

Analysis of Goats Marketing System (Structure, Conduct and Performance): A survey study of Zone One, Afar Regional State, Ethiopia

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Introduction

Markets are important for economic growth and sustainable development of any country. Though, emphases in development policies in agrarian countries have usually been placed on increasing agricultural production to serve as a base for rural development. In the absence of well-functioning markets, agricultural production has seen facing several drawbacks (Belay, 2009). An efficient, integrated and responsive market mechanism that is marketed with good performance has critical importance in stimulating farmers to increase production, generating suitable insensitive for suppliers and meeting consumers needs more accurately in terms of type, quality and quantity of supply. Similarly, an efficient, integrated and responsive market mechanism has a positive impact on the income of the producers, traders, exporters and other market participants in particular and the national economy in general. However, without having favorable marketing conditions, the possible increment in output, rural incomes and foreign exchange could not be effective (Endeshaw, 2007).

Ethiopia has the leading livestock population in Africa, estimated to be 81 million livestock population and the sector plays a vital role in general growth of the country's economy (CSA, 2013). However, as a result of unfavorable marketing conditions the prevailing income generating capacity of livestock and livestock products as compared to its immense potentials in the country has not been exploited. This is mainly because of poor marketing performance due to inadequate market facilities and services, poor access to markets and conditions, lack of requisite market information and shortage of credit service (Tesfaye, 2009).

Afar region has a large number of livestock population; of which goats encompass more than half of the total livestock population. Farmers in all, Afar region have total 1,853,798 cattle, 2,804,222 sheep, 4,467,901 goats and 570,581 camels (CSA, 2013, Roy B, 2010; BOFED, 2009;;LDMPS, 2006). Though, as a result of poor or inefficient performance market the existing income generating capacity of this animal as compared to its enormous potential in the region is not encouraging (Tesfaye, 2009). Since many of the pastoralists in Afar Region hold most of their wealth from goats, markets for this animal exert a great influence on their livelihoods, both in establishing their assets and by affecting herd management decisions.

In general, the performance of the goat marketing system in the region is poor inefficient characterized by oligopolistic market structure and high price instability.

One of the approaches which help to measure the efficiency of the market is structured; Conduct and Performance (SCP) model, which can complement the market margin analysis. It, is one of the most common methods of examining marketing performance efficiency. It analyzes the relationship between functionally similar firms and their market behavior as a group. This method basically based on the theory that market structure and market conducts can determine the performance of the market system (Andrew, 2008).

Market structure is the characteristics of the market participant that technically influence the market behavior in determining competition and pricing system. It is about the degree of sellers and buyer concentration, the condition of entry to and exit from goat trade, and the degree of market transparency (market information).

The first instrument to measure the market structure is the market concentration ratio Market concentration refers to the number and relative size of distribution of buyers and sellers in a market (Kohi and Uhis, 1985). It is also refers to the degree of buyer and seller concentration, Degree of market concentration (concentration ratio) refers to the total number of buyer/sellers and their size sharing to have a share in the market (Andrew, 2008)

The second one explains the condition of entry into and the exit from the goats' trade (barriers to enter into goat's trade) which includes managerial know-how, lack of working capital and legal constraints. Managerial know-how is about the ability and knowledge of goat traders and it was examined levels of traders' formal education and their business experiences. Business or trade experience refers to the number of years that the goat's traders stayed in goats trading activity. It guides a trader to do what, where, how and when decisions on goat's trading based on accumulated practical trade experience. Legal and Police Constraints also refers to the rules and regulations of the government (like Licensing) that may hinder to participate in business activities (Andrew, 2008; Tesfaye, 2008).

The other instrument is market price information flow within a market (Belay, 2009). Thus, for an efficient (competitive market), there should be sufficient number of firms (buyers and sellers).

The degree of market transparency (market information) refers to the timeless and reliability of the market information that the traders have for their marketing decision. In transparent market, participants have adequate information about their competitors, their source of supply and buying and selling price for better decision. This is a system required to distribute up-to-date market information to keep all livestock market participants for access of market information (price, time specific demands, quality information etc.). This allows all market participants to make well-informed judgments in making transactions. In live animal marketing system, however, information is held as a private property and not equally shared among the

different participants in the value chain and usually lacks trickle down consequence (Getachew et al, 2008). In this case, those that have the power to command the terms mainly those in the higher end of the chain seems, to act in favor of their own benefits. This forces farmers who do not have countervailing economic influence to also act in their own interests. The requisite quality and quantity demanded by the end-user does not appropriately go down to the lower ends of the chain (Solomon *et al*, 2010).

