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**Study on assessment of major livestock health
constraints in Damot sore woreda, wolaita zone,
Southern Ethiopia**

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Abstract

A cross-sectional study was conducted in Damot Sore Woreda, Wolaita zone, Southern Ethiopia, with the objective of characterizing the livestock production system and investigating the major livestock health problems in the studied area. A simple random sampling method was used to select 105 households for the study. A structured questionnaire was used to collect data. In addition, there was also a participatory discussion with group of farmers to work out disease trend and identify constraints. Clinical cases of livestock diseases appearing in the Woreda Veterinary Clinic were also examined and recorded. The survey results revealed that mixed crop-livestock production system is the predominant system in the area. In cattle black leg, gastrointestinal parasitism, foot and mouth disease and mastitis were the most important diseases. Respiratory problems (pneumonic pasteurellosis) were the most important in small ruminants. Colic and back sore were considered important equine. In poultry Newcastle disease was the most devastating disease. Results of the case observational study also indicated that mastitis (12.06%), gastrointestinal parasitism (11.20%), foot and mouth disease (9.48%), black leg (8.61%) and trypanosomosis (6.03%) in cattle, respiratory problems (15.79%) and mastitis (13.12%) in sheep, gastrointestinal parasitism (15.56%) and respiratory problem (13.33%) in goat, newcastle disease (61.7%) in poultry and colic (25%) and gastrointestinal parasitism (20%) in equine were the leading cases diagnosed. Results indicated the need for expansion of veterinary services and detailed epidemiological study.

Keywords: Damot Sore Wereda, livestock, questionnaire, group discussion, production system, case observation

1. Introduction

Livestock production constitutes one of the principal means of achieving improved living standards in many regions of the developing world. In sub-Saharan Africa countries livestock plays a crucial role both for the national economy and the livelihood of rural communities. It provides drought power, milk, and meat, input for crop production and soil fertility and raw material for industry (ILCA, 1998). Livestock in great horn of Africa is vital resource in promoting development. They provide 20-30% of the Gross Domestic Production (GDP) and at the farmer level as much as 70% of cash income is generated from livestock (Ndikima et al, 2000).

Ethiopia is one of the most populated countries in Africa, having an estimated 67.2 million in July 2002 with annually growth rate of 2.9%. The dominant economic feature of the country is the agriculture sector, of which livestock is a very important and essential component (CACC, 2003). In Ethiopia, livestock contribute about 30-35 percent of agricultural Gross Domestic Product (GDP) and more than 85 percent of farm cash income. Various estimate shows that the livestock sector contributes 12- 16%of the total and 30-35 %of agricultural GDP (AAMPDA, 1999).

The livestock population of Ethiopia is known for its high population, being the first in Africa and tenth in the world (Mekonnen *et al.*, 1989; Gebrecherkos, 2012) and among the livestock population, there are about 53.4 million heads of cattle; 25.5 million sheep, 22.78 million goats and 44.9 million poultry (CSA, 2011). The population of these animals in Wolaita zone is 886,242 cattle, 117,274 sheep, 99,817 goats, 1951 horses, 2174 mules, 54,209 donkeys and 442,428 poultry (WZAO, 2013).

Despite the large number of livestock in Ethiopia the sector is characterized by low productivity and hence, income derived from this sector of agricultures could not impart significant role in the development of the country's economy (Mukasa-Mugerwa, 1998). The low productivity is attributed to low genetic potential of indigenous

