**Major Constraints of Livestock Development**  
(Studied in Lalo Kile District, Kellem Wollega Zone, Ethiopia)

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**Abstract:** A cross-sectional study design using questionnaire based interview and field visit was used to study on major constraints of livestock development in Lalo Kile District of Kellem Wollega Zone, Oromia Regional State, Ethiopia from October, 2017 to March, 2017. For the interview of the livestock and fisheries development office of the district, veterinary clinics found in the district and respondents were randomly selected from the district. In addition to the data collected from the interview, the recorded data about the livestock in the district were taken from the office. Furthermore field visit was conducted to take different tangible evidences related to the constraints of livestock development. In the study area, the observed major constraints of livestock development were feed shortage, poor breed improvement, practices, insufficient training of the farmers, market demand after fattening, unavailability of factory feed by-products of feed, lack of improved animal nutrition, lack of infrastructure and different animal diseases. Common animal diseases in the study area were trypanosomosis, external and internal parasites, ovine and bovine pasteurellosis, foot and mouth disease, lumpy skin disease and new castle disease. Among these animal diseases trypanosomosis was one of the main problem from all the animal diseases in the study area. These animal diseases are the main constraints for most of the livestock development in the district. Therefore, animal disease control and prevention strategy should be widely conducted in the study area.

**Keywords:** Animal Diseases, Constraints, Lalo Kile, Livestock development

1. **INTRODUCTION**

   Ethiopia is believed to have the largest livestock population in Africa. The Ethiopian Central Statistical Authority estimated 59.5 million cattle, 30.70 million sheep, 30.20 million goats, 2.16 million horses, 8.44 million donkeys, 0.41 million mules, 1.21 million camels, 56.53 million poultry and 5.92 beehives in the country. This 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 contributes 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. On the other hand, draught animals provide power for the cultivation of the smallholdings and for crop threshing virtually all over the country and are also essential modes of transport to take holders and their families long-distances, to convey their agricultural products to the market places and bring back their domestic necessities (CSA, 2017).

There are different roles of livestock in Ethiopia. Livestock and their products constitute a fifth of Ethiopia’s exports, but about half of these exports are not recorded or officially recognized because they are produced by the informal cross border trade in live animals (FAO, 2013). On the other hand, Central Statistical Agency report indicated, livestock plays an important role in providing export commodities, such as live animals, hides and skins to earn foreign exchanges to the country (CSA, 2013). Livestock are of economic and social importance both at the household and national levels and have in the past provided significant export earnings. Livestock contributes 15 to 17% of GDP and 35 to 49% of agricultural GDP and 37 to 87% of the household incomes (Samuel et al., 2010).

Growing consumption of livestock products are bringing important nutritional benefits to large segments of the population of developing countries, although many millions of people in developing countries are still not able to afford better-quality diets owing to the higher cost (FAO, 2013). Livestock are an important source of meat, milk and eggs, which are parts of the food chain and which provide high value protein. They have long played a key role in supplying calories and protein for human food in virtually all parts of the world, both directly (in the form of animal products) and indirectly (from the contribution of manure and draught power to crop production and generation of income to enable purchase of food (AAGFS, 1999). It is eminent that livestock products and by-products in the form of meat, milk, honey, eggs, cheese and butter provide protein that contributes to the improvement of the nutritional status of the people (CSA, 2013).

According to the evidence of (FAO, 2013) draught animals provide the power for the cultivation of nearly 50% of the world cultivated land and the hauling of 25% carts. In Ethiopia, 14 million tonnes of manure are used annually primarily for fuel (Befekadu & Birhanu, 2000). In Ethiopia, the vast majority of rural people comprising 85% of the total population depend on animal power for cultivation, weeding, threshing and transportation. As elsewhere in developing countries, use of tractors is very insignificant in the highland production system, for reasons of economy, topography and highly fragmented land holdings (Cheeke, 1993).

