



Challenges of Livestock Productivity and Market System of the Pastoralists in Borena Zone, Southeast, Ethiopia

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ABSTRACT

This research paper deals with the study of livestock production in Southeast Ethiopia, Oromia, Gujii zone, particularly in liben worked. A purposive method of sampling was used to select the study area and simple random sampling was used to choose 35 respondents from 700 household from the of study area. To generate the required data, different methodological approach's used such as: questionnaire, interview, and focus group discussions. The data were analyzed and interpreted in both qualitative and quantitative methods. The finding indicated that the major problem in the area that affect and reduce livestock production are shortage of feed, shortage of water, poor infrastructure, lack of veterinary serves, drought and disease. This all the above mentioned factors are highly affected livestock production in the study area. the livestock market also affected by different things such as lack of market information, seasonality of supply and demand, and taxation the main livestock market problem in the study area. Finally, it is recommended to mitigating this problem, the recombination like expanding veterinary service, improving infrastructure, provide practical training to farmers on feeding management system and expansion of water supply.

Keywords: Livestock productivity; Veterinary; Pastoralism; Shortage water; Recombination

INTRODUCTION

Pastoral production makes an immense contribution to the national economy by raising 40 percent of cattle, 75 percent of goats, 25 percent of sheep, 20 percent of equines, and 100 percent of camels. The total direct economic contribution of pastoralism to Ethiopia economy (through production of milk, meat, skin hides etc) which accounts for 6 percent of agricultural GDP per annum (Simon Anderson 2009) Ethiopia have potential to increase livestock production both local and for export. Livestock subsector still infant stages. Expansion and production of pastoralist livelihood constrained by poor access to market, disease, lack of support services, lack of

support policy, settled disputes fragmented pasture, decrease access to grazing lands, lack of water point, mobility (movement from the one place to another) and environmental damage are the major factor affecting the pastoral livelihood livestock production is a major component of liben woreda economy and indeed the Ethiopia economy found out that livestock production practices such as the constraints and potentials pertinent to the development of livestock resources in the area however the production of livestock and marketing system in the study area is not well identified, therefore, this study will try to investigate the feed sources, marketing and the challenges of livestock production on liben woreda (Figure 1) [1-3].

Received:	26-May-2022	Manuscript No:	IPJASLP-22-13656
Editor assigned:	28-May-2022	PreQC No:	IPJASLP-22-13656 (PQ)
Reviewed:	11-June-2022	QC No:	IPJASLP-22-13656
Revised:	23-December-2022	Manuscript No:	IPJASLP-22-13656 (R)
Published:	02-January-2023	DOI:	10.36648/2577-0594-7.1.31

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Citation Jateni E (2023) Challenges of Livestock Productivity and Market System of the Pastoralists in Borena Zone, Southeast, Ethiopia. J Anim Sci Livest Prod. 7:31.

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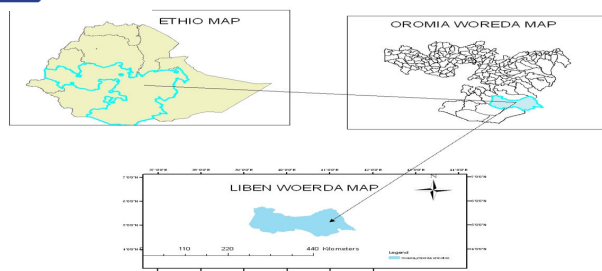


Figure 1: Maps of Ethio, Leben, Oromia.

Objective of the Study

For this study both qualitative and quantitative research method would be used. These two methodologies applied because there are qualitative data that would be interpreted by quantitative and qualitative data that would be analyzed by using table, percentage and ratio.

MATERIALS AND METHODS

Research Design

The study was conducted in liben woreda in Malkaguba kebele. For this end, it was used descriptive survey involve both in qualitative and quantitative approach. Qualitative approach was used to describe the phenomena, instead of number measurement and the quantitative design approach was applied because of quantity measurement analysis.

Data Source

In order to get more reliable data, the researcher use both primary and secondary data sources. The primary data was collected from household heads, elder, and veterinary experts through questionnaire, interview, and Focus Group Discussions (FGDs). On the other hand, secondary data would be obtained from both published and unpublished materials (book, newspaper, magazines, office reports) used to backup and cross check the acceptability of primary data gather from the study population.

