

**MAJOR ANIMAL HEALTH PROBLEMS OF MARKET  
ORIENTED LIVESTOCK DEVELOPMENT IN ATSBI  
WOMBERTA WOREDA, TIGRAY REGIONAL STATE.**

**By**

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Debre Zeit Ethiopia

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## **List of Acronyms**

<b>AAU</b>	<b>Addis Ababa University</b>
<b>BoANRT</b>	<b>Bureau of Agriculture and Natural Resources of Tigray</b>
<b>FVM</b>	<b>Faculty of Veterinary Medicine</b>
<b>GIT</b>	<b>Gastrointestinal Tract</b>
<b>ILRI</b>	<b>International Livestock Research Institute</b>
<b>IPMS</b>	<b>Improved Productivity and Market Success of Ethiopian farmers</b>
<b>Masl</b>	<b>Meter above sea level</b>
<b>OoARD</b>	<b>Office of Agriculture and Rural Development</b>
<b>RDO</b>	<b>Research Development Officers</b>
<b>PLW</b>	<b>Pilot Learning Woreda</b>

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## **Abstract**

An attempt was made to study major health problems of livestock in Atsbi womberta Woreda, northern Ethiopia, from December 2006 to April 2007. Questionnaire survey was

carried out on 100 livestock owners to collect information on the livestock production system and the major health problems recognized by farmers in the study area, observational also were conducted.

The questionnaire survey result revealed that in cattle infectious diseases (58.5 %) followed by miscellaneous case (27%) and parasitic problem (14.5%), in sheep parasitic problems (50.3%) followed by infectious diseases (46.2%) and miscellaneous cases (3.5%) are the common health constraints and similarly in goats the most important health problems were those caused by parasites (20.5%) followed by infectious cases (63.1%) and miscellaneous diseases (16.3%). In equines miscellaneous cases (63.5%) followed by parasitic diseases (11.5%) and infectious diseases (25.5%) were identified. In poultry NCD (53.5%) was the most devastating infectious disease.

In the observational study, in cattle tick (15.8%) and Fasciolosis (14.9%), in caprine pasteurellosis (25.8%) and Abortion (25.4%), in ovine fasciolosis (34.1%) and abortion (22.7%), in equine GI parasites (22.75%) and colic (13.6%) were the common cases frequently appeared during the study time.

The retrospective study showed that infectious disease with an average of 28.2%, parasitic 46.4% and miscellaneous 25.4% were frequently recorded in the woreda veterinary clinic.

The study also addressed that the animal production system in the study area in general is traditional with a number of problems. Most of the respondents complained that animal feed followed by water shortage is serious problem. They also indicated that due to uncontrolled animal movement specially from Afar Regional State, disease transmission is a problem.

**Key Words/Phrases:** Atsbi womberta livestock, animal health infectious, parasitic, miscelanosis, disease .

## 1. INTRODUCTION

Animal production has been considered as the main component of agricultural development in most parts of sub-Saharan Africa. Like in many developing countries, domestic animals play a crucial role in Ethiopia, they constitute as source for traction power, income, in provision of milk and meat (Mekonnen *et al.*, 1989). Ethiopia is known for its high livestock population, being the first in Africa and tenth in the world, The recent livestock population estimate that the country has about 44.3 million heads of cattle, 23.6 million sheep and 23.3 million goats (CSA, 2004).

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 the low genetic potential of indigenous cattle, poor nutrition and reproductive performance, inadequate management, high disease incidence and parasite burden. Among these diseases have numerous influences on productivity and fertility of herds i.e. losses due to mortality and morbidity, loss of weight, slow down growth, poor fertility performance and decrease physical power.

In tropical areas livestock health problems is high due to environmental factors like high temperature and humidity, topography structure of sloppy area exposed to flood so easy to infect soil born diseases, stress factors and drought are common in these area as a result feed availability is limited and low vegetation coverage. And the other major reason is the lack of weakness of animal health services (Assegid, 2000).

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 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 general objectives of this study were:

- To characterize the livestock production system.
- To enquire base line information on major health problems of livestock in the study area.