breeds, inadequate management, poor nutrition and reproductive performance, insufficient pasture land, lack of technical expert, insufficient supply of vaccine, lack of epidemiologic study and shortage of government employee in the field level and high incidence of various diseases of different systems of animals. Among these constraints, diseases have numerous influences on productivity and fertility of herds as well as interfering with the development of healthy livestock and livestock industry in our country (Abera *et al.*, 2010; Bekele *et al.*, 2011). Disease is defined as inability to perform physiological functions at normal levels even though nutrition and other environmental requirements are provided at adequate levels (Radostitis *et al.*, 2000). Disease also causes nutritional deficiency and disturbances in fertility. The effect of livestock diseases could be expressed in terms of losses due to mortality and morbidity, loss of weight, slow down growth, poor fertility performance and decrease physical power. If the livestock sector develops, it will be able to fulfill the existing requirement of protein for the country Even though these diseases are due consideration, experiences has shown that (Coppock, 1994) information on animal health was never a significant focus of research. However, knowing the type and extent of the common and /or major health problems is very important for the owners, veterinarians, and researchers and can assist in the development of herd health strategies and the selections of possible interventions (Radostits *et al.*, 1994), to recommended that an organized research that can elucidate major animal health problems is a central issue for further study of epidemiological study on the diseases of livestock.

The objective of this paper is thus: •

To study production system characteristics with emphasis on major health problems in Damot Sore Woreda

2. Materials and Methods

2.1 Description of Study Area

The study was conducted at Damot sore wereda of Wolaita zone from March to August, 2021.

Damot Sore Woreda is bordered on the south east by Sodo zuria woreda, on the west by Kindo Koysha Woreda, on the north west by Boloso Bombe Woreda, and on the north by Boloso Soore Woreda, 407km away from Addis Abeba, 177km from Hawassa and 17km from Wolaita Sodo town.

Most of the livestock population is reared in Lowland (kola) ecological zone. The rainfall pattern is bimodal; a short rainy season runs from March to May and long rainy season runs from June to September. The mean annual rainfall is 50.4 mm but again this varies according to ecological zone (lower in kola and higher in woina daga). The mean annual temperature of the district is about 19°C being maximum in February which is 29°C and minimum in August which is 15°C. The physical features of the district are 33% hilly, 59% plain and 8% forest land (mountain). In this worada mixed crop and Livestock farming system is the mode of agriculture; the major crops that are grown in the area include maize, wheat, tiff, been, potato, sweet potato and inset.

2.2 Study Animals Population

All species of domestic animals owned by selected households and animal's brought to Damot Sore Woreda veterinary clinic having different health problems during the study periods were considered as study animals.

2.3 Study Design

A questionnaire- and observation-based cross-sectional type of study was conducted from March 2021 to August 2021 to assess the management practice and major health problem of dairy farms for a total of five months in Damot

sore wereda of Wolaita zone. A purposive selection method has been done to select the peasant association based on accessibility to transport and agro-ecological differences. Thus, four PA's were selected namely: Gununo 01, Gununo 02, Gununo 03 and Hanchucho. From each peasant associations 26 households (from the three PA's) and 27 household (from one PA) were randomly selected which then made a total of 105 households to be included in the study

2.4 Sampling procedure

For household questionnaire survey, the sample size was determined by using the formula recommended by Ashram (2007) for formal survey. $N = 0.25/SE^2$, SE= standard error, 0.05. Thus, $N = 0.25/0.0025 = 100$ households. But the total number of households used for questionnaire interview was increased to 105 to increase precision.

2.5 Methods of Data Collection

2.5.1 Questionnaire Survey

A detailed and organized questionnaire format (Annex I) was designed in an attempt to generate base line information related to livestock production with particular emphasis on major livestock health problems; livestock diseases considered as important by farmers and measures taken by farmers against livestock diseases. The questionnaire was framed in such a way that farmers could give information that are recent and easy to recall and it was filled directly by interviewing randomly selected farmers from different villages of the four peasant associations.

2.5.2 Participatory approach

Twenty-six key respondents were selected by the development agent in each of the four PAs and informal group discussion has been held for one hour to generate relevant information for the farmers. Points considered during the discussion were disease occurrence and trend for the last few years and constraints of livestock production.

2.5.3 Clinical observational study

The clinical cases appearing in the Damot Sore woreda veterinary clinics were examined and tentative diagnosis was recorded based on clinical signs observed. The cases were classified by species into diseases affecting cattle, goat, sheep, equine and poultry.

2.6 Data Analysis

The data collected in the study was stored in the Excel Microsoft (MS excel) and descriptive statistics was employed to summarize the data.

