

Review on Factors Affecting Livestock Market Price in Lowland Area of Ethiopia

Addis Beyene Addis Dida Konso Ginda

Animal production and Technology, PO Box 50, Adigrat University, Adigrat, Ethiopia

SUMMARY

The diverse agro-climatic conditions of Ethiopia make it very suitable for the production of different kinds of livestock. Ethiopia is believed to have the largest livestock population in Africa. Factors affecting market prices for cattle, sheep and goat in the export market value chain are absence of Market Information System, inadequate infrastructure, occasions, contraband and clan conflict as important determinants of livestock price formation. Age group and body condition of the traded animals, buyer and seller types are also important observable attributes influencing formation of livestock prices. Current knowledge on livestock market structure, performance and prices is poor and inadequate for designing policies and institutions meant to improve the livestock marketing system. In order to bridge this gap, this work is carried out in the major pastoral livestock markets of Ethiopia to empirically investigate formation of livestock market prices in the supply value chain of the meat and live animal export market of the country. Access to market information enables these producers to seek out and compare the information available for different market outlets to realize the full potential profit by getting the best prices.

Keywords; Livestock, factor, market, lowland, Ethiopia

1. INTRODUCTION

The diverse agro-climatic conditions of Ethiopia make it very suitable for the production of different kinds of livestock. Ethiopia is believed to have the largest livestock population in Africa but productivity is very low (Belachew and Jemberu 2003). The number of livestock owned per household varies from location to location depending on the diverse agro-ecological conditions and factors like feed availability, disease condition and resource status of the farmers. The country's agro-ecological zone is roughly divided into two major parts. The highlands with an altitude of over 1,500 meters above sea level and the lowlands with an altitude of less than 1,500 meters above sea level. The lowland pastoral areas are situated in the Eastern, South Eastern and Southern parts of the country. These are the Afar and the Somali regions and Borena and Omo zones in Oromiya and SNNP regions respectively (Million, 2003). Most of the livestock are produced by pastoralists, agro-pastoralists, and smallholder mixed crop–livestock farmers and sold to cover family expenses for food grains and other essential consumer goods (Hailemariam *et al.*, 2009).

Livestock sector has been contributing considerable portion to the economy of the country, and still promising to rally round the economic development of the country. It is eminent that livestock products and by-products in the form of meat, milk, honey, eggs, cheese, and butter supply etc. provide the needed animal protein that contribute to the improvement of the nutritional status of the people. Livestock also plays an important role in providing export commodities, such as live animals, hides, and skins to earn foreign exchanges to the country due to surplus output and preferably of the breeds in the Middle East Countries (CSA, 2011).

In pastoral areas, livestock are usually sold to meet family needs for cash income, which is used to buy food grains and industrial products such as clothing. Occasionally, seasonal shortage of rainfall through its impact on feed availability forces higher supply to market. The pastoralists' forced supply is constrained by their inability to plan sales in accordance with market need (time and quality) (Belachew and Jemberu, 2003). Livestock and livestock products are the major foreign exchange earners after coffee. The share of animal export earning is generally small and has declined in recent years due to decreased live animal exports, and an overall increase in the value of all exports (FAO, 1993).

Therefore, the objective of this review are:

- To review the factors affecting livestock market price in Ethiopia
- To review livestock market structure and prices

2. Factor Affecting Livestock Market Prices in Lowland Area of Ethiopia

The structure and performance of live animal markets, both for domestic consumption and for export, are generally perceived to be poor. Lack of market oriented production, lack of adequate information on livestock resources, inadequate permanent animal route and other facilities like water and holding grounds, lack or non provision of transport, ineffective and inadequate infrastructural and institutional set-ups, prevalence of diseases, illegal trade, and inadequate market information (internal and external) are generally mentioned as some of the major reasons for the poor performance of this sector (Aklilu, 2002).

Internal factor Affecting Livestock Market Prices in Lowland Area

2.1. Factor determines the price of livestock markets

2.1.1. Buyer type

Shoat for export markets are mainly exported through export abattoirs and these actors get supplies from other market participants. Therefore, export abattoirs are used as the base for comparison of prices for other market actors since prices would be expected to be lower in other market actors at least to the assumption of marketing margin and transaction costs between export abattoirs and each of other market players. Other things being equal, for both sheep and goat, export abattoirs paid significantly higher prices compared to other market actors in the supply chains (Teressa, 2007).