## **2. METHODS AND MATERIALS**

### **2.1. Description of Study area**

The study was conducted in Astbi womberta *woreda*, which is found in Tigray Regional state. The *Woreda* is situated 67km north east of Mekelle and 847km north of capital city of Ethiopia, Addis Ababa. The *Woreda* has an altitude ranging from 2000 to 3100 mbsl. Mean annual rainfall is 500 to 600 mm. Rainfall of the *woreda* have bimodal season, the long rain season starts from end of June to beginning of September and short rain season stays from January to March. Agro climatically, the *Woreda* is divided into two, high land ('Dega') which accounts for 70% and mid high land ('Weynadega') which covers 30% of the *Woreda*. The high land area is concentrated to the central and north east area as well as mid high land covers southern parts of the *woreda*. Mixed crop and livestock farming system is the mode of agriculture in the *Woreda*. The major crops that are grown in the area include sorghum, maize, wheat and teff.

Livestock are main components as main factors for the livelihood of the community to undertake agricultural activities. The total livestock population is 225,791 and this includes 52,482 cattle, 82,950 sheep, 15,431 goats, 79 horses, 9,416 donkey, 1,333 mules, 75 camel, 47,265 poultry and 16,835 bee hives (Atsbi womberta OoRAD, 2006).

### **2.2 study design**

#### ***2.2.1 Sampling Procedure***

Purposive and simple random sampling methods have been done to select the peasant association, households, respectively. Initially five PAs namely: Golgel neale, Felegewyin, Barka adisbha, Kalamine and Hayelom were purposely selected based on accessibility transport, agro-ecological differences. From each PA 20 households were randomly selected which then made a total of 100 households to include in the study. All livestock owned by the sampled households were considered as study animals. There were, therefore, cattle 493, goats 964, sheep, 1493 and equines 155 (donkeys, mule and horse), poultry, 336, camel 25 and 117 beehives included in the study.

### ***2.2.2 Questionnaire Survey***

A detailed and organized questionnaire format (Annex I) was designed and an attempt was made to generate base line information related to livestock production and with particular emphasis on major livestock health problems; livestock diseases considered as important by farmers and measures taken by farmers against livestock diseases. About 0.2% of the estimated whole population of household heads of the *Woreda* that amount 100 respondents were involved in the interview. The questionnaire was framed in such away 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 five peasant associations.

### ***2.2.4 Participatory approach***

Twenty key respondents was selected by the development agent in each of the five 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.

### ***2.2.5 Clinical observational study***

Clinical cases appearing in the Atsbi womberta veterinary clinics from December 2006 to April 2007 were examined to address the major clinical diseases of livestock in the study area.

### **2.3.Data analysis and management**

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

## **3. RESULT**

### **3.1. Demographic and land holding**

The majority of respondents were male (82%) and the maximum and minimum age was 78 and 22 years, resistively. Regarding educational status 82% of respondents didn't get any education (Table1). The

average family size was 4 persons from which more than half (61.2%) was above 15 years old. Most of the respondents have private land with 0.5 mean, 0.25 minimums and 0.75 maximum in hectares.

Table1: Demographic characteristics of sampled households

Variable	N	Category	Frequency (Proportion)
Sex	100	Male	82%
		Female	18%
Educational status	100	Illiterate	82%
		Religious	10%
		Elementary school	6%
		Junior and above	2%
Family size	100	<15 years	39.8%
		> 15 years	61.2%

### 3.2. Livestock herd size and composition

Majority of the respondents own sheep, goats, cattle and equine which are major species with herd structure (Table2).

Table 2. The detail description of the heard structure and description statistics is shown

Species	Mean	Range (Min. –Max)	Proportion from Species herd (%)
<b>Cattle (n=77)</b>			
Calf	1.1	1-4	20.0

Heifer	1.1	1-2	9.7
Cow	1.5	1-5	31.6
Oxen	1.2	1-4	37.9
<b>Goat (56)</b>			
Kids	4.5	1-9	21
Yearling	2.3	1-5	7
Doe	6.9	1-28	40.4
Buck	7.4	1-16	31.4
<b>Sheep (n=88)</b>			
Lamb	4.3	1-8	22.6
Yearling	3.2	1-10	19
Ewe	4.9	1-12	28.7
Ram	7.6	1-11	37.6
<b>Equine (n=46)</b>			
Donkey	1.2	1-2	79.0
Mule	1.3	1-2	20.0
Horse	1		1.0
<b>Poultry (n=69)</b>	4.9	1-16	
<b>Bee hive (n=41)</b>	2.9	1-5	

### 3.3 Livestock functions and products

In the study area animals are used for different purposes and hence they are considered as backbone of the livelihood of the community. Their functions and products, and proportion of respondents are listed in (Table 3).