Sample Size and Sampling Techniques

Libenworeda has 17 total kebeles, with a total of 84,477 populations. Out of this, one kebele (Malkaguba) were selected purposive due to the intensity and occurrence of problem (poor infrastructure and inadequate veterinary coverage) is greater than the surrounding kebele. Then, 35 household were selected randomly from 700 household because of people have homogeneous ethnic group, economic condition, and the problem of production across the whole households.

Methods of Data Analysis

After the data collected it was analyzed interpreted and presented using both quantitative and qualitative method. Qualitative method by using case description, analysis and narrative. Quantitative by using percentage, description

statistics (mean and mode) and table. Finally, the results study present to the concerning body in the form of written report [4].

RESULTS AND DISCUSSION

Problem on Livestock Production

Lack veterinary services: As the veterinary officer livestock diseases and parasitic infections are affect production and productivity. The problem is very high especially during the start of rainy seasons and feed shortage periods. Veterinary service delivery is inadequate in the study areas. So these are the very important constraint which limits livestock production in the area and also in Ethiopia as literature describe.

Drought: Drought was also the main factor which was caused by climate change and which leads to low livestock production and high mortality. Fall in fodder availability due to low rainfall is the is the main effects of drought on livestock production systems, low rainfall also causes a drop in availability of drinking water, precluding the effective grazing of certain pastures.

Poor infrastructure: Infrastructure necessary to transport livestock or livestock products from rural community, where production concentrated to urban market. Livestock are generally trekked long distances for marketing often without adequate water and feed, as a result animal will lose weight on its travel to market center according to group discussion and interview.

Shortage of feed: Feed shortage is one of the main factors contributing to the low productivity of animals in the study area from the selected respondents of household and interview. The quality supply of this resource is seasonal variable. According to the interview made veterinary experts under nutrition and malnutrition are the major factor constraining livestock production. Shortage of feed cause low rates of production and poor fertility.

Shortage water: The main determinant of livelihoods in this woreda is the volume and sustainability of water supply as HH is described. The major sources of water for livestock consumption in the woreda in their order of important are wells (machine and dug wells) and pond. Rainfall affects the seasonality of water sources quantities and availability in this woreda.

The correlation and regression of all variable livestock production can be depending on the rainfall variability and availability. The livestock production in Ethiopia during rainfall season occurs in different season. Unlike most of the tropics where two season are common (one wet season and one dry season) three season are the most common in Ethiopia namely bega (dry season) which extends from October-January, beg (short rain season) which extends from (February-May), and kiremt (long rain season) which extends from June-September (NMSA 2007). Due to rainfall variation the products from the livestock are decrease and affected by

drought and influence on their fodder and also the shortage of water source also decrease. The erratic supply of feed pastures quality due to erratic rainfall. The proportion of total variation in milk yield can be determined by rainfall and milk yield are positive influenced by high rainfall. From below graph the correlation of milk production and rainfall variability. At rain season production of the milk are high but the price of the marketing system are low due to high availability of milk production. They indicate when there is high amount of rainfall the amount of milk production also increase but the price of milk is decrease. These variables, milk and rainfall are strong correlation with 67% of milk variation deliveries could account by rainfall during their season (Figure 2).

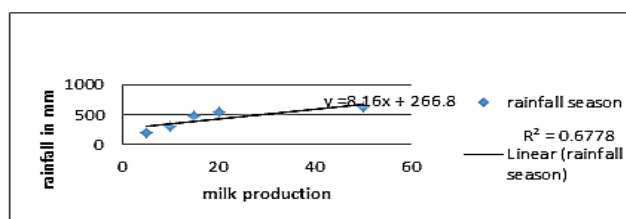


Figure 2: Amount of rainfall and milk production.

Table 1: Livestock production supply to market.

Do you bring supply to market	Frequency	Percentage
Yes	33	94.3
No	2	5.7
Total	35	100

The above Table 1 shows that majority respondent 94.3% supply their product to market, the remaining of the respondents do not supply their product to market. Which indicate that the respondents are supply livestock product to market.