2.1.2. Type of Livestock Sellers

According to Hailemariam, *et al.* (2009) prices livestock might vary depending on the type of livestock sellers. Cooperatives and small traders in case of sheep; cooperatives and collectors in case of goat; and pastoralist, collectors, small and big traders in case of cattle are offered by lower prices. The lower price offered by cooperatives in shoat markets seem to contradict with the principles of cooperatives to protect the interest of its members and stabilize market prices. These groups of people are dwellers of small urban centers around pastoral areas and they are organized in cooperatives to get more bargaining power to negotiate prices both with pastoralists and their buyers.

2.1.3. Buyer's Access to Market Information

Access to domestic market information is very important for setting prices in livestock markets. Since the market information system is not well developed in pastoral areas, information kept as secret in order to make use of the ignorance of competitors and sellers as an advantage. Of the total shoat and cattle transactions, 66% and 80% respectively were transacted by those who have access to domestic market information. Along this the result indicated that traders who have access to information about the domestic market paid significantly lower prices in both shoat and cattle markets than those who don't have any (Gezahegne *et al.*, 2006; Hailemariam *et al.*, 2009).

2.2. Determinants related to animal condition

2.2.1. Body Condition

The body condition of animal highly influenced on price livestock markets. According to Getachew *et al.* (2008) indicated that buyer's paid significantly higher price for shoat and cattle with excellent body condition.

2.2.2. Age group

Prices are highest for matured animals for all the three types of animals (sheep, goat, and cattle) relative to the immature and young. This is associated with the live weight of animals which is the major criteria considered by export abattoirs for sheep and goat. Young and immature animals cannot attain the required live weight (15-30 kg in most of the cases). For cattle, it is related to the feed conversion capacity of animals at this age. Feedlots and live animal exporters need good finishers that would attain the required live weight with in a very short time needed for quarantine procedure. Thus, mature animals fetch higher prices compared to the other two categories (Hailemariam *et al.*, 2009).

2.2.3. Prevalence of Diseases.

In Ethiopia, there are many livestock diseases that create frequent livestock mortalities. The presence of livestock diseases that affects the efficiency of livestock production (Belachew and Jemberu, 2003).

2.2.4. Seasons

The seasonal patterns in availability of livestock significantly affect the local prices. The wet season corresponds to the rainy season having relatively enough supply of feed to the livestock; the dry season to the contrary is the situation where there is shortage of feed and water and the time where producers are forced to take their livestock to the market. During dry season, both shoat and cattle prices are significantly lower. These price differences might be due to supply feature where shortage of feed and water force producer to sell their livestock in dry seasons. This might increase the supply of livestock in the market (Hailemariam *et al.*, 2009).

2.2.5. Problems Related to Development Initiatives

The traditional herd management system is not adequately supported through introduction of improved breeding and feeding system. The local breeds are not differentiated and improved for particular purpose. As a result, off take rates and yield has not kept pace with the virtually growing demand. Unlike other countries, there is no breeding policy (Belachew and Jemberu, 2003).

2.3. Factor affecting Related to Marketing of livestock

2.3.1. Contraband Trade:

The pastoralists are situated in peripheral areas bordering neighboring countries. Thus, they are in the vicinity of neighboring countries' markets for livestock. Livestock are traditionally flown out of the country from Afar & Somali regions, Borena zone of Oromia and Omo lowlands bordering Kenya. The neighboring countries

bordering these areas either consume locally or re-export to the Middle East countries (*Belachew and Jemberu, 2003*). For example, it is estimated that 60-80% of animals exported illegally through the Somaliland originate in the Ethiopian Somali region and the rest from other adjoining pastoral areas and from the highlands (ILRI, 2003). In general, in different cross-border trade outlets, prices do not move in the same direction, indicating some sort of market failure. Thus, there are no predictable spatial price differences (price ratios) that can be linked to this trade pattern. And there is no market integration, making it difficult to prescribe policy interventions to combat this trade (*Teka et al., 1999*).

