

# Market oriented livestock production and major health problems in Ambo district, Central Oromia, Ethiopia

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## ABSTRACT

**Aim:** The study was aimed to identify the major animal health problems and to look at the animal production system.

**Method and Materials:** For this survey a total of 80 respondents were selected from four peasant associations namely: Awaro, Gosu, Kisose and Senkele and interviewed using structured questionnaire format. Focus group discussion was also made with volunteer respondents from each PA and the participants described the major livestock health problems in their area.

**Results:** Mixed crop-livestock type of production system was the main production system in the area in which animals were kept in limited grazing land. Among the livestock population in the study area Cattle were the most dominant from the animal species and kept primarily for source of draft power for crop production and milk purposes and also sold to market as a source of income in which small ruminant also play great role. Separate housing for both the families and animals were the characteristic of most households. Livestock feeding mainly based on the crop residues (cereal straw and Stover) during the dry season.

**Conclusion:** It was concluded that basic animals health and management as well as nutrition to maximizes health service coverage of the area, and Veterinary clinic should be available in area where there is no since the Ethiopian economy is mainly dependent on livestock production.

**Keywords:** Ambo, Livestock health problem, Production system, Questioner survey.

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## Introduction

Ethiopia believes to have the largest livestock population in Africa. 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. Livestock as well confer a certain degree of security in times of crop failure, as they are a “near-cash” capital stock. Furthermore, livestock provides farmyard manure that is commonly applied to improve soil fertility and also used as a source of energy. (CSA, 2010).

Ethiopia takes the lead in livestock population in Africa, with an estimated population of 431,000,000 cattle, 236,000,000 sheep, 186,000,000 goats, 17,000,000 horses, 45,000,000 donkeys, 0.36 million mules, 0.6 million camels, and finally 34.2 million poultry (CSA, 2008). The Oromia regional state accounts for 45.7% of cattle, 39.3% of sheep, and 31.7% of goats 31.7 percent of the goats stock of the country. The proportion of horses, donkeys, mules and camels share of the Region from the country's total is 63.2, 45.8, 49.3 and 21.3 percent, respectively. Moreover, 37.2 percent of the country's total poultry and 55.9 percent of the beehives are found in Oromia. The Oromia Regional state has the first largest population of livestock in Ethiopia which Amahara region holds the second (CSA, 2008).

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Despite the large number of livestock in Ethiopia, the sector is characterized by low productivity and, hence, income derived from this sector of agriculture's 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 livestock, 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 borne 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 inadequate and weakness of animal health services (Assegid, 2000).

The growth in livestock populations has slowed over recent year. Between 1974 and 1998, human population increased by 78% while that of cattle population increased by 31% and small ruminant decrease by 5.6%. Annual population growth rate of human was 2.5% while that of cattle and small ruminant was 1.1 and -0.2%, respectively. Different reason can be given to this un-proportional growth rate but the main one is high prevalent of diseases in the country (Ayele *et al.*, 2004). Disease is also responsible partly for the decrease in livestock and livestock products export. The disease problem is still aggravated by the changing ecological conditions which provide fertile ground for disease, affecting especially pastoral systems where there is a close physical association between people, livestock and wild animals. Viral and other pathogens benefit hugely from the dynamic state created by animal migration, and the increasing pressure on scarce resources from all human and animal populations with more frequent contact improving the opportunity for disease transmission (McPherson, 1995).

The main reason for undertaking the research study arose from the importance of livestock production in the area. The integral part involved the study of the common practices of the

production system involving cattle (milk, meat, and market traction power), goats (meat, market) and poultry. In addition to these Cattle are exported to the Sudan while goats are mainly used for the local market. Therefore, the specific objectives of the study were taken to assess the major animal health problems on market oriented livestock production, Identifying and characterizing livestock production system in Ambo district of west shoa Oromia state, Ethiopia.

### Materials and Methods

The study was conducted in Ambo district, West Shoa zone of Oromia Regional State, central Ethiopia. The soil types were Red soil (36.25%), Black soil (34.37%) and Brown soil (29.38%). Livestock was major agricultural resource in this area. Ambo had a livestock population of 152,243 cattle; 65,652 sheep; 30,009 goats; 13,130 donkeys; 9,696 horses; 274 mules; 90,134 poultry and 9,985 beehives. The total human population of Ambo was estimated to be 112,129 with a total of 55,491 (50.08 %) and 769 (57.69%) female and 55,305 (49.92 %) and 564 (42.31%) male in rural and urban area respectively. Mixed crop and livestock farming system was the mode of agriculture in the woreda. The major crops that were grown in the area include: teff, sorghum, maize wheat (AWRADO, 2006).