Kind of livestock Product Supply to Market

Marketing of livestock supply in study area as interview of respondent's starts from producers moving the products on to terminal markets. Kind of livestock supply to market is milk, butter, eggs, curd and others. Milk is produce in study area is consumed as raw and the rest is converted into value added products like ghee (butter) and curd (irgo) are important milk products. Majority of milk products are for home consumption and small amount are for market. Vendors and milk dealers dominate the informal market. Vendors operate on small scale, they collect milk from the producers and sell to urban consumers. On other hand milk dealer supply to bigger milk dealer and private processing factories and the other one is producers also sell milk directly to urban consumers. Milk of cattle and milk of camels are not the same in its price and uses. The milk of cattle are very expensive than camels and use for drink. But the camels milk is not use for drinks its use for preparing tea. According to interview seller of these

This graph indicates the amount of rainfall and milk production relation. The equation $y=266.8+8.16x$ means that a one unit increase in rainfall induces or makes production of milk to increase by 8.16.

Livestock Marketing System

Market is a place exchanging of good and serves are tack place. Marketing of livestock and livestock products is an important activity all over the country. According to the interview farmers sell livestock and livestock products to cover household cash expenses and to purchase crop inputs. Livestock market can be classied as primary distributive and terminal depend on the purpose of animal buyer.

Livestock Production Supply to Market

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products are woman and child by traveling some distance to selling their products by their foot. Due to this they tired and feeling stress and also at rain season it's difficult to sale because there is a runoff and difficult to pass or cross to get their home and the productivity of milk is increase during rainy season. It indicates when productivity is increase the challenge is also increased. In the study area, milk product is generally traded by used kubaya. During the time this study was conducted, the average price of milk 6 birrsoldper kubaya, but this price is change based on seasonality in bona season the price of milk increased and reach 8birr up to 10birr, in gana season the milk price reduce and reach 3birr up to 4birr perkubaya. Which indicate that seasonality determines the amount of milk production and price.

- Kubaya=tradition measurement of LP
- Bona=season of no rain
- Gana=season of rainfall

Butter also traded by nyanya, kubaya and from bigger dealer by sekalo their price is depending on the materials that vendor and dealer are used. Nyanya is the smallest and kubaya is the second which contain six nyanya, sekalo is the greatest the price also the high (Table 2).

Table 2: Kind of livestock product supply to market.

Which kind of livestock product supply to market	Frequency	Percentage
Milk-cow	14	40
Camels	8	22.9
Butter	2	5.7
Irgo	4	11.4
Egg	7	20
Total	35	100

The above **Table 1** shows that 62.9% of respondent supply milk to market, 20% of respondent's supplies egg to market and butter is no more supply to market because of they depend on seasonality. The data get from LPDO show that 80% of milk and 65% of butter are consumed at home while

the remaining product supply to market to generate income for household (**Table 3**).

Table 3: Milk yield per household.

Milk sold per day (in litre)	Freq	Percent (%)
03-Jan	4	11.4
06-Apr	10	28.6
09-Jul	19	54.3
12-Oct	2	5.7
Total	35	100

1 litre=3 kubaya is local material that use to measuring milk.

The above table shows that the majority of the respondents 54% produce 7 litres up to 9 litres milk from one cow and 28.6% of the respondents produce 4 litres up to 6 litres. Which indicate that the indigenous cow give better milk product and the mean of milk sale per day is 7 this means the average income of milk sold by respondent and standard

deviation of this are 14 which indicated significant 14 variation among respondents of milk production yield (**Table 4**).

Butter Production Yields

Table 4: Butter yield production.

Butter sold per day income (in nyanya)	Freq	Percent (100%)
05-Jan	14	40
10-Jun	8	22.9
15-Nov	6	17.1
16-20	3	8.6
21-25	4	11.4
Total	35	100

Above table show that the majority of respondents 40% produce 1 nyanya-5 nyanya from their cattles. This can be indicates majority of respondents are the similar butter to produce for consumer.

Type of Livestock Market

In LibenWoreda there are one large town and one primary markets. The most common market days of these livestock market are Saturday and Tuesday. The livestock market sites found in the capital town of the woreda (Negele Borena), Negele Borena serving as an important market place for

libenworeda. The kebele are far away from their market sites approximately up to 15-60 km. It is clear that its long distance can create high physical stress on animal. Livestock markets are categorized into primary, and terminals (the largest one) based on types of major markets participants, volume of supply and purpose of buying. According to focus group discussions and observation both producer and traders are involved in selling livestock directly to consumers. Trader can be residents of the kebele and negele. The most of livestock trader are males but also there are very few woman livestock trader are found. Every producer market animal's individual because there is no any farmer association or cooperatives involved in livestock marketing in the area. In this area most sales involve broker, who assume the power of negotiation on price behalf of producers. The brokers eliminate the direct contact between producers and buyers. The producer usually hand their animal to broker up on arrival at the market places, because producers believe that the broker know better about the market condition. The broker have commotion from producers and buyers where the broker selling livestock [5-7].