Market conduct refers to market behavior that the market participants adopting in pricing, buying and selling of the product in the market. These comprise price setting behavior, and buying and selling practices. In acceptable conduct, there are enough firms in the market to create some uncertainty about whether the price change ups and down; there is no collusion among different firms; there is no pricing or other matter (Belay, 2009; Mohammad A. J., 2006).

Market performance is about the result of the ultimate relation of market structure and conduct. The competition state and pricings are the element of market structure and conduct that considerably affect market performance conditioned with the overall marketing environment including police setting and economic conditions (Andrew, 2008; Mohammad A. J., 2006)

Thus, a study on the performance of the goat marketing system become essential to provide vital and valid information on the operation and efficiency of the goat marketing system for effective planning and policy formulation. This study, therefore, is an attempt to contribute its part in filling the information gap by conducting research on the structure, conduct and performance analysis of the goat marketing system in the Afar region, Ethiopia.

Objective of the Study

i. The General Objective

The general objective of the study is to analyze the structure, conduct and the performance of the goat marketing system in in zone-one, Afar region, Ethiopia.

ii. Specific Objectives

1. To analyze market concentration ratio is the goat marketing system of the study area.
2. To evaluate barriers to enter into goat's trade and degree of market transparency in goats marketing system of the study area.

METHODOLOGY

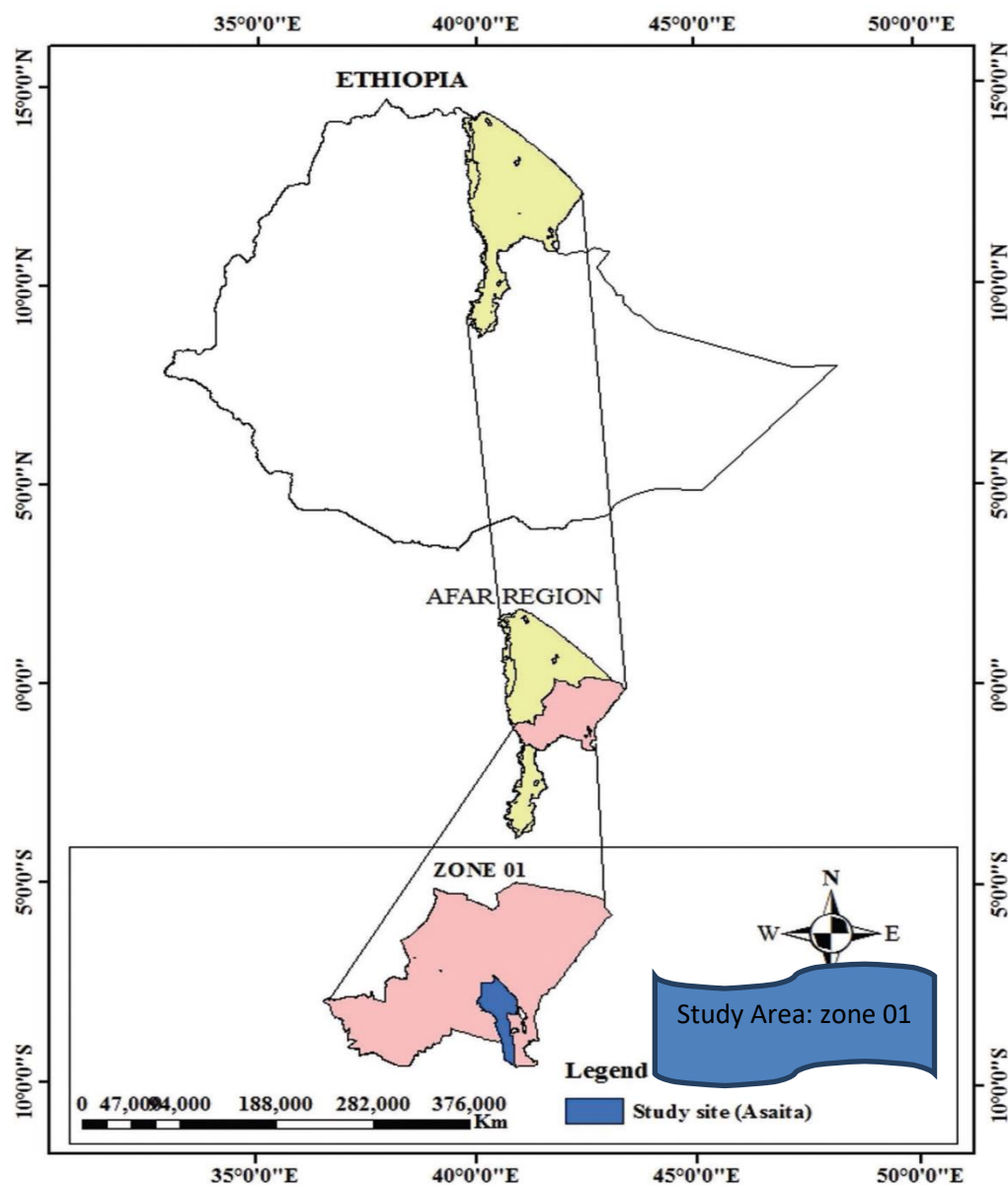
Description of the Study Area

Afar region is one of the nine regions of Ethiopia and contains the homeland of the afar people located in north east Ethiopia stretched from the north Danakil depression to south lowland Awash valley sharing international boundaries with Eritrea and Djibouti. The regional temperature is usually high and range from 12⁰c to 48⁰c. May, June and July are the hottest months and January and February the coldest months (BoFED, 2009).

The Region has five administrative zones. For the purpose of this study zone-1, which is largest and most livestock markets are concentrated is considered for the purpose of this study on the bases of the volume of animals marketed. Therefore, five well known markets called Assayita, Dupt, Logia, Mille and Chifira were selected.