Table 3: Functions/products of livestock, frequency and percentage of respondents

Functions/ products	Cattle N=77	Goat N=56	Sheep N=58	Equine N=46	Poultry N=69	Bee hive N=41
Traction power	62(23.6)			5(8.8)		
Milk/its byproducts	57(21.8)	37(27.0)	33(14.5)			
Market/sell	53(20.0)	40(29.0)	66(30.0)		48(30.0)	40(44.4)
Breeding/rearing	35(13.0)	24(18.0)	42(19.0)	2(3.5)	10(6.0)	
Meat	25(9.60)	22(16.0)	34(15.5)		35(22.0)	

Hide/skin	17(6.5)	7(5.10)	15(8.5)	
Manure/fertilizer	12(4.5)	6(4.4)	29(12.5)	4(7,0)
Transport/loading				46(80.7)
Egg				66(42.0)
Honey				41(50.6)

N= Number of animal owners.

### 3.4 Livestock feed and Availability

Majority of respondents indicated that natural pasture; cereal straws and cactus (belles) are the major livestock feed types. The respondents also reported that feed availability depends on seasons. Feed shortage is the main problem especially during dry season in the study area to maintain market oriented livestock development extension. Common feed stuff types and proportion of respondents is shown in (Table 4).

Table 4: Types of major feedstuff and availability across seasons

Feed stuff	Seasons			Proportion of respondents (%)
	Dry	short RS	long RS	
<b>Natural pasture</b>	*	*	**	<b>97</b>
<b>Cereal straws</b>	**	*	*	<b>96</b>
<b>Cactus (Bells)</b>	**	*	*	<b>50</b>
<b>Houseleft (Attela)</b>	*	*	*	<b>44</b>
<b>Cultivatedpasture</b>	**	*	*	<b>39</b>
<b>Stover</b>	*	*	*	<b>32</b>
<b>Furshca</b>	*	*	*	<b>26</b>

\*\*= More available, \*= Available, RS=Rain season

### 1.4. Water sources

In the study site they have water sources for watering animal like rivers, streams, ponds and well. Majority (84%) of the owner use river and streams for watering animals. these water sources not available through out the year. Shortage of water encountered during drought dry season especially during January to June. At these time farmers use pond and well as mechanism of adoptability water shortage problems.

### 3.5 Housing, breeding and recording

Most of the peasants sixty nine percent house different specie animals with in one house, which is separated from their own house and thirty one percent of the respondents house the same species of animals in different houses, which are separated their own home. Regarding to breeding most of the eighty percent of respondents use uncontrolled natural mating and twenty percent respondents use selected bulls to reproduce cattle.eigthy five percent explain the performance of their animals by recalling and fifteen percent respondents use measurable unit to know the performance of their animals.

### 3.6 Selling and Marketing

Respondents sold livestock for different purposes fifty three percent, thirtyfive percent and ten percent respondents indicated that they sell animals for house hold expense, due to drought and diseases/out break, respectively. Respondents argue that they don't have specific time for selling livestock but mostly selling is under taken during holidays and cultivated season.

### 3.7 Culling criteria of livestock

Respondents reported that they cull animals from the herd based on age, reproductive capability, disease and production level (Table 5).

Table: 5 Reasons of culling and their importance (%)

Culling criteria	proportion/frequency N=88	Importance (%)
Old age	67	28.6
Reproductive disease/infertility	61	26.1
Disease	55	23.5

Poor production	41	17.5
Other	10	4.3

N= Number of respondents who use the above culling criteria.

### 3.8. Occurrence of abortion in the (2004-2005) years

About thirty percent of the farmers encountered abortion in the past two years. The most frequent abortion occurred in ovine, caprine and bovine among this 58%, 24% and 18% occurred respectively. Mostly abortions occurred in early and late gestation period. The seasons encountered abortion from January to May months.

