h) Processors

33. Why do you prefer to sell the cattle for indicated actor/s in Question No 17?

　　_____

　　_____

34. How do you undertake cattle selling?　a) Yourself　b) Brokers　c) Friends　d) Partners

　　e) Others (Specify) _____

35. If brokers, what is the way and amount of payment?

Way of Payment	Amount of Payment
a. On animal bases	
b. On monthly bases	
c. On yearly bases	
d. Any others	

36. State the problems that brokers created on your business.   a) No problem due to their interference   b) I cannot sale without their participation especially in terminal market c) unnecessary cost because of their interference

37. Indicate the seasonal pattern of peak supply for cattle and its probable reasons.

Category of cattle	Season of peak supply	Probable reasons

38. Indicate the seasonal pattern of peak demand for cattle and its probable reasons.

Category of cattle	Season of peak demand	Probable reasons

39. What are the possible lists of cattle marketing channels of Ginchi Livestock Market?
_____

40. Which channel of marketing do you prefer for transacting of the cattle?
_____

41. Why do you prefer the indicated channel for transacting the cattle? _____
_____

42. How much of various category of cattle are usually supplied to each channel of marketing?

Channel of marketing	Quantity of cattle for traction	Quantity of cattle breeding	Quantity of cattle for slaughter

43. Do you fed the animals when trekking to terminal market?   a) Yes   b) No

44. If yes, please state the feed type with its cost per head of animal

Type of Feed	Average cost per head of Animal
a. Natural grass and water	
b. Natural grass and supplementary feed	
c. Crop residue and water	
d. Any others	

45. How many check points to pay tax until you reach the destination? _____

46. How much do you pay as tax per head of animal up to the final destination? _____

47. Do you have updated marketing information for cattle transaction? a)Yes   b) No

48. If yes, what are the source of information for your cattle marketing   a) Government organization   b) Other traders   c) Others (specify) _____

49. State problems you faced in the business of cattle trading?   a) Shortage of working capital   b) Problems of getting license   c) Due to price variation, there was entry and exit from the business   d) Unreasonable government tax payment e) Animals weight losses, lost and died   f) No problem faced

50. Have you ever quit this business?   a) Yes   b) No

51. If yes, what were reasons to quit?   a) Due to price variation I faced loss b) I could not get working capital   c) No organization lending money

52. At present what is your source of capital for functioning the business?   a) Formal credit institution   b) Rural moneylenders   c) From my own income

53. What are the opportunities for cattle marketing of Ginchi Livestock Marketing?

    _____
    _____
    _____
    _____

54. What do you think are the main constraints for cattle marketing of Ginchi Livestock Marketing? _____

    _____
    _____
    _____
    _____

C. Checklist for Butchery Men

1. Market Source of cattle purchased for slaughter with its rank based on the quantity of the animal obtained

Market source	Rank	Distance for slaughter house	Number of check point for taxation

2. Various cost of bringing cattle from market source to slaughter house

Type of cost	Cost incurred for various market source			
Animal purchase				
Transportation fee				
Taxation at check point				
Payment for laborer				
Feeds purchase				
Slaughtering service				
Others (Specify)				

3. Cost during selling carcass and other by-products

Type of cost	Cost incurred per a cattle
Loading and unloading fee	
Meat and other product seller	
Rent for butcher house	
Annual tax for government	
Others (Specify)	

4. Return from sell of various carcass and other by-product of slaughtered cattle

Carcass and by-product for sell	Quantity from a cattle	Unit price	Total price