3. Results

3.1 Demographic Characteristics

Demographic characteristics of respondents show that most of the interviewees (79%) were male and the rest female (21%). Their educational background indicated that 39% (n=41) were illiterate, 26.7% (n=28) had religious knowledge, 7.6% (n=8) had primary school education and 26.7% (n=28) were secondary and above (Table 1). The average family size was 3.92 persons. Most of the respondents (57.1%) were between the ages of 25-45 years.

Table 1: Demographic Characteristics of Sampled Households

Variables	N	Category	Frequency (Proportion)
Sex	105	Male	83 (79%)
		Female	22 (21%)
Educational status	105	Illiterate	41(39%)
		Religious	28 (26.7%)
		Primary school	8 (7.6%)
		Secondary and above	28 (26.7%)
Age	105	25-45	60 (57.1%)
		46-68	45(42.9%)

3.2 Livestock Management

3.2.1 Animal production system

Above half of the sample respondents' practice, the semi-intensive production system was

(89.5%) while other around 10.5% was managed intensively (Table 2). Most of the respondents managed the cattle under the semi-intensive system. This could enhance the transmission of diseases and affect animal managing systems.

Table 2: Animal production system

Variables	Frequency	Proportion (%)
Intensive	11	10.5
Semi-intensive	94	89.5

3.2.2 Housing condition

77.1% of the respondent's house animals (poultry, small ruminants) with the owners in communal house. 22.9% of the respondents house their animals separately in simple shed, which does not protect the animals from sun/ cold /rain as shown in Table 3.

As depicted in Table 4, the majority of animal houses (71.4%) were cleaned frequently (daily). However, 17.1% and 11.4% of animal houses were cleaned once per week and twice week respectively.

Table 3: Livestock housing condition

Variables	Frequency	Proportion (%)
Separate	24	22.9
Communal house	81	77.1

Table 4: Livestock cleaning of the housing

Variables	Frequency	Proportion (%)
Daily	75	71.4
Twice per week	12	11.4
Once per week	18	17.1

3.2.3 Watering

River, hole water and tap water were the source of water in the study area. Information recorded for frequency of watering (Table 5) revealed that about 63.8% of respondents used river since most

of the herds were kept under semi-intensive production system. While the rest 20% and 16.2% of the respondents used the hole water as well as tap water as the source of water for animals respectively.

Table 5: Source and frequency of watering

Source	Frequency	Proportion (%)
River	67	63.8
Hole water	21	20
Tap water	17	16.2

3.2.4 Feeding

Natural pasture (54.3%) and concentrated (37.1%) were the most frequently used feed resources in

the study area. Homemade (house left over) was also used in the area (8.6%) (Table 6).

Table 6: Major livestock feed resources in the study areas

Feed resource	Frequency	Proportion (%)
Natural pasture	57	54.3
Concentrated	39	37.1
Homemade (house left over)	9	8.6

3.3 Livestock culling criteria

The most common reasons of culling livestock mentioned by farmers were poor productivity (42.9%), old age (35.2%) and infertility /reproductive disease (20%). Diseases other than reproductive disease (1.9%) were also mentioned by farmers.

3.4 Treatment and prevention

74.8% of the peasants use modern treatment and 25.2% use traditional treatment to cure/ treat diseased animals. To prevent and control livestock diseases, specially infectious and parasitic diseases 57.9%, 3.3%, 1.97% and 36.84% of the respondents vaccinate, slaughter, quarantine, use other options like deworming and do nothing, respectively (Table 7).

Table 7: Measures and frequencies of treatment and vaccination

Treatment measures	Frequency	Proportion (%)
Modern treatment	80	74.8
Traditional treatment	27	25.2
Preventive measures		
Vaccination	88	57.9
Slaughter	5	3.3
Quarantine	3	1.97
deworming and do nothing	56	36.84

3.5 Veterinary service

59% of the respondents have an access to animal health service provision and 41% have not. Majority of respondents argue that there is lack of

manpower as compare to livestock population of the woreda, and lack of veterinary clinics in nearby. Cost of treatment and vaccination and proportion of respondents is described in (Table 8).