All species of livestock (cattle, sheep, goat, poultry and other) market-oriented livestock owned by selected household and animals brought to Ambo veterinary clinic having different health problem during the study periods will considered as study animals.

#### Study Design

For this preliminary survey, the owner of livestock was selected based on accessibility to transport and agro ecological differences. The owners of livestock were randomly selected and a total of 80 household were included in the study. The sampling method was by simple random selection technique.

A detailed and organized questionnaire format was designed in an attempt to generate base line information related to livestock production with particular emphasis on major livestock problems: livestock disease considered as important by farmers and measure taken by farmers against livestock disease. the questionnaire was framed in a such a way that farmers can give information that are recent and easy to recall and it was filled directly by interviewing randomly selected farmers from different village of ambo district. Informal

group discussion with animal health stuffs was held for certain hour to generate essential information about livestock health and production.

#### *Data Analysis*

The data collected during the study period was first entered and managed into Microsoft excel work sheet and analyzed using Statical Package for Social Science (SPSS) soft ware version16.

## **Results and Discussion**

### *Demographic and land holding Features of the Respondents*

A total of 80 households interviewed in the present study. Demographic features of respondents shows that most of the interviewees (82.5%) were male and the rest female (7.5%). Age range varied from 25 to 70 years (Average age of 47.5 years). Concerning the respondents' education level 23.8% was not educated 10% religious 46.2% elementary level and the rest 20% high school educated. Concerning private land use pattern out of 80 respondents 79(98.75%) replied that they have their own crop land. From these about 56.25% of respondents possess between 0.5 to 2.5 hectare. While 42.5% have between 2.5 to 4.0 hectares.23 respondents told that they have their own fallow land between 0.25 to 1.0 hectares. Concerning to grazing land 88.75 % of respondent told that they have 0.25 to 1.5 hectares.

### *Livestock Herd Size and Composition*

The average of the herd size and composition of cattle, sheep, goats, poultry and equines per households were presented (Table 3). Cattle comprise of the largest proportion of the livestock herd (32.90%), poultry (23.9%), sheep (17.97%), goats (17.33%), equines (donkey) (6.05%), horse (2.05%) in their order of appearance. Lactating cows dominate the most shares of cattle herd size followed by castrated ox. In the case of small ruminants, the flock was comprised primarily of female animals. In goats doe represent 33.5% and in sheep ewe's proportion was 40%. The equines herd was dominated by donkeys taking 74.63% of the share from equine species of which mature female donkeys were the predominant ones.

### *Livestock Functions and Products*

Most of the respondents (100%) primarily kept cattle for draft purpose followed by milk products (93.75%), and meat product (31.25%), selling live animals (12.5%), for skin and hide purpose(12.5)%, while in small ruminant's meat, skin and marketing were reasons mentioned for keeping

the animals by larger proportion of the respondents. Milk was mostly used row (85%) but in meat consumption pattern, much of the respondents (80%) of the respondents cook meat before consumption. From the respondents who have equines equal proportions were attributed for transport and loading (88%).Lastly most of the respondents (71.42%) uses bee products at home where as 47.71% sells its products.

### *Livestock feed and Availability*

Most of the respondents mentioned different feed type according to their availability and shortage months. Crop residue (Cereal straws), were the most important feed resource available during the dray months of the year and respondent put this on the 1<sup>st</sup> rank. Natural pasture (Sardoo) was most commonly available during rainy season of the year and most of respondents put this one on the 2<sup>nd</sup> rank. Feed and water availability months were July (Adolessa)-October (Fulbana) and July (Adolessa) to September (Hagayya) whereas shortage months January (Mudde)-May (Caamsaa) and October (Fulbana)-April (Eebla) respectively. Regarding mineral supplement, most of the interviewed households traditionally supply salt for their animals. In the woreda there is natural spring water called "Hora Ambo" it has high mineral content and most farmers brought their animals here specially from June to October when there was enough availability of feed and water at that time. The other natural mineral source that most of the farmers in the woreda use is a salt from the market. They supposed that this mineral salt removes worms in high amount and their animals become fatten. If they don't supply these minerals, the animals show different deficiency signs such as the emaciation, loss of production, anorectic and weak; on the other hand cows do not show heat signs properly, they will have bad mouth breath and poor and dirty hair coat as perceived by the owners.