Table.7. Occurrence of abortion in different species of livestock

<i>Aborted species</i>	<i>Frequency of Occurrence of Abortion</i>	<b>Frequency of Occurrence of Abortion by gestation period</b>		
		Early	Mid	Late
Bovine	10	8	2	
Goat	20	5	3	12
Sheep	40	10	7	23
Equine	4	4		
Total	74	27	12	35

### 3.8 Livestock health problems

Respondents complained that many infectious, parasitic and miscellaneous diseases are the major health problems of livestock, which are cause of death of number of animals and production loss. They also indicated that the disease dynamic is aggravated by many factors like feed shortage, inadequate Veterinary service, season and agro ecological.

Table: Distribution of major disease of livestock frequency and percent.

<i>Disease</i>	<i>Local name</i>	<i>Cattle</i>	<i>Sheep</i>	<i>Goat</i>	<i>Equine</i>	<i>Poultry</i>
		N=77	N=88	N=56	N=46	N=69
		And %	And %	And %	And %	And %



Infectious		58.5%	46.2%	63.1%	25%	
Anthrax	Taffia	74(16.98)	19(6.6)			
Blackleg	Wekie	62(15.7)	43(14.7)			
Mastitis	H/ gulo	42(10.6)		7(9.4)		
Pasteurellosis	Mieta	35(8.9)	50(17.0)			
LSD	Enfirir	18(5.3)				
Sheep/goatpox	Enfirir		23(7.9)	40(53.7)		
NCD						57(53.5)
AHS						46(25.5)
Parasitic		14.5%	50.3%	20.5%	11.5%	
GIT parasitic	W/tesietagan	16(5.07)	16(7.7)			21(11.5)
Tick	Kuridid	14(4.56)	3(1.7)	3(2.1)		
Mange mites	Ekeke	12(3.54)	2(1.6)	14(11.5)		
Coenuruses	Zarity		45(19.4)			
Fasciolosis	Effel	10(2.56)	43(18.7)			
Miscellaneous		27%	3.5%	16.3%	63. %	0
Rep/ disorder		16(4.07)	18(3.5)	4(4.1)	3(1.3)	
Lameness	Sinkale					22(12.1)
Colic	Kuritset					42(23.2)
Back sore	Kusiliy					36(19.9)
Hyena bite						3(1.3)
Bloat	Nefihi	8(2.22)				

### 3.10. Mortality of livestock in the past year (2005/2006)

During the past year a total of 223 animals died from different causes, but according farmer most of sheep died of diseases that is categorized as unknown disease. From the total number of animals died last year, 12.3% were cattle, 40.8 % were sheep, 20.1% Goat, 18.7% were poultry and 4.1% were equine.

Diseases outbreaks were reported to government bodies only by 45% of the farmers and about 63.9% of the reporting farmers knew that the government bodies responded for their reports.

### 3.1.11 Treatment and preventive

The peasant respond that 42.5 %( N=94) of them use modern treatment, 35.2 %( N=77) use traditional treatment and 22.3 %( N=50) use slaughter to cure/relief diseased animals.

Traditional treatments are widely used in the study area for infectious, surgical, non infectious and parasitic. Among the preventive measures vaccination and slaughter are mostly practiced. The proportion of respondents and treatment and preventive measures taken by them are listed in Table 8.

Table 8: Measures and frequencies of treatment and vaccination

Treatment/measures	Frequency (n)	Percent
Modern treatment	94	42.5
Traditional treatment	77	35.2
Slaughter	50	22.3
Diseases treated traditionally		
Infectious	77	37.4
Surgical	64	31.0
Non infectious	41	41
Parasitic	24	
Preventive measures		
Vaccination	98	60.9
Slaughter	38	23.1
Quarantine	25	16.0

### 3.2.12 Veterinary service

68% of the Respondents have an access to modern veterinary service and 32% have not access to modern veterinary service. Majority of Respondents argue that there is lack of manpower as compare to livestock population of the Woreda, high cost of medication and lack of veterinary clinics in nearby.

Cost of treatment and vaccination and proportion of Respondents is described in (Table 6) The survey also indicated that 50% (N=50) of the Respondents reported to the government body when out break /diseases were encountered. Of these 44%(N=22) Respondents ascertained that government has interfered to halt the out break/ diseases.