Table 8: Response to cost treatment and vaccination at the study site

Degree of cost	Treatment		Vaccination	
	Frequency	Proportion (%)	Frequency	Proportion (%)
Expensive	55	52.4	22	21
Moderate	41	39	25	23.8
Cheap	9	8.6	43	41
Free	-	-	15	14.3

3.6 Major Diseases of Livestock

The list of diseases mentioned as important by the sampled respondents are presented in Tables 9, 10, 11, 12 and 13. The Most important disease mentioned as affecting cattle was black leg. In addition, cattle were also affected by

gastrointestinal parasitism and foot and mouth disease (Table 9). In goats and sheep, abortion was regarded as the most important. Pasteurellosis and mastitis were the second most important diseases in sheep and goats respectively (Table 10 and Table 11).

Table 9: Major diseases of cattle mentioned by sampled respondents

Name of disease						
	First	Second	Third	Rank Index	Percentage %	Over all Rank
Gastrointestinal parasitism	25	12	22	0.256	25.63	2
Mastitis	12	20	18	0.19	19.9	4
Black leg	28	22	19	0.31	31.14	1
FMD	20	16	18	0.23	23.30	3

Table 10: Major diseases of sheep mentioned by sampled respondents

Name of disease	No .of respondents describe the disease as			Rank Index	Percentage %	Over all rank
	First	Second	Third			
Mastitis	18	16	12	0.249	24.93	2
Abortion	12	19	22	0.193	19.34	4
FMD	11	14	20	0.195	19.59	3
Pasteurellosis	20	18	22	0.300	30.02	1

Table 11: Major diseases of goats mentioned by sampled respondents

Name of disease	No .of respondents describe the disease as			Rank Index	Percentage %	Over all rank
	First	Second	Third			
Mastitis	12	16	20	0.235	23.59	3
Gastrointestinal parasitism	16	18	17	0.270	27.07	2
Pasteurellosis	18	20	22	0.310	31.09	1
Abortion	12	11	10	0.182	18.23	4

Colic was the most important disease followed by back sore and African horse sickness in equine (Table 12).

Table 12: Major diseases of Equine mentioned by sampled respondents

Name of disease	No .of respondents describe the disease as			Rank Index	Percentage %	Over all rank
	First	Second	Third			
AHS	12	16	20	0.288	28.85	3
Back sore	16	18	17	0.331	33.11	2
Colic	18	20	22	0.380	38.03	1

In Chickens the most prevalent diseases according to the respondents view was new castle disease (37.27%). In addition fowl cholera and fowl

typhoid were found to occur at relatively lower prevalence according to the respondent's view (Table 13).

Table 13: Major diseases of poultry mentioned by sampled respondents

Name of disease	No .of respondents describe the disease as			Rank Index	Percentage %	Over all Rank
	First	Second	Third			
NCD	20	19	22	0.372	37.27	1
Fowl cholera	16	18	20	0.322	32.29	2
Fowl typhoid	12	19	24	0.304	30.43	3

3.7 Case Observational Study

A total of 351 diseased animals (116 cattle, 45 caprine, and 76 ovine, 20 equine species and 94 poultry) were diagnosed based on history, general and systemic examinations. Among the diseases, which were diagnosed tentatively at Damot Sore Woreda Veterinary clinic, blackleg (8.61%), gastrointestinal parasitism (11.20%), FMD (9.48%) and mastitis (12.06%) were the most frequently observed diseases in cattle. In sheep,

pasteurellosis (15.79%) and mastitis (13.12%) were the most common diseases while in goat gastrointestinal parasitism (15.56%) and pasteurellosis (13.33%) were most commonly encountered. Among the diseases which were diagnosed in equine colic (25%) and back sore (15%) were the most commonly observed ones while in poultry new castle diseases (61.7%), fowl cholera (21.27%) and fowl typhoid (12.76%) were most commonly encountered (Table 14).