Livestock plays a significant role in maintaining soil fertility, increases soil organic matter and improves soil texture (Befekadu & Birhanu, 2000). Livestock waste is often an important input for maintaining soil fertility; contributes to greater crop production for food and income (Randolph et al., 2006). In some areas, dung is also used as a fuel; and dung is also used as fertilizer and building material is often a marketable commodity.

Different livestock situations are carried out in the district. Some of these animal productions take the main target. Most of the life of the people in the district depends on livestock directly and indirectly. But there are many constraints for the development of livestock. Therefore, this study was conducted to assess constraints hindering the development of livestock in the study area.

2. MATERIALS AND METHODS

2.1. Study area

The study was conducted in Lalo Kile District of Kellem Wollega Zone, Oromia Regional State, Ethiopia. The district is geographically found at 08°45' to 08°59' latitude and north of equator, and 035°26’ E longitudes, and located at distance of 535 km West of Addis Ababa. Altitude of area ranges from 500-1800 m.a.s.l, temperature ranges from 15°C (minimum) to 32°C (maximum) and has rainfall ranging from 1000ml to1500ml (LLFD, 2017).

2.2. Study design

A cross-sectional study design using questionnaire based interview and field visit was used to study on the major constraints of livestock development in the district from October, 2017 to March, 2017.
2.3. Study methodology
A semi-structured questionnaire was used for the interview of the livestock and fisheries development office of the district, veterinary clinics found in the district and respondents were randomly selected from all the kebeles of the district.

2.4. Data Collection and analysis
In addition to the data collected from the interview, the recorded data about the livestock in the district were taken from the office. Furthermore field visit was conducted to take different tangible evidences related to the constraints of livestock development. The collected data were entered into Microsoft excel spread sheet and evaluated according to their categories. Data taken during the field visit were presented through essay and images.

3. RESULTS AND DISCUSSION
3.1. Constraints of Dairy Development System
3.1.1. Feed Shortage
The primary constraints to increased milk production under all dairy production systems were inadequate feed resources, poor pasture development and the ever increasing feed prices. Farmers tend to keep cattle at stocking rates that far exceed the carrying capacity of their grazing lands. This has resulted in degraded pastures and eroded soils. Stock numbers were not normally reduced in the dry season leading to grazing lands becoming progressively overgrazed. In the dominating crop/livestock production system, producers supplemented the feeding of their dairy cows with crop residues and farm by-products from their farms. In some cases, during the dry season, these feedstuffs can be the only feeds available to the animals. However, the improvement of the utilization of these feedstuffs through physical and chemical processing methods to increase the availability of nutrients was the only practiced on a limited number of farms.

The main reasons of feed shortage indicated by the respondents were cultivation of grazing lands, declining yields of grazing land and increase of livestock population. Shrinking sizes of the grazing lands driven by the expansion of land cultivation was reported to be the leading reasons for feed shortage across all the study. Declining yield and carrying capacity of the grazing lands was rated as the second important impediment in adequate supply of feeds across all the sites. Increases of human and livestock population and drought are also mentioned to cause feed shortage (LLFD, 2017).

3.1.2. Poor Breed Improvement Practices
Azage et al., (2013), reported that the number of crossbred cows was very low and was mainly concentrated in and around major urban and peri-urban centres. Tsehay (1997), reported about 99% of the cattle population in Ethiopia were indigenous those were adapted to feed and water shortages, disease challenges and harsh climates. Similarly, it was outlined that the use of AI has also failed in many situations in developing countries because of the lack of infrastructure and the costs involved, such as for transportation and liquid nitrogen for storage of semen or because the breeding programme has not been designed to be sustainable (Philipsson et al., 2011). Similarly this study revealed that there was a problem related to artificial insemination in dairy cows from both the concept of the public about the AI and technicians.