Table: 9 Response to cost treatment and vaccination at the study site.

Degree of cost	Treatment		Vaccination	
	Frequency	Percentage	Frequency	Percentage
Expensive	44	44.0	20	20.0
Moderate	44	44.0	10	10.0
Cheap	12	12.0	51	51.0
Free	0	0.0	19	19.0

3.1.10 Clinical observation examination takes place in the *woreda* veterinary clinic with different cases present of livestock shown in (Table 7).

#### Incidence of diseases

Among the diseases which were diagnosed tentatively, mastitis (8.5), tick (15.8%), gastro intestinal parasitism (9.6%) were frequently encountered in cattle and in goat abortion

(25.4%), pasteurellosis (25.8%) were highly occurred. Fasciolosis (34.1%) and wound (27.3%) were diagnosed in sheep and equine respectively.

Table 7. Shows that clinical cases observation animals relative with disease.

Disease	Species			
	Bovine N=94	Caprine N=31	Ovine N=44	Equine N=22
GI parasitism	9(9.6%)	2(6.5%)	2(4.6%)	5(22.75)
Fasciolosis	14(14.9%)	0	15(34.1%)	0
Tick	15(15.8%)	2(6.5%)		0
Abortion	6(6.4%)	8(25.4%)	10(22.7%)	1(4.5%)
Mange	11(11.7%)	2(6.2%)	3(6.8%)	0
Pasteurellosis	4(3.2%)	8(25.8%)	6(13.6%)	0
Dystocia	2(2.0%)	0	3(6.8%)	1(4.5%)
Anthrax	7(3.2%)	0	0	0
Blackleg	3(2.0%)	0	0	0
LSD	6(6.4%)	0	0	0
Wound	6(6.4%)	2(6.4%)	0	6(27.3%)
Mastitis	8(8.5%)	2(6.4%)	0	0
Sheep/ goat pox		3(12.0%)	5(11.4%)	0
Colic				3(13.6%)
Lameness				3(13.6%)
Other diseases	2(2.0%)	3(12.0%)	0	3(13.6%)
Total	94	31	44	22

#### 4. DISCUSSION

## **Cattle**

The result of the present study disclosed the existence of major animal health problems on market oriented livestock development of cattle with an over all diagnosed based on questioner survey, Check list group discussion, retrospective and clinical observation.58.5% of infectious diseases, 14.5% of parasitic and 27% of miscellaneous diseases were recorded at the study area.

### **Infectious diseases**

The current survey revealed that among the infectious disease Anthrax (16.98%), Blackleg (15.7%), Mastitis (10.6%), Pasteurellosis (8.9%) and Lumpy skin disease (5.3%) were encountered that frequently occurred in the area. The result shows that there is difference in frequency of respondents proportion on infectious diseases of cattle. This difference may be due to degree of severity, mortality and morbidity rates and loses of economy as prioritized by farmers.

    Anthrax and Blackleg are categorized as soil borne diseases in the study area occurred frequently. The diseases were major health problems of cattle, sheep and equines. Several studies reported that Anthrax and Blackleg were claimed to be the leading cattle health problem in Ginchi water shed area (Belayneh, 2002). Blackleg was reported to be the most important infectious disease with prevalence rate of 20% in the northern part of Ethiopia (Tigray)(Legesse, 1996) and Tesfahiwot (2004) also mentioned that it was common infectious disease of cattle in Ada liben Woreda. These two diseases were 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 cahange, such as heavy rainfall, flooding, or drought Aiello (1998).

Mastitis: based on questionnaire survey, participatory approaches with key respondents, veterinary stuffs and retrospective study mastitis was found major health problem of smollholder dairy farmers in

the study area. Solomon( 2006) reported that mastitis was major dairy cow health problem with high prevalence rates( 16.2%) in Asella, eastern Ethiopia . Over whelming cases of mastitis were sub clinical and clinical mastitis in both breeds (Kassa *et al.*, 1997). In the area dairy cows were distributed to the farmers by government but the managements could not know well understood so that dairy cows easily affected by mastitis.