Table 14 Major diseases diagnosed at clinic

Frequency and percentage of disease occurrence in each species					
Disease	Bovine	Ovine	Caprine	Equine	Poultry
Black leg	10 (8.61)	0.0	0.0	0.0	0.0
Anthrax	6 (5.17)	4 (5.26)	3 (6.67)	0.0	0.0
Mastitis	14 (12.06)	10 (13.12)	5 (11.11)	0.0	0.0
Pasteurellosis	9 (7.76)	12 (15.79)	6 (13.33)	0.0	0.0
LSD	6 (5.17)	0.0		0.0	0.0
Trypanosomiasis	7 (6.03)	3 (3.95)	3 (6.67)	2 (10)	0.0
AHS	0.0	0.0		2 (10)	0.0
Ectoparasitism	6(5.17)	8 (10.53)	4 (8.89)	0.0	0.0
GIT parasitism	13 (11.20)	9 (11.84)	7 (15.56)	4 (20)	0.0
Dystocia	4 (3.45)	4 (5.26)	2 (4.44)	0.0	0.0
Abortion	7 (6.03)	6 (7.89)	2 (4.44)	0.0	0.0
Fasciolosis	7 (6.03)	3 (3.95)	2 (4.44)	0.0	0.0
Retained placenta	8 (6.89)	3 (3.95)	2 (4.44)	0.0	0.0
FMD	11 (9.48)	6 (7.89)	4 (8.89)	1 (5)	0.0
Bloat	6 (5.17)	5 (6.57)	3 (6.67)	0.0	0.0
Colic	0.0	0.0	0.0	5 (25)	0.0
Back sore	0.0	0.0	0.0	3 (15)	0.0
Hyena bit	0.0	0.0	0.0	2 (10)	0.0
Other	2 (1.72)	3 (3.95)	2 (4.44)	1 (5)	4 (4.25)
NCD	0.0	0.0		0.0	58 (61.7)
Fowl typhoid	0.0	0.0	0.0	0.0	12 (12.76)
Fowl cholera	0.0	0.0	0.0	0.0	20 (21.27)

4. Discussion

The current survey revealed that among the infectious disease of cattle Blackleg (31.14%), FMD (23.30%), and Mastitis (19.9%) were encountered that frequently occurred in the area. The result shows that there is difference in frequency of respondent's proportion on infectious diseases of cattle. This difference may be due to degree of severity, mortality and morbidity rates and losses of economy as prioritized by farmers.

Blackleg is categorized as soil borne diseases in the study area occurred frequently. The importance of Blackleg was also reported by authors (Belayneh, 2002; Tesfahiwet, 2004; Kassaw, 2007; Gebremedhon, 2007; Kustres, 2007; Yohannes, 2007). This disease was endemic as major health problems in the study area. The reason is probably due to the area is characterized by short heavy rainfall, flood and drought which predispose for the agent to be epidemic. Epidemics tend to occur in association with marked climatic or ecological change, such as heavy rainfall, flooding, or drought Aiello (1998). It is an established fact that Blackleg is frequently associated with flood (Frese, 1999). Other explanations could be due to low vaccination coverage in all villages of the woreda.

The disease was major health constraint of cattle. Several studies reported that Blackleg was requested to be the leading cattle health constraint in study area (Belayneh, 2002). Blackleg was reported to be the most important infectious disease with prevalence rate of 20% in the northern part of Ethiopia (Legesse, 1996) and Tesfahiwet (2004) also mentioned that it was common infectious disease of cattle in Ada liben Woreda. These two diseases were endemic as major health complications in the study area. The reason is probably due to the area is characterized by short heavy rainfall, flood and drought which predispose for the agent to be epidemic. Epidemics tend to occur in association with marked climatic or ecological change, such as heavy rainfall, flooding, or drought Aiello (1998).