### *Water sources*

Generally water and feed are the most problem during the dry season of the year in the study area. Water shortage was most serious during the period from December to March, pick at January to June. During this shortage period, most respondents indicated that animals are watered at a frequency of once every two days as well as once per three days. River(78.8%), stream(12.5%) and pond(8.8%) were the main watering sources for their animals according to their availability in study area.

**Table 1.** Demographic Characteristic of the Sampled Household

Variable	N	Category	Frequency	Proportion
Sex	80	Male	66	82.5%
		Female	14	17.5%
Education status	80	Uneducated	19	23.8%
		Religious	8	10%
		Elementary	37	46.2%
		High school	16	20%

**Table 2.** Private Land use Pattern of the Respondents

Land Type	Frequency N=80	Range	Proportion
Crop Land	45	0.5 to 2.5	56.25%
	34	2.5 to 4.0	42.5%
Grazing Land	71	0.25 to 1.5	88.75%
Fallow Land	23	0.25 to 1.	28.75%

N=Number of Respondents

**Table 3.** Livestock invention

Peasant Association						
No	Awaro	Gosu	Kisose	Senkele	Total	Average
Household	20	20	20	20	80	20
Cattle	135	158	117	150	560(32.8%)	140
Calves	23	40	20	35	98	25
Heifer	25	32	15	30	102	26
Cow	39	46	39	44	168	42
Oxe	48	42	43	41	174	44
Household						
Small ruminant						
Kid	14	45	21	40	120	30
Adult	28	51	33	64	175	44
Total					295(15.7%)	
Lamb	31	33	26	14	104	26
Adult	65	56	46	35	202	51
					306(17.9%)	
Equine						
Horse	4	17	5	9	35(2%)	9
Donkey	24	30	17	32	103(6%)	26
Poultry						
Household	16	18	13	17	64	16
Poultry	135	81	99	93	408(23.9%)	102

**Table 4.** Functions/Products of Livestock and Percentage of Respondents

Function/product	Bovine N=80	Ovine N=45	Caprine N=42	Poultry N=65	Equine N=62	Beehive N= 35
Draft power	80(100%)	-	-	-	25(40%)	-
Milk	75(93.75%)	-	-	-	-	-
Selling	10(12.5%)	35(77.77%)	30(71.42%)	48(73.84%)	-	16(45.71)
Hide/skin	10(12.5%)	30(66.66%)	20(44.44%)	-	-	-
Loading/transport	-	-	-	-	55(88%)	-
Meat	25(31.25%)	45(100%)	30(71.42%)	50(80.64%)	-	-
Honey	-	-	-	-	-	25(71.42)
Egg	-	-	-	45(72.58%)	-	-

**Table 5.**The feedstuffs provided by farmers to their animals in the study area

Feed resource	Frequency	Rank using the mentioned feed stuff				
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>
Natural pasture	80	20	60	-	-	-
Cultivated pasture	80	-	-	10	5	65
Cereal	80	55	22	3	-	-
Stover	60	-	5	40	15	-
Salt and mineral	75	-	-	-	45	30
Other(house left over, atela)	65	-	-	10	30	25

**Table 6.** Watering sources for their animals explained by sampled farmers

Water Source	Frequency	Proportion
River	63	78.8%
Stream	10	12.5%
Pond	7	8.8%

### *Housing, Breeding, and Marketing Trends*

House/shelter was one of crucial service to be remembered during the production of market oriented livestock production which created a good environment for animals which has direct influence on the health, productivity and welfare of animals. The housing system of livestock in the study area was generally separated from the houses of the owners and some respondents me that species were kept separated except that small ruminant and poultry have common house. Concerning livestock breeding practice in the area, most of respondents (87.5%) used natural breeding method applying uncontrolled local breed and (12.5%) used controlled local breed while only few replied that they use AI. They also told that they sold livestock in any time when they require fulfilling household expenses, buying agricultural inputs, for replacement and for other purposes such as Paying credit and tax. Mostly small ruminant (sheep and goat) were sold and poultry also hold greater place. Most of the respondent told me that they sell their livestock mainly during the holly day and summer time.

**Table 7.** Purposes of livestock sell frequency and percentage of respondents

Reason of selling	Frequency	Proportion
For household	39	48.8
For agricultural in puts	25	31.2
For others	9	11.2
For replacement	7	8.8

### *Culling and Mortality*

For successful animal breeding household in the study area culls their animals in which unproductive animals were removed or setting aside from a breeding stock based on specific criteria. This criterion included old age (17.5), poor production (7.5) and disease (75%). This was done

either to reinforce or exaggerate certain desirable characteristics, or, to remove undesirable characteristics from the group.