3.1.3. Diseases
Animal health and improved management was one of the major constraints of dairy development in Ethiopia. It caused poor performance across the production system. Many of the problems resulted from the interaction among the technical and non-technical constraints themselves. E.g. poorly fed animals develop low disease resistance, fertility problem, partly because the animal health care system relies heavily on veterinary measures, poor grazing management systems continue to cause high mortality and morbidity.

3.2. Constraints of Beef Production in the District
Even though there was no beef cattle production; there was large amount of meat production and consumption in the district. Farmers in the district played a key role in fattening and providing the
fattened cattle for the market supply. They bought growing bulls those have good conformation and provide feed from natural fodders, grazing lands, hay (feed by products conservation), and fatten them in the time interval of 3-4 months. This fattening was the source of income for those participating on the work. They were obtaining middle level income from selling them. Meat production in the district was 110 Kg/head. The fattening and meat production also involved fattening of sheep and goat. Farmers were participating on these work and they provided them for the market.

This fattening and meat production was taken place in all the kebeles but not equally taken place in all over the kebeles of the district. Some kebeles of the district such as B/Kuyu, H/Abote, D/Jarso and Adama were highly participating on the work and obtaining income from selling them. For the improvement of this work in this district there were many obstacles. These obstacles include insufficient training of the farmers, lack of improved breeds of beef cattle, sheep and goat, market demand after fattening, unavailability of factory by products of feed, lack of improved animal nutrition and continuous sustainable feed resource, diseases such as internal and external parasites and other infectious diseases and lack of technology of saving animals feed. These and other obstacles were the main problems for the fattening and meat production in the district (LLFD, 2017).

3.3. Constraints of Poultry production in the District

Nearly all rural and peri-urban/urban families in the developing world kept a flock of poultry, either in a free-range system or in a small scale confined system. The birds were mainly chickens. In free-range systems, birds were traditionally owned and managed mostly by women and children. The poultry and their products were used for home consumption, as gifts, or for religious purposes. Additionally they are sold to earn some income to buy household food items, such as sugar and salt as well as school provisions for their children. In small scale confined systems the chickens were kept for commercial purposes in order to support family income.

Similarly smallholder farmers of the hybrid commercial poultry experienced production constraints mainly due to lack of suitable extension packages and training in poultry production. When instructing farmers in improving poultry management and production, it was important that the training takes place in a participatory manner. Involvement and learning were enhanced when the participants were part of the training. It was therefore essential that the participants were encouraged to come forward with their own experiences, and that the discussions were based on their local practices and problems.

In the district poultry production was becoming one of the main important points in creating job for unemployed people. But there were different problems regarding to the production including lack training and knowledge on the sector, unavailability of improved breeds other than indigenous breed, expensive cost of hybrid improved chickens, lack of attention on poultry production, insufficient distribution of poultry feed and poultry diseases (LLFD, 2017).

3.4. Constraints of Hide and skin production in the district

As large number of animals was found in the district, there was abundant production of hide and skin. Although there was high production of hide and skin the district, there were many problems those are obstacles to produce more and enough hide and skin production including, animal diseases such as bacterial, parasitic and viral diseases, lack of transportation and access to the main road, unavailability of clean water, distance of the district from the capital city of the country, market fluctuation from time to time and low market demand and lack of access to the main road (LLFD, 2017).

3.5. Constraints of Animal Nutrition in the District

Most of the animal of the district used feed on natural grass land and some feed on hay, silage fodder and other agricultural by-products. Some peasants stored hay and other crop by-products obtained during the rainy season. The attention given to animal nutrition in the district was low. As a result of this, the product to be obtained from different animal is also low. In some kebeles of the district such as K/Lube and Sarba some peasants were producing improved animal feed. Also, in some Farmer Training Center (FTC) the production of improved animal feed such as Lablab, Rhodes, Oats, Vetiver, Alfalfa, Elephant Grass and the other was in progress. Challenges in animal nutrition in the
district include farmers’ little knowledge on animal nutrition, lack of attention, lack of bounded grassland and improved animal feed seeds (LLFD, 2017).