2.3.2. Clan conflicts

The Ethiopian pastoralist community is composed of several clans and ethnic groups. These groups compete for limited land and water resources. Conflicts arise as a result of competition for resources and some other reasons. The problems in such pastoralist areas are directly manifested in the livestock markets. Whenever there is clan conflict in the area, the market is disrupted and the number of animals brought to markets decreases (*Adina and Elizabeth, 2006*).

2.3.3. Weakness in understanding the existing social structure

Pastoralist communities are composed of clan-based social organization. Most of the activities of these communities are linked to their clan structure. For example, the Somali pastoralists that are available all along the eastern lowland areas of the country have a clearly visible clan-based marketing behavior. They take their livestock to the market collectively in groups (whose members are from one clan) and hand over the animals to a broker that belongs to their clan. This broker is the one who has better market information relative to individual producers and he is also a pricemaker. No other broker (non-member of the clan) can mediate the transaction of their livestock in the market. Brokers in this case act as representatives of their clan in the market. Understanding this sort of social structures and their marketing behaviour is imperative in the effort made to boost exportable livestock supply to the market. (*Getachew et al., 2008*).

2.3.4. Absence of Market Information System

Market information system needed to disseminate up-to-date market information to keep all livestock market participants at the same level of access for market information (price, time specific demands, quality information etc). This enables all market participants to make well-informed decision in making transactions. In livestock 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 trickledown effect. However, no reliable source of information on the country are livestock number, export demand, annual off-take, productivity, and consumption levels to producers, traders, exporters and support giving institutions. This creates problems in planning and designing of policies to enhance the sector's development (*Belachew and Jemberu, 2003*).

2.3.5. Establishing of Market centers

Market centers and their associated infrastructures are important factors that have to be considered in the move to increase the supply of livestock for both domestic and export markets. Due to the wider geographical location of pastoralists, some important sources of livestock are very far from market centers. Pastoralists from the border areas need to travel for a week or more to reach these market areas. This influences the marketing behaviour of pastoralists that they either have to keep their animals unsold or they have to go to nearby informal markets in the neighbouring countries. In order to attract such resources to the central markets, there is a need to thoroughly assess these remote areas and open up primary markets with at least dry weather roads connecting them to secondary markets (*Gezahegne et al., 2006*).

2.3.6. Inadequacy of Infrastructure

Road is one of a very important infrastructure in the livestock marketing system. The type of road connecting an area determines the type of buyers that can get access to its market. It also affects the profitability of most of the participants in the livestock market. The sources of livestock for export are pastoral areas that are far from the center. The Afar and Somali Regions, parts of Borena in Oromiya are lowland areas forming internal boundary to neighboring countries. The Borena area is connected to the centre/terminal markets with asphalt road passing from Addis Ababa to Moyale. The most important livestock markets like Dubuluq, Mega, and Harobeke are located on this asphalt road. There are also a number of primary and secondary markets located in 25 km radius from this road. This enables exporters to easily transport animals to their quarantines stations or abattoirs at relatively lower cost of transportation and very minimum level of weight loss and mortality rates relative to inaccessible areas. Still there are potential areas considered as sources of shoat but remained unexploited due to lack of road network. In most lowlands areas very rough gravel road which is very difficult to frequently penetrate and transport livestock for the export market. Shoats collected from extreme lowland markets such as Telltale have to reach the abattoirs in few days time and get slaughtered before they are affected by the environmental change which otherwise can lead them either to emaciate or die (*Adina and Elizabeth, 2006; Getachew et al., 2008*).

2.3.7. Lack of coordination among market participants.

Market is an institution involving different actors (agents) at several levels with different roles. Every market

agent has its important role that justifies its presence in the system. Coordinated and smooth functioning of the market enhances the volume of trade and the benefit that different participants and the economy can drive from the market. In a market where there is high level of mistrust among the participants, i.e. where everybody wants to make exorbitant profit at the expense of others, producers will never be encouraged to produce more since they will be the ones worst affected. Unstable and non-ethical market environment will prevent an effort to increase supply of exportable animals from the source areas. Thus, in livestock market where different actors including pastoralists interact, there is a need to create forums of consultation and establishing a team work to bring together producers, traders, abattoirs, and the public sector, so that everybody in the domain would have a clear understanding and contribute to the smooth functioning of the supply chains (Belachew and Jemberu, 2003; Getachew *et al.*, 2008).