**Lumpy skin disease:** The result indicated that lumpy skin disease was found as the frequently appeared infectious viral disease in the study area in cattle. The disease frequently occurs from November to December. This result agrees with Regassa (2003) in Nekemte, Western Ethiopia that occur during November and December. The author also discussed the epizootic characteristics of this disease has close association with climatic condition mainly prolonged and heavy rains which favor an increase in the population of biting insects and topography. Traditionally the disease occurs in Southern and Eastern Africa but, in recent years, has extended north west through the continent in to sub-Saharan west, Africa (Merck, 1998). In the area clinical cases were observed during the study period.

**Septicemia pasteurellosis (hemorrhagic septicemia or bar bone):** 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 soled 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 triggered. Radostits *et al.* (1994) also indicated that the disease is common when animals are exposed to wet, chilly weather or exhausted by heavy work.

### **Parasitic disease**

Regarding to the result many parasitic disease were observed as common health problem of livestock. Among the parasitic diseases GI helimenthiasis was found frequently causing mainly loss of body condition, emaciation and weak in draught power of cattle. The high occurrence of parasitic diseases in the study area could be due to low deworming practices and the increasing of irrigation lands in the Woreda at which reproduction and development of the parasites and their intermediate host is favored.

. Feseha (1998) reported that gastro intestinal helimenthiasis commonest disease-affecting cattle in other crop-livestock production system areas of Ethiopia.

Other reports( Belayneh,2002 and Tesfahiwo,2004) also showed that GI helimenthiasis in Ginchi watershed and Adaliben woreda were major animal health problems of cattle respectively.

Fasciolosis on of the common endoparasite that affect productivities and growth rate of cattle in the study area. This could be associated to large water wholes and marshy areas available in the grazing area and less deworming. This finding is in agreement with other results with incidence rates as high as 33.8% and 47 % that were reported by Regassa (1985) from northwestern Ethiopia and Ameni (2001) from northeastern Ethiopia respectively.

The study also revealed that with ratio of 3.45% mange mites were ectoparasites of cattle that affects skin mostly encountered in the study area. This result was relatively low compared that of Assegied (1991) who recorded a prevalence rate of 7.4%, and relatively high compare that of Chalachew (2001) who reported prevalence of 1.86%. This difference might be due to the study design, management, climate condition and season. An animal that is affected by mange mites shows with clinical signs like rubbing, itching, emaciated body condition and loss of hair in the field area observed.

The observational study also showed the presence of low tick infestation in the area. This was may be due to the microclimate (high land) helps for lowering tick infestation in the study area. High land districts have lesser tick population relative to low land in addition, tick infestation is highest in area by a complex interaction of factors such as climate, hot susceptibility and grazing habits (BOANRT, 2003).

### **Miscellaneous disease**

In this survey reproductive problems were important health problems one of cattle as mentioned by respondents. This may be due to un controlled breeding, infectious agents, production and management systems. Kassahun (2003) 6.3% and Yesuneh (2005) 2.23 % abortion prevalence rates were recorded in different parts of Ethiopia. In addition a prevalence rate of 7.5% ( Tigre, 2004) and 7.8% (Tadesse, 1999) dystocia was recorded in Holleta. The high occurrence of dystocia may vary due to the fact that it is influenced by factors such as age and parity dam, as well as breed of the sire (Marrow and Noakes 1986).

### **Small ruminants**

The present study showed that small ruminants were affected by parasitic disease (50.3%), infectious disease (46.2%) and miscellaneous disease (3.5%).

### **Parasitic diseases**

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 antihelmenthics. 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%).

The result shows that circling disease (*coenuruses cerebralis*) was among the major health problems of sheep in the Atsbi womberta woreda. Its occurrence may be related with presence of infected final host (dog) in the area and low prevention and control strategies.

Fasciolosis was also the major health problems of sheep mentioned during the survey protocol procedures in the study area. This result agrees with Tembley (1997) that described Fasciolosis as a very important disease of sheep in the high lands of Ethiopia .Its importance in the present study area may be explained by wide range land marshy area and water holes in which wet up the dry season and good opportunity for the survival of the intermediate host, water snails and consequently gives high chance for the development of the fasciola parasite.