3.6. Animal Health Services and Animal Diseases in the District

The presence of many diseases in the district has resulted in low productivity and a significant obstacle to international market access. Lack of regulation on livestock movement, disease reporting system, drug and vaccine production, distribution and handling have remained major deficiencies for many years. Therefore, the Federal government of Ethiopia and Regional governments were undertaking slow but organized action to improve animal health delivery system through legislations, manpower development and information disseminations. The major activities were control of disease through organized activities between the two government strata, improving disease reporting system, training of different levels of animal health professionals, improving the existing legislations and formulating new ones for disease control, establishment and standardization of veterinary clinics, laboratories and training institutions. Animal diseases were of major concern at both the Federal and Regional government levels. The main negative effects of animal diseases were loss of production and productivity, hindrance to access the international animal and animal product’s markets, reduction in the quality of hides and skins, tick borne diseases constraints to improving the genetic potential through cross breeding with exotic breeds, and their zoonotic potential.

The entire veterinary clinics in the district have undergone control and prevention of diseases, treatment of infectious and non-infectious diseases, and other clinical activities. Especially, all the governmental veterinary clinics continuously undergo disease control and prevention programs such as vaccination and control of Tsetse Fly and Trypanosomosis. Vaccination program given for cattle were Lumpy Skin Disease Vaccine, Contagious Bovine Pluoropneumonia Vaccine, Anthrax Vaccine, Black Leg Vaccine and Bovine Pasteurellosis; for sheep and goats Contagious Caprine Pluoropneumonia Vaccine, Peste Des Petitis Ruminants Vaccine, Sheep and Goat Pox Vaccine and Ovine Pasteurellosis Vaccine; for equines African Horse Sickness Vaccine; and for poultry Newcastle Disease Vaccine, Fowl Pox Vaccine and Fowl Typhoid Vaccine. The vaccines were given in correspondence to the program provided by Oromia Livestock and Fishery Development Beareau.

Control and prevention of Tsetse Fly and Trypanosomosis were done by National Tsetse Fly and Trypanosomosis Control Institute and Oromia Livestock and Fishery Development Beareau. Different works such as trap deployment and observing the prevalence of Tsetse Fly, blood examination for Trypanosomosis, free treatment of positive animals, deltamethrin 1% pour on the animals, target deployment by spraying deltamethrin 20% on it and coordinating and training of different peasants were conducted. Some kebeles of the district such as B/Kella, B/Buba, M/Jirru, F/Jawi, M/Kallisa, W/Dibaba, B/Kuyu, Wabara, H/Abote and D/Jarso are bordered by Birbir River (Fig. 1). Even though there were control and prevention of Tsetse Fly, there were high infestations of Tsetse fly and Trypanosomosis in this area. Four species of Tsetse Fly such as G.m.submorsitans, G.f.fuscipus, G.tachinoides and G.pallidipes, and Trypanosoma species such as T.congolense, T.vivax and T.brucel were observed in this area. Trypanosomosis was one of the main problem from all the animal diseases in the study area (Olani and Bekele, 2016; LLFD, 2017).
4. CONCLUSION

This study revealed that there were many constraints related to the development of livestock in the district. In relation with constraints of dairy development system there were feed shortage, poor breed improvement practices and diseases. Insufficient training of the farmers, lack of improved breeds of beef cattle, sheep and goat, market demand after fattening, unavailability of factory by products of feed, lack of improved animal nutrition and continuous sustainable feed resource, diseases such as internal and external parasites and other infectious diseases and lack of technology of saving animals feed affect beef production system. Poultry production system were hindered by poultry diseases and lack of other infrastructures. Different animal diseases are the main constraints for most of the
development of livestock in the district. Therefore, animal disease control and prevention strategy should be widely conducted in the study area.

5. REFERENCES


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