Based on questionnaire survey, participatory approaches with key respondents, veterinary stuffs and clinical observation study mastitis was found major health problem of smollholder dairy farmers in the study area. (Solomon, 2006; Kassaw, 2007; Gebremedhon, 2007) reported that mastitis was major dairy cow health problems in Asella, Eastern Ethiopia, Fogera Woreda, and in Atsbi Womberta woreda, Tigray regional state respectively. According to Dairy Federation bulletin (1999) description, mastitis is economically the single most important diseases of the dairy cattle. It reduces milk yields, profit and the quality of milk and milk products in all dairy producing countries of the world.

In this study, the prevalence of clinical FMD (9.48%) was lower than the results (17.7%) by Haftu, *et al.*, 2014 in Eastern Zone of Tigray, Ayelet, *et al.*, 2012 in Guji zone in Oromia (32.7%) and Yeka district of Addis Ababa, with the prevalence of 30%. The variation might be the season and the degree of outbreaks, production systems, and communal usage of facilities.

Pasteurellosis was observed in cattle as the main infectious disease in the study area. This might be animals movement is common for searching of feed, water and to be sold for market during drought period. In addition to these there are predisposing factors such as stress, excessive cold (due to high altitude ranges) that can favors the bacteria to multiply and then evade the lower respiratory tract from which infection is activated. Radostits *et al.* (1994) also indicated that the disease is common when animals are exposed to wet, chilly weather or exhausted by heavy work.

The prevalence of RFM (6.89%) in this study was lower than the reports done by Abuom 2012 in Kiambu District, Kenya which was 26.6% and comparable with the reports done by Molalegne, *et al.*, 2011 in and around Bedelle, which was 8.6% and in Arsi zone by Degefa, *et al.*, 2011 which was 8.3%. Yet, this was lower than the reports done in and around Nazareth town (12.91%) by Gizaw, *et al* 2007, and under Small-holding in Addis Ababa (17%) by Abreham, *et*

al., 2010. But the present study is higher when compared with the report done by Getachew, *et al.*, 2014 in Adama District having a prevalence of 0.8%. The variation in the prevalence of RFM might be attributed to the difference in nutritional status and management factors. Uterine paresis, abortion, stress, late or premature birth, dystocia, twinning, infections, seasonal and hormonal disorders, immune suppression vitamin, and mineral deficiencies have been identified as causes of RFM by Beagley, *et al.*, 2010.

Trypanosomiasis was also claimed to be the important disease in different group of cattle in the present study. Adane (1995) reported the prevalence rate of 16.6% trypanosomiasis in and around Bahir Dar. The higher prevalence of trypanosomiasis in present survey might be due to lack of integrated tsetse and trypanosomiasis control action or presence of cyclical or mechanical vectors in study area.

The result indicated that lumpy skin disease was found as the frequently appeared infectious viral disease in the study area in cattle. The prevalence of LSD (5.17%) in the current study was lower than reports done by Fasil, *et al.*, 2016 in Hawassa town, which was 30.1%. This variation might be due to the environment, production system, breed of the animal, the size of the herd, and management system and vaccination status of the animal

Regarding GIT problem, bloat (5.17%) was recorded in this study. The prevalence of bloat (5.17%) in this study is comparable with the finding of Fasil *et al.*, 2016 who reported 4.5% prevalence. Other health problems observed with lower prevalence such as dystocia, prolapsed and lameness are comparable to reports in another place.

Parasitic gastroenteritis in cattle is an important disease in the area according to the case observational study. Other reports (Belayneh, 2002; Tesfahiwet, 2004; Gebremedhon, 2007) also showed that parasitic gastroenteritis in Ginchi water shed, Adaliben woreda and Atsbi womberta woreda, Tigray Regional state was a

major health problem of cattle. Fasciolosis was also among the important diseases in different group of cattle in study area. A high prevalence of fasciolosis was reported by Ameni (2004) in North East Ethiopia. The woreda is endowed with large number of rivers and springs. Farmers use this water resource for irrigated crop production. Wrongly planned irrigation; however, impedes production and results in wasted effort by favoring the incidence and spread of common waterborne animal diseases such as fasciolosis which are known to cause significant animal losses (Traor, 1989). The other most probable reason may be due to the tendency of farmers to feed their animals in marshy areas due to the shortage of grazing land.