**Table 8.**Criteria of culling livestock in the studied area

Reason of culling livestock	Frequency	Proportion
Aging (old age)	14	17.5%
Disease	60	75%
Low productivity	6	7.5%

### *Ways of disposing after birth, fluids, abortus, and cadaver*

The most common method of disposing cadaver as they responded in the study area is throwing the cadaver too far away from the resident place.

This means providing for scavenger such as dog, hyena as well as vulture. The other means they explain is aborted material is simply taken to their own dogs while other burry it by supposing that if the aborted material is eaten by cow it leads to decrease in production output and may be exposed to other disease.

### *Ways of consuming animal product*

Human consume livestock product in many ways these may be in the form of uncooked (raw), cooked and other means. Most respondents consume cooked meat (83.8%) while 10% of the respondents consume raw meat and 6.2% consume by other means. The respondents gave the following information on milk, and egg consuming trend out of 80 respondents 75% of them consume raw milk, 15% of them consume boiled milk, and 10% of them consume both boiled and raw milk.

### *Mortality of livestock in the past year*

During the past year a total of 155 animals were lost from different causes for this poultry consists largest part following by sheep and cattle From the total number of animals died last year,45( 29.03%) were poultry, 42(27.09% ) sheep, 37(23.87%) cattle, 25(16.12 % ) goats, and lastly 7(4.5% )equines.

*Control measures against livestock diseases*

To control livestock disease farmers in the study area used different methods as the responded 78.8% of respondent uses modern treatment, 17.5% used traditional treatment while 3.8% used slaughtering. Again in the studied area traditional treatment was used for treating infectious disease (37.5%), for treating noninfectious disease (7.5%) and mostly parasitic diseases were treated by traditional methods (55%).

**Table 9.** Traditional treatment used to treat different diseased by sampled farmers.

Disease	Frequency	Proportion
Infectious disease	30	37.5%
Non infectious disease	6	7.5
Parasitic	44	55%

*Veterinary Services*

According to the respondents response some (peoples in the town and near to the town have an access to modern veterinary services and some have not (found only at the center of the town). Majority of respondents argue that the place where clinic found very far from them and face transport problem for treating their animals. There was also lack of technician as compare to livestock population of the study area. Concerning the veterinary service given to house hold in the study area 88.8% of the respondent explained that they were satisfied with the service that given while 11.2% responds they were dissatisfied due to drug and vaccine price, absence of service in surrounding and unethical behavior of the technicians (as confirmed in Ambo town veterinary clinic. i.e. angry to owner during history taking, obligising them to bring fecal sample for examination and so on).

**Table10.** Showing level of Satisfaction of Respondent to Veterinary service given in the study area

Satisfaction level	Frequency	Proportion
Dissatisfied	9	11.2%
Satisfied	71	88.8%
<b>Total</b>	<b>80</b>	<b>100%</b>

Regarding to treatment cost most of households(53.75%) in the study area responds that cheap,(35%)moderate and only few households responds expensive(11.25%).this is also correlated with vaccination cost, (50%) cheap, (32.25%) moderate and (17.75%) expensive.

**Table 11.** Response to cost treatment and vaccination at the study area

Degree of cost	Treatment		Vaccination	
	Frequency	Proportion	Frequency	Proportion
Expensive	7	8.8%	15	17.75%
Moderate	28	35%	25	32.25%
Cheap	45	56.2%	40	50

*Major Diseases of Livestock*

The major front constraints for livestock production in the study area as the respondent confirmed were many diseases mentioned as important are presented in the following table. This made the farmers not to be benefited from the market oriented livestock development extension. The most important diseases mentioned as affecting cattle were fasciolosis, leeches and dermatophilosis. In small ruminants, Fasciolosis, pneumonia and skin disease were the most important diseases explained by sampled farmer. Colic was the most important disease followed by respiratory problems in horse and donkeys. Infectious coryza and lice infestations are another important disease of poultry.