Today, the country as well as the region on the way of free market economies which incite investment in the region. According to the investment data of the region, most of the region investments are in the agricultural sector which mainly concentrated in 6 woredas, namely Amibara, Gowane, Assayita, Dufti, Mille and Awash, which account 58.10 % of the regional agricultural investment. A huge sugar factory project called Tendaho sugar factory also established in the Assayita and Duftiworedas. But as a result of low fertility, rocky and sandy nature of the lands, only 3.20% of the lands used for cultivation (BoFED, 2009). That is only the recent years that efforts have been undertaken to provide basic infrastructure such as road and administrative building as well as basic health services and education. But, still it is in lower level compared to other regions in Ethiopia.

Figure 1: Map of the Study Area



Method and Materials

This study adopted both quantitative and qualitative research approaches. As such, the study used both quantitative and qualitative data collected from sample goats' traders at market place through structured interviews and group discussion. Regarding to its source, the study was based on both secondary and primary source of data. Primary sources were market participants like traders, and producers. For the purpose of this study the identified secondary sources were the reports of some governmental institutions (like CSA, Afar region finance and economic development bureau, Afar region livestock marketing promotion bureau) and websites.

The traders who employing themselves in goat trading business were used as a benchmark to the sample frame. Thus, to complete the survey goat traders working in the selected market location were interviewed. Also for additional needed data, group discussions among goat traders were conducted at the sample goat

trading centers. Therefore, depending on trend of other studies from five selected market outlets 80 goat traders were selected for interview purpose.

Table 1: The number of traders and sample size in selected market places

No	Trader Location	No. of Traders	No. of Sample Traders (34%)
2	Asayita	65	22
3	Mille	36	12
4	Chifra	57	19
5	Logia	38	13
6	Dupt	40	14
	Total	236	80

Source: Survey Result during Pilot Study 2018

The data were gathered within two months from March-April, 2018. The accomplished survey forms were collated, encoded, statistically analyzed and interpreted.

Descriptive methods of data analysis were used to meet the objective of the study. For the analysis of data the pre-coded data of the research were entered to gather into a computer and analyzed using the statistical package for social science (SPSS V. 21.0).