In sheep and goats, respiratory problems which is characterized by nasal discharge and coughing and subsequently death in some cases was mentioned by farmer as the first most important disease. The same result was reported by Mekonen (2000) in Arsi highlands. The clinical signs are suggestive of pasteurellosis which are in agreement with the signs of pasteurellosis described by (Gilimoar, 1993).

Parasitic diseases in small ruminants were found high which was responded by the farmers during interview and field supervision. Among the parasitic diseases, endoparasitic comprises more than half of the reported cases. This could be attributed to overgrazing of infested pasture and low use of anthelmintics. This result is in consistent with previous findings in Ethiopia high land sheep (Tekalye *et al.*, 1992) and (ILCA, 1996). Similar result has also been described by Belay (1998) in western part of Ethiopia (15%).

Orf and mange was also the major health constraint of sheep mentioned during the field supervision in the study area. These disease are important in affecting the skin quality and hence the export market on the products (Ayele *et al.*, 2003)

Equine, colic is one of the important diseases mentioned by respondents. This is attributed to poor management specially poor care of the teeth,

feeding of equines with feeds that cannot digested and heavy infection with intestinal helminthes especially strongyles (Radostit et al., 1994)

In the study area one of the major animal health constraints of equines is African horse sickness. AHS is highly fatal viral infectious disease of horses, mules and donkeys (Radostits et al., 1994). Its frequent occurrence may be due to the present of insect vector in the area. In areas where outbreaks occur the morbidity rate is related to the number of insect vectors present (Radostits et al., 1994). The other reason may be due to low vaccination coverage in all villages/animals in the area.

The study indicated that back sore is the leading most important health constraint of equines in the study area. The prevalence of back sore (33.11%) in this study was lower than the reports done by Tesfahiwo (2004) in Ada liben area, which was 50%. This result differs because equines use extensively for transportation and loading of salt from remote area (Afar) to market, poor harnessing which cause abrasion and small to large wounds (Seifert et al., 1993).

Hyena bite was also identified in the study that was frequently account significant proportion of traumatic health constraint. These diseases related to the housing systems, ragged, swampy and open fencing systems, which predisposing donkeys for hyena bites and unsuitable topography and improper loading style of donkeys which expose donkeys remarkably to lameness (Rodriguez, G., 1991).

The study also revealed that New castle Disease (NCD) was identified as more popular and economically significant infectious viral disease of chickens in the study. It was also reported by Dessie and Jobre (2004) that NCD was the single major health constraint, which cause heavy mortality and morbidity to village chicken and affects productivity of the system in the country. Its frequency in the woreda may because of absence of control and prevention methods to decrease its economic impact. In addition fowl cholera and fowl typhoid were found to occur at

relatively lower prevalence according to respondents

5. Conclusion and Recommendations

5.1 Conclusion

This study discovered that farming system in Damot Sore woreda is mixed crop livestock production system of which livestock herd is dominated by cattle and sheep. There were also goats, donkeys, horses and poultry in the livestock herd. Diseases and feed shortage were the problem of livestock development extension programs in the study area. Blackleg, GIT parasitism, FMD and Mastitis were the most important diseases of cattle. In sheep Peste des petits ruminants and Mastitis were the most important diseases. Colic and back sore were considered as the most important constraints of equine health. Modern veterinary medicaments were known and used by most of the farmers, but traditional medicines were also used to a significant extent.

5.2 Recommendations

Based on the above conclusion, the following recommendations are forward

□ Importance should be given in the animal health delivery to maximize health service coverage of the area.

□ Livestock owners must receive basic training regarding animal diseases prevention, modern techniques in animal husbandry and management skills which can fit to the local situation.

□ Detail epidemiological survey on major economically important diseases of livestock is recommended to be undertaken.

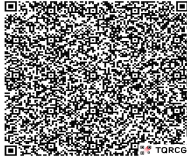
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