*Case observational study*

A total of 341 diseased animals (129 cattle, 32 caprine, and 66 ovine and 64 equine Species and finally 51poultry) were diagnosed based on history, general and systemic examinations and laboratory tests in Ambo woreda veterinary clinic. Among the diseases which were diagnosed pneumonia (20%), fasciolosis (15.05%), GIT parasite 13.95% and dermatophilosis (13.95%) were the most frequently observed disease in cattle. In goats, respiratory problem (46.87%) and fasciolosis (31.25%) were the most common diseases while in sheep fasciolosis (33.3%) and respiratory problem (37.87%) were most commonly encountered. In equine pneumonia is the first leading disease (32%) followed by colic (29.3%) and dermatophilosis (16%).in poultry the case handled at ambo town veterinary clinic and date obtained from household during questionnaire survey is almost similar in in which infectious coryza and lice infestation in the most case presented.

*Cattle health problem*

The most common disease affecting market oriented livestock production in ambo district was fasciolosis, which imposed direct and indirect economic impact on livestock production, particularly of sheep and cattle (Keyyu *et al.*, 2005; Menkir *et al.*, 2007).

**Table 12.**Major diseases of livestock mentioned by sampled farmers

Name Of Disease	Local Name	Priorization based on their degree of importance					Over All Rank	
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>		
<b>Cattle</b>								
Fasciolosis	hir'uu/bocboca	32	18	9	-	-	29%	1
Dermatophilosis	Dhibeshimbiraa	22	18	2	-	-	20%	3
Leeches	Dhalandhula	30	20	3	-	-	26%	2
Tick	Silmii	10	10	-	-	-	9.85%	5
Pneumonia	Qufaa	20	9	-	-	-	14.28%	4
<b>Sheep</b>								
Fasciolosis	Dhibeehir'uu	40	16	7	-	-	43.15%	1
Pneumonia	Qufaa	26	18	5	-	-	33%	2
Skin disease	Cittoo	19	8	7	-	-	23.28%	3
<b>Goat</b>								
Pneumonia		26	10	3	-	-	44%	1
Ceneriosis	Jaanjoo	14	5	-	-	-	21.83%	3
Skin disease	Cittoo	15	9	5	-	-	33.33	2
<b>Horse</b>								
Colic	Cininnaa	30	14	8	-	-	45%	1
Respiratory problem	Qufaa	28	17	4	-	-	42%	2
Skin disease	Cittoo	10	3	1	-	-	12.17%	3
<b>Poultry</b>								
Infectious coryza		16	12	8	-	-	52.25%	1
Lice infestation	Qinqinii	10	14	7	-	-	48.43%	2

**Table 13.**Major diseases diagnosed at ambo veterinary clinic from November 2013 to April Percentage of disease occurrence in each species

Disease	Frequency	Bovine	Ovine	Caprine	Poultry	Equine
Pneumonia	86	26	25	15	-	20
GIT parasite	40	18	9	7	-	6
Fasciolosis	42	20	22	10	-	-
Leech	24	24	-	-	-	-
Dermatophilosis	28	18	-	-	-	10
Trypanosomes	4	4	-	-	-	-
Mange	6	6	-	-	-	-
Strangle	5	-	-	-	-	5
Colic	18	-	-	-	-	18
Infectious coryza	30	-	-	-	30	-
LSD	10	10	-	-	-	-
ORF	13	-	8	-	-	-
Retained fetal membrane	5	3	2	-	-	-
Epizooticlymphagitis	5	-	-	-	-	5
Lice infestation	21	-	-	-	21	-
Total=341						

These findings were 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. *Fasciola hepatica* and *Fasciola gigantica* were the two liver flukes commonly reported to cause fasciolosis in ruminants. The life cycle of these trematode involves snail as an intermediate host (Walker *et al.*, 2008). Infected cattle can exhibit poor weight gain and dairy cattle have lower milk yield, and

possibly metabolic diseases (Mason, 2004). Apart from its veterinary and economic importance throughout the world, fasciolosis has recently been shown to be a re-emerging and widespread zoonosis affecting many people (Esteban *et al.*, 2003).

Among the mentioned diseases of cattle dermatophilosis one of the important diseases in the study area Dermatophilosis was a contagious zoonotic skin disease with wide host range and most commonly affects cattle, sheep and horse. The

principal causative agent was *Dermatophilus congolensis* which is a member of the aerobic actinomycete. Factors such as prolonged wetting by rain, high humidity, high temperature, mechanical injury to the skin, concurrent disease, stress and tick infestation that reduce or permeate the natural barrier of the integument influence the development, prevalence, seasonal incidence and transmission of Dermatophilosis (Dalis *et al.*, 2010)

Regarding to the result many parasitic diseases were observed as common health problem of livestock. Among the parasitic diseases GIT 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.