To examine and describe the existing situation descriptive statistics: like frequency and percentage were employed. Others analytical tool like market concentration ratio analysis was also employed to evaluate the market share of traders and market conduct in relation to marketing performance of the goats marketing system in the study area. Concentration ratio Measures the concentration of firm in the market. It is the commonly used measure of market structure, which refers to the number and relative size of buyers in the market.

$$C = \frac{\sum_{i=1}^r s_i}{\sum_{i=1}^r s_i} \text{-----} 1$$

Where :s_i is the percentage market share of the ith farm, r is the number of relatively large farms for which the ratio is going to be calculated

Kohl’s and Uhi (1985) for four largest traders concentration ratio of 50% or more is an indication of strong oligopolistic market, 33%-50% implies weak oligopolistic market, and below 33% indicates competitive market structure.

Results and Discussion

Market Structure, Conduct and Performance Analysis

Market Structure

Market structure is about the degree of sellers and buyer concentration, the degree of market transparency (market information), and the condition of entry to and exit from goat trade. The first instrument to measure the market structure is the market concentration ratio (Andrew, 2008). The second one explains the condition of entry into and the exit from the goats' trade and it includes managerial know-how, lack of working capital and legal constraints. The other instrument is market price information flow within a market (Belay, 2009). Thus, for an efficient (competitive market), there should be sufficient number of firms (buyers and sellers). The firms of the appropriate size are needed to fully capture economy of size; there should be no barrier to entry into and exit from markets and should have full market information.

The Degree of Market Concentration

Market concentration refers to the number and relative size distribution of buyers and sellers in a market. The degree of market concentration was carried about all sample markets. It was measured by the percentage of goats handled by the largest four traders (Kohi and Uhis, 1985). The survey result shows the existence of strongly oligopolistic market structure in Assayita market having CR4 60%. Dupt, Chifra and Mille markets are characterized by weak form of an oligopolistic market structure having CR4 47%, 44%, and 42% respectively. Logia market is the only competitive market having a low (24%) concentration index value (Table 2). This is may be its location near to capital city of the region called Samara which is not more than 10km. Because of this many hotel and restaurant owners participated.

Table 2: Concentration Ratio

Markets	Trade-A		Trade-B		Trade-C		Trade-D		Others		Total Volu me	CR4 (%)
	Volu me	%	Volu me	%	Volu me	%	Volu me	%	Volu me	%		
Ayssita	60	20	45	15	38	13	37	12	120	40	300	60
Dupt	50	17	40	14	20	7	20	7	150	53	280	47
Logia	30	9	30	9	10	3	10	3	240	76	320	24
Chifra	40	16	30	12	20	8	20	8	140	56	250	44

Mile	30	13	30	13	20	8	20	8	140	58	240	42
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Source: Own Survey, 2019

Barriers to Enter into Goats Trade

Managerial know-how

Managerial know-how for this study refers to the ability knowledge of goat traders and it was examined levels of traders' formal education and their business experiences. The results of the traders survey indicates that 19% of the traders did not have education, 25% of the respondents can read and write, which 31% had an elementary school. A majority of the respondents (75%) were with primary level of education. From this, we can conclude that the level of formal education did not seem to be a barrier to entry into the goat market (Table 3).

Table 3: Sample of Goat's Traders by Level of Formal Education.

Educational status	Frequency	Percent
Illiterate	15	19
Read and write	20	25
Elementary school	25	31
Secondary school	15	19
Above secondary school	5	6
Total	80	100.0

Source: Own Survey, 2019

Business Experience

Business or trade experience of traders refers to the number of years that the goat's traders stayed in goats trading activity. It guides a trader to do what, where, how and when decisions on goat's trading based on accumulated practical trade experience. From the survey, it was found out that most of the respondents had been in goats trading activity for more than three years. Out of the survey traders 77.5% of the respondents had business experience of more than three years (Table 4). From this it is clear that business experience is one of the barriers to entry into the goat trading business. This is because most of the traders participating in goats marketing activity are experienced.

Table 3: Sample of Goats' Traders by Business Experience.

Experience	Frequency	Percent
<1 year	8	10
1 -3year	10	12.5
>3 years	62	77.5
Total	80	100.0

Source: Survey Result, 2019

Working Capital

Working capital refers to the amount of money required by goat's traders to enter the goat trading business. One of the most important requirements of efficient marketing system is the availability of financial support, mainly, to increase marketing activities. According to Ayen M, (2004), one of the constraints to marketing of livestock is access to capital. Fortytwo(52.5%) of traders involved in the survey responded that their main source of capital was their own, while 15%, 15%, 11%, and 6% of respondents indicated that their source of capital were credit, friends and relatives without any interest, Ekub and other traders respectively (Table 4). The trader's survey result indicates that from total respondents 57.5% of respondents did not want to borrow money from any source. This is mainly because of their religion. Especial those Muslim traders have no interest to borrow money from any source. Only 42.5% of the respondents have the interest to have credit. But from those who have an interest to have credit, 65% of them have no access to credit from any source. However, from those who have access to credit, 83% of them get credit manly from private money lenders (Table 4). Sometimes they exposed to pay 100% interest per year. This induct that formal credit service in the region is poor. Thus lack of working capital is one of the barriers to enter the goat trading business.