### **Infectious disease**

Sheep/goat poxviruses in the present study were found frequently occurring viral infectious diseases in the area. Similar study reported by Haffize (2001) in central Ethiopia indicated that prevalence rates of sheep pox and goat pox were 1.55% and 1.62%, respectively. Factors predisposing for poxvirus infection include climate, housing and shortage of feed during the long dry season. The occurrence was higher in young animals than in the adults. As sheep and goat pox are endemic to Ethiopia, adults had lower prevalence probably due to acquired immunity by previous infection and vaccination. Sheep poxvirus occurs in all breeds, sexes and ages of sheep but lambs suffer with higher disease incidence and more sever lesions (Kimberling, 1988), Ethiopia is consider as having a low sporadic occurrence of the disease (FAO-WHO-OIE, 1993). But in the 1999 about 25 out breaks in sheep and goat pox were



reported to MOA with a reporting rate of only 42.4% (Tariku, 2000), live, attenuated vaccines of sheep and goat pox are produced at the national institute (NVI), Debrezeit Ethiopia, to control the disease.

The present study showed pasteurellosis which is locally called 'mieta /areye' is the most serious economically important bacterial infectious disease of small ruminants in the Woreda. This result is in agreement with findings of Aschalew (1998) who studied on Ovine pneumonic pasteurellosis in north shoa. He described that the higher incidence of the disease were from December to January could be due to the adverse effects of the inclement weather, which was coldest during this months. Pasteurellosis being commensally of the upper respiratory tract selectively proliferate and colonize the lower part of the respiratory tract. This occurs during times of ill defined factors of which inclement weather is one example (Radostitis.o.m.*et al.*, 1994). Similarly the high occurrence of the diseases in the *woreda* may be to stress.

### **Equine disease**

In the study area one of the major animal health problems of equines is African horse sickness. AHS is highly fatal viral infectious disease of horses, mules and donkeys (Radostitits *et al.*, 1994). Its frequent occurrence may be due to the present of insect vector in the area. In areas where out breaks 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.

In donkeys, parasitic disease is the most frequently encountered health problems in this study area. Among the parasitic cases, GI helementhiasis is the predominant case, which is occurring, significantly in higher rate in young donkey. This finding is in agreement with that of Yoseph (1993) in Wonchi area. Mostly this may be due to stress, which leads to lower immuno competence. Young donkeys are subject to stress when they are being training to carry loads by their owners and hence they become susceptible to parasitic infestation. This study also correlated with result of Tesfahiwot (2004) in Ada liben woreda.

The study indicated that Back sore is the leading most important health problems of equines in the study area and representing more than 63.5% of traumatic wound in equines. Significance nearly similar

finding was reported by Awake (1995), northern Gonder, for prevalence of 48%, another report by Tesfahiwot (2004) in Ada liben area for prevalence of 50%. This result little bite 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).

Lameness and hyena bite were also identified in the study that were frequently account significant proportion of traumatic health problems. 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 (Rodriquez, G., 1991).

Colic which was found one of miscellaneous cases had a considerable incidence rate which could be attributed to the heavy infestation rate of houses with the red worms, restricted access to water, poor teeth status, access of fermentable feed staff, torsion of intestine and others (Radostitis, *et al.*, 1994).

### **Poultry disease**

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 reduce its economical impact.

## **5.CONCLUSION AND RECOMMENDATIONS.**

This study revealed that in Atsbi womberta woreda the mixed crop- livestock production system is the dominant system and livestock are the most important component of live hood of farmer in the area. The woreda support different species of livestock including cattle, small ruminant (Sheep and goat), and equine (Donkey and mule) and poultry. Though livestock are the major source of live hood in Atsbi womberta woreda, farmer cannot exploit full potential of the sector because of different constraints. Among this constraint live stock disease and feed shortage are the major ones. Disease like infectious diseases, external and endo parasite and miscellaneous case are the major health problems of livestock developments for poor productivity of the sector. As the consequence this disease affect both the local and national economy. So to improve productivity of the sector.

- Livestock owner need to be introduce with the basic knowledge of nutritional and animal health management
- Development of proper animal health delivery system that could be extended to all livestock owner.
- Introducing alternative forage developments (cultivated pasture) is mandatory to alleviate feed shortage
- Using data generated from this study, which could be serve as basic line information, strategic disease control scheme should be develop to fight against infectious, parasites and miscelionosis diseases.

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