2.3.8. Lack of standardized unit of transaction in livestock markets

There are two ways of assessing the weight of livestock purchased in the market: using the weighing scale as in the case of Borena and Bale markets and visual assessment of body condition as in the case of Metehara, Miesso, Babile, and Wello markets. However, abattoirs and their representatives hand over livestock using weighing scales in all markets. This shows, there is non-uniform system of transaction in livestock supply chain. In a system where animals are collected from the market using visual estimation and sold to the abattoirs by weight scale, traders who collect the animal and supply to the exporters are not certain about their profit margin. They have to negotiate and cut down price in the source market in order to ensure their profit. Collectors operating in such uncertain system always try to keep their risk to the minimum level by operating at smaller scale which is eventually manifested as a supply shortage in the destination market. Producers would be the final losers since every trader wants to avert risk. Such system does not encourage pastoralists to supply more animals to the export targeted markets (Getachew *et al.*, 2008).

2.3.9. Purchasing practices of abattoirs

The purchasing system of abattoirs should be organized in such a way that it can attract as many livestock sellers as possible. Despite the reported supply shortage by abattoirs, representatives of some abattoirs at source markets were found to be discriminating against some of the sellers. This implies that the system is sometimes selective in its operation and creates unequal chance for potential sellers in the market. For example in Negelle Borena, representative of LUNA was not buying from livestock trading cooperatives. But cooperatives in this area are stronger relative to other supply areas and can collect considerable number of animals as long as they can get a dependable buyer. Similar problem was observed at Miesso market with representative of Modjo modern abattoir. These actions would narrow the supply channel and eventually reduce the number of animals brought to the export market. Thus, abattoirs need to monitor their purchasing systems and take corrective actions every time (Getachew *et al.*, 2008).

2.3.10. Archaic Traditional Production System

Pastoralists consider their livestock as means of saving or capital accumulation. Livestock are sold when need arises for cash income or when shortage of feed and water occurs. There is no effort to strategically produce for the market by adjusting and planning production to market needs (Jabbar and Benin, 2004).

2.3.11. Absence of Promotional Activities –

Effective export requires knowledge of the client's requirement, producing according to needs and creation of awareness on availability of products to the clients. So far, little effort has been undertaken to strengthen demand in the clients' countries and creating segments in other counties, by publicizing the special features of our products (LMA, 1999).

2.3.12. Absence of Capable Private Sector

Active participation of private sector is required to enhance production and promote export. However, currently there are few livestock exporters and a few meat processors and exporters. These firms have relatively low capital as well as inadequate knowledge of international trade (LMA, 2001).

2.3.13. Occasions

Occasion refer to whether the transactions take place during Christian or Muslim fasting, periods of festivals, and normal time of the year. As expected, the model result shows reverse in price pattern during Christian and Muslim fasting times in which prices are highest during the later. This is attributed to the high meat demand in Middle East countries during Muslim fasting times. The depressed price during Christian fasting periods is because of the lent in which followers are restricted from animal products. Though prices are higher during holiday festivals, it does not have international implication as that of the rises during the Muslim fasting periods. The highest prices are observed when Ramadan fasting overlaps with wet seasons of the year (Hailemariam *et al.*, 2009).

2.3.14. Absence of Quarantine Facilities

To enter the international markets, well-equipped livestock quarantine stations are required. However, under our conditions these facilities are not in a place. The Ministry of agriculture should establish necessary quarantine facilities at appropriate locations and introduce necessary procedures. The government should also allocate

necessary budgets and assign relevant staff. Livestock maintaining costs could be covered by the stakeholders (LMA, 1999).