Table 4: Credit Service and Source of Working Capital

Variable	Items	Frequency	Valid Percent
Source of working capital	Own	42	52.5
	Friends and relatives	12	15
	Ekub	9	11.25
	Other traders	5	6.25
	Credit	12	15
Interested to have credit	Yes	34	42.5
	No	46	57.5
Get credit service	Yes	12	35
	No	21	65
Sources of credit	Banks	0	0
	Privet money lenders	10	83
	Microfinance	2	17
	Others	0	0

Source: Survey Result, 2019

Legal and Police Constraints

Licensing is a major legal and police constraintsin many business activities. According to the regional trade and transport bureau, goats trade like any other business, need trade license and traders involved in this business needed to be licensed. As a rule, a trader who has a license in one business is not allowed to perform any other activities other than the activity in which he/she licensed. Most of sample traders

(58.25%) did not agree that goat trade needs trade license. Also in practice, most of the traders operating in the study area had no goat trade license. According to a sample trade survey 82.5% of the traders did not have a goat trading license and only 10% of the traders had had trade license. The remaining 7.5% did not respond to this question (Table 5). It seems that in the goat's trade license is not a barrier to enter goats trading business in the study area. However, further investigation is needed to determine whether licensing requirements will improve goats marketing and to find means of better enforcement of license requirements.

Table 5: Trade License

Variable	Item	Frequency	percent
Goatstrading need trading license	Yes	27	34.25
	No	47	58.25
	No response	6	7.5
Licensed	Yes	8	10
	No	66	82.5
	No response	6	7.5

Source: Survey Result 2019

Degree of Market Transparence

The degree of market transparence refers to the timeless and reliability of the market information that the traders have for their marketing decision. In transparent market, participants have adequate information about their competitors, their source of supply and buying and selling price for better decision.

The existing livestock markets are loosely integrated due to lack of necessary market information. Thus, a market information system is mandatory that allows stakeholders to get information on quantity and price, both on the domestic and foreign markets. From the survey result, 72.5% of the respondents have no goat price information before they sell or buy. But 27.5% of the respondents have information about the current price of goats in the market from their customers at the destination market and other traders which are not reliable and adequate to make decisions in fill confidently (Table 6). There is no information as to the extents of competitive market prices. This reveals that, in the study area, lack of reliable and adequate information is one of the barriers to enter the goat trading business.

Table 6: Availability of Market Information

Access to market information		
	Frequency	Percent
Yes	22	27.5
No	58	72.5
Total	80	100

Source: Survey Result 2019

Market Conduct

Market conduct refers to market behavior that the market participants adopting in pricing, buying and selling of the product in the market. In acceptable conduct, there are enough firms in the market to create some uncertainty about whether the price change ups and down; there is no collusion among different firms; there is no pricing or other matter (Belay, 2009).

It has been tried to know whether the number of participants and their power concentration in the market would determine market conduct. As indicated in the market concentration ratio, there is an oligopolistic structure in all markets except Assayita which is strongly oligopolistic and Logia market which is a competitive market. These large firms who jointly possess the largest share of the market have an influence to distort the market price through joint ownership. Thus, buyers have all the power to set prices. In general goats' markets in the region are dominated largely by pastoral/producer sellers and some local assembler. Because of their large number compared to the buyers, pastoralists bargaining power is generally weak. As observed from the market concentration ratio that is characterized by oligopolistic market structure, price is mainly determined by some group of buyers.

The result of group discussion with sample traders inducts that the price at which they buy animals at the local market is set by deducting miscellaneous costs and the net profit margin of the prevailing price in the terminal market constant with the finding of Belay (2009). This indicates that the local market price is largely determined in relation to the terminal market price. It has been explained by traders that prices in terminal markets change quickly between the time they find out the price in terminal markets and the time they transport and sell their animal in the terminal markets. The price fluctuation in the terminal market is not transmitted to local and regional markets rapidly. Thus to avoid the risks these high price volatility, traders used to add a premium at their marketing margins.