Livestock Price Determination

According to focus group discussions the respondents does not want to sale livestock animals but they want to keep as many animal as possible because the ownership of livestock one of the best units to secure different social values family needs. Livestock wealth is means to secure daily sustenance for family, asset for the next generation, social prestige and honor leadership in the community. Therefore, no any animal is reared for market except chicken. However, it was seen that goat and sheep sale normally and during emergencies case, and readily (more frequently) sold as compared to the other livestock species. In the study area, livestock are generally traded by estimation and sheep and goat by using live weigh transaction. Cattle, camel, donkey transaction by using estimation. The price is usually fixed by individual bargaining and prices depend on supply and demand, which is heavily influenced by the season of the year and the occurrence of religious and cultural festivals. Seasonality is their own role in price determination, farmer sell animals mostly during the holiday season which usually occurs between September, December and April, during this season the farmer sell substantial number of animal can fetch better price than dry season in this season the farmer forced to sell their at low price problems

Cattle Marketing Actors

In the study area different marketing participant were observed in each of the markets surveyed. These include brokers, itinerant, farmer's trades.

Brokers: Brokers or locally delalas are also important participants principally in facilitating the transaction. They interfere in negotiation and help purchases and owners in bargaining for the services they just expects sum tip willing paid by buyers but commonly the sellers pay them too. Some of delala after taking their commission may engage in cattle

trading business sum of them can take money, buy and deliver to owners.

Itinerants traders: Itinerant trades are those permanents engaged in the cattle trading activity throughout the year that have or do not have any cattle trading because mostly these buy goat, sheep, and from primary and secondary market and sell them at terminal markets.

Farmer's trades: In study area, the farmers or pastoralist trader normally live in rural areas and their main occupation is farming livestock rising. They enter in to cattle trading activity at the time when they are idle at peak transaction periods of years. They buy cattle at the farm gate and village levels.

Factor Affecting Livestock Production and Market

The major problems of livestock production are categorized in to two technical and non-technical constraints. The main technical constraints include inadequate feed and nutrition, wide spread diseases and poor animal health. The non-technical constraints consist economic, social and institution factors. The information get from respondents and the Focus group discussion indicated that different problem affect livestock production and marketing. The main problem in the study area is the following.

Major Problem on Marketing

Lack of marketing information: According to interview access to market information is a common problem in marketing and there is no formal market information system accessible to householder in the area as review literature also indicated. Farmers get information from neighbours that have sold animals or went to the market recently. They also try to observe how the market is operating before selling their animals.

Seasonality of supply and demand: The interview indicated that livestock supply in the study areas is higher during the months of August, April and June. In these months households need cash to harvest crops and procure seed and other farm inputs. The demand for animal in the domestic market increases following major holidays like new year, easter, meskel, arefa and eidulfitri. Seasonal variability of rain fall determines the availability and absence of fodder in the study area. In adolessa and bona season the animal suffered by fodder and water shortage, during this season most of the animal loss their weight and lead to low production rate, generally this season not good for livestock production.

Lack of livestock market extension: There is poor access to knowledge on how to improve production and delivery service as to where and when to sell their animal.

Taxation: Animals which enter marketing yards are taxed per head whether they are sold or not. Livestock marketing participant who did not sell his/her animals is obliged to pay market taxes (Figure 3).

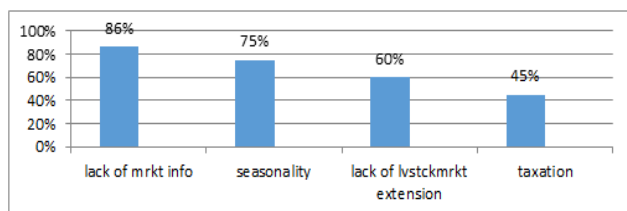


Figure 3: The marketing livestock production.

CONCLUSION

Finally, it is recommended to mitigating this problem, the recombination like expanding veterinary service, improving infrastructure, provide practical training to farmers on feeding management system and expansion of water supply.

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