2.4. External factor related to world markets

2.4.1. Market competition

Price competitiveness is particularly important to the export market. Many countries compete for livestock and products markets in the Middle East. The main competition for Ethiopia comes from Somalia, Sudan, South America, Australia, New Zealand and the European Union. Livestock from developed countries have a disease free status that has given them comparative advantages within their regions, Europe and the Middle East. As compared to others, Ethiopia has certain advantages on its competitors which it can capitalize upon. These are the preferred animal types, location and stable supply. The Ethiopian livestock (cattle, sheep and goat) are the preferred breeds in the Middle East, as they are organically produced and the meat is of good tastes. The proximity of the country to the Middle East has also cost advantage due to lower transport costs (Mohammad and Gezahegn, 2003; Hailemariam *et al.*, 2009).

2.4.2. Repeated Bans

Importing countries frequently ban imports of meat and livestock from the horn of Africa as a result of outbreaks of livestock diseases. Over the past few years, the country has lost a substantial market share and foreign exchange earnings due to frequent bans by the Middle East countries due to the Rift Valley and FMD outbreaks respectively in the Republic of Yemen and U.K (Jabbar and Gezahegn, 2003).

2.4.3. Inadequate Port Facilities

Currently, the Djibouti port is the only port for exporting livestock to the Middle East countries. However, the port is ill-equipped for handling large number of livestock. The livestock-resting place is too small. It has no sufficient fencing and there is no compartment for handling different categories of livestock and isolation of sick animals (Mohammad and Gezahegn, 2003).

3. LIVESTOCK MARKET STRUCTURE AND PRICES

In Ethiopia four-tier domestic livestock market structure are identified (MOA, 1981; AACMC, 1984a; 1984b; 1984c). Main actors of the 1st tier are local farmers and rural traders who transact at farm level with very minimal volume, 1-2 animals per transaction irrespective of species involved. Some traders may specialize in either small or large animals. Those small traders from different corners bring their livestock to the local market (2nd tier). Traders purchase a few large animals or a good number of small animals for selling to the secondary markets. In the secondary market (3rd tier), both smaller and larger traders operate and traders and butchers from terminal markets come to buy animals. In the terminal market (4th tier), large traders and butchers transact larger number of mainly slaughter type animals. From the terminal markets and slaughterhouses and slabs, meat reaches consumers through a different channel and a different set of traders/businesses (Mohammad and Gezahegn, 2003).

Livestock markets in the country are generally under the control of local authorities. Livestock market locations in primary and secondary markets are typically not fenced; there are no permanent animal routes and no feed and watering infrastructures. Markets are dispersed with remote markets lacking price information. Generally, the number of animals offered in a market is usually greater than the number demanded, so there is excess supply. This effectively suppresses producer prices since the more mobile trader is better informed on market prices, and better information combined with excess supply place the trader in a better position during price negotiation. A major problem in livestock marketing is the long distances that need to be trekked from production points to the terminal markets, whether domestic or export point, and associated weight loss of the animals, especially during dry season or when trekking routes do not match with optimal grazing resources. Such trekking also has implications for transactions costs, which may influence in which market an animal will be sold (Davies, 2003).

4. CONCLUSION AND RECOMMENDATION

Currently, almost all meat and live animal exporters are complaining about shortage of livestock especially shoat supply for export market. Some of them were even unable to meet the already requested quantity by their customers. Market characteristics like the type of sellers, buyers' purposes, festivals, contraband, clan conflict, inadequate infrastructures have significant effects on livestock market prices.

The current knowledge on livestock market pricing is poor and inadequate for designing pricing procedures, policies and institutions meant to improve the livestock marketing system. In order to bridge this gap, this work is carried out in the major pastoral livestock markets of Ethiopia to empirically investigate formation of livestock market prices in the supply value chain of the meat and live animal export market of the country. As market price of livestock is not clearly defined, societies have better to do on market relation. Since livestock market price affects by many factors, all people and government is better to take action to eliminate these factors.

To improve the competitiveness of live animals and meat export from Ethiopia, tremendous interventions in the coordination of livestock marketing activities and in the provision of market support services are needed. To attain efficient use of the sector, to ensure food security and to improve export performance, cost-effective marketing channels and coordinated supply chains, which reduce non-value adding transaction costs among different actors along the supply chain, are crucial.

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