Market Performance

Market performance refers the result of the ultimate relation of market structure and conduct. The competition condition and pricing are components of market structure and conduct that considerable affect market performance condition with the overall market environment including police setting and economic conditions (Andrew, 2008).

The finding reveals that lack of working capital and credit; and price instability in the domestic markets were more ubiquitous barriers to enter and continue in the goat market. The relationship between access to credit and information sources, and market power was another useful finding of the study which has an important police implication. Those goat traders who have a high amount of working capital employed a

relatively monopolistic position. At the same time, those traders who had access to timely and accurate primary market information relatively were found to have superior market power.

Lack of capital and credit service together with no or unreliable primary and secondary market information have made many traders weak in their market decision and reducing market risks, which is characterized by weak market power constant with the finding of Andrew (2008), Belay (2009). Therefore, the finding of this study accuses that entry barriers and concentration ratios are positively related. This shows that the market performance in the study area is poor characterized by high concentration ratio and different entry barriers to goats trading business. This is consistent with the prior expectations of the researcher.

Conclusion

Most of the markets in the region have an oligopolistic market structure with a higher market concentration ratio of large trades as a result the largest market share go away with these groups plus they also have the power to influence prices at the same time. Poor credit services and lack of reliable and adequate market information have a major contribution to the existence of this type market structure. The relationship between access to credit and information sources, and market power was another major finding of the study which has an important policy implication. Those goat traders who have an enough amount of working capital are employed a relatively monopolistic position. At the same time, those traders who had access to timely and accurate market information relatively were found to have superior market power.

REFERENCES

- Andrew Kizito (2008). Structure-Conduct-Performance and Food Security. USAID, FEWS NET Markets Guidance, No 2
- AyenMulu, 2004. Sheep and Goats Marketing System Study. Agricultural Commodity Marketing System Study Project, Bahir Dar.
- Belay Hagos, 2009. Performance of cattle marketing in Jijiga zone, somale Region, Ethiopia. Unpublished MSc thesis, *University of Mekelle*, Mekelle, Ethiopia.
- BoFED, 2009. Regional Atlas 2: Afar National Regional State. *Finance and Economic Development Bureau*, Semera Ethiopia.
- CSA (Central Statistical Agency). 2013. Ethiopia Agricultural Sample Survey.
- EndeshawAssefa, 2007. Assessment of Production and Marketing System of Goats in Dale District, Sidama Zone. Unpublished M.Sc Thesis, Awassa College of Agriculture, *University of Hawassa*, Awassa, Ethiopia

- Kohls.R.L and J.N. Uhl, 1985.*Marketing of Agricultural Products*.6thEdition,
- Lawrence M, Riccardo C, Ibrahim O, Samuel O, Jabbar M, NegassaAsfaw and Amos O. A, 2008. Rapid Appraisal of Institutions Supporting Somali Livestock Export, *International Livestock Research Institute, Addis Ababa, Ethiopia*, Discussion Paper No. 14
- Mohammad A. J., 2006. Trader Behavior and Performance in Live Animal Markets in Rural Ethiopian Markets. *International Livestock Research Institute, Gold Coast, Australia*
- Roy, B., 2010. The Contribution of Livestock to the Economies of IGAD Member States.*IGAD LPI*. Working Paper No. 02 – 10
- Solomon Gizaw, AzageTegegne, BerhanuGebremedhin, 2010. Sheep and goat production and marketing systems in Ethiopia: *International Livestock Research Institute (ILRI)*, Addis Ababa, Ethiopia
- TesfayeBerihun, 2008. Performance Efficiency Analysis of Livestock Marketing in Afar Region Ethiopia.Unpublished MSc Thesis, *University of Mekelle*, Mekelle, Ethiopia.
- TsedekeKocho, 2007. Production and marketing Systems of Sheep and Goats in Alaba. Southern Ethiopia. Unpublished MSc thesis, *University of Hawassa*, Awassa, Ethiopia
- YacobAklilu and Andy Catley, 2010.Commercialization, Livelihoods and Wealth Disparity in Pastoralist Areas of Ethiopia.*Feinstien international center*, Tufts University, Medford.