The major cattle ectoparasites in this study area were leeches, as most of the farmer in the study area explained and was confirmed in the Ambo woreda veterinary clinic leech (dhalandhula) was the major health problem affecting cattle. The symptoms were coughing, blood through nose and mouth, breathing problem, highly emaciated and became anemic, high weight loss, reduced milk yield and was caused by a motile parasite in water during dry season. It affected only cattle. Leech infestation continued to be the major long existing health hazard of cattle in the Ambo district, with no control measure except hand removing and traditional herbal medicines. Farmers use exotic tobacco leaf for removal of the leech from the forehead, hand de-leech when it comes under tongue, and keep the cattle for a day without drinking water as they believe the leech comes down to the mouth when the leech is thirsty (Belay *et al.*, 2013)

Among the ectoparasites infesting cattle, ticks are very significant and harmful because of their blood-sucking habits and direct debilitating effect. A tick bite causes mechanical damage, inflammation, toxicosis, paralysis and anemia, when ticks present in large numbers (Ghosh *et al.*, 2007). They were also capable of transmitting

protozoal and rickettsial pathogens, such as *Babesiabovis*, *B. bigemina* and *Anaplasma marginale* (Wall and Shearer 2001). Around 80% of the cattle population in the world is at the risk of ticks and tick-borne diseases (TTBDs), which are worldwide spread result in remarkable economic impact to the cattle industry (Ghosh *et al.*, 2007).

#### *Small ruminants' health problems*

The most important disease constraints in small ruminant productivities in the study area presently were; viral, bacterial, respiratory problems, parasitic and skin diseases. Fasciolosis was an important and ranked as first health problem in market oriented development of small ruminants. Fasciolosis was also the major health problems of sheep mentioned during the survey protocol procedures in the study area. This result agreed 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 gave high chance for the development of the fasciola parasite.

The respondents also consider pasteurellosis as the major health problem both in goat and sheep. Respondents mentioned some important manifestations and histories of the disease such as nasal discharge, coughing, stress and occurrence of sudden death. The occurrence of the disease which was during hot season and transitional periods was similar occurrence to bovine pasteurellosis (Radostits *et al.*, 2006). The effects of psychological, physiological, and physical environmental stressors were believed to be important components of pasteurellosis in many domestic ruminants. Although the effects of stressors were difficult to measure, some indicators including increased body temperature, heart rate, and plasma cortisol have been correlated with disease. Physiological response to stressors (collectively called "stress") included suppression of the immune system; consequently, prolonged stress may increase susceptibility to pathogens as well as morbidity and mortality. Environmental stressors most commonly associated with pasteurellosis in livestock include heat, cold, wind chill, crowding, mixing with new animals, poor ventilation, handling and transport (Carroll and Forsberg, 2007)

*Equine disease*

The most common disease of equine mentioned by household in the study area was colic (abdominal pain) characterized by restlessness, circling at one place and look to the back and immediately die. Among the species of domestic livestock, the horse most commonly suffers from colic. Colic is a general term indicating abdominal pain. The anatomy of the horse's digestive tract, its digestive nature and the management practices imposed by man seem to contribute to its occurrence. Colic has many types and causes. Factors such as sudden changes in the weather, feeding (frequency, quantity or quality of feed), overexertion or chilling may lead to colic (Rose and Hodgson, 2000)

Respiratory problem in horse is another most important disease mentioned by respondents and also most frequent cases appearing to Ambo veterinary clinic. Contagious respiratory infections in horses were major causes of both acute and chronic respiratory diseases resulting in impaired pulmonary function and reduced performance (Gerber, 1973).

*Poultry disease*

The most common poultry disease mentioned in the study area by sampled farmer and as confirmed in ambo woreda veterinary clinic was Infectious coryza which was infectious contagious respiratory bacterial disease of several avian species and the etiological agent responsible for the diseases is *Haemophilus paragallinarum*. The disease at initial stages may be acute to sub-acute but progresses to a chronic state as the disease works through the flock. Common names for the disease are roup, cold and coryza. The clinical syndrome was first diagnosed in 1931 by De Blicke. Since the disease proved to be infectious and primarily affected nasal passages, the name "infectious coryza" was adopted (Blackall, 1999). Coryza was a disease of the upper respiratory tract- trachea, sinuses and air passages of the head. The disease was characterized by nasal discharge, facial swelling, sneezing, labored breathing and fetid odor of the exudates (Blackall, 1999).

Lice infestation was the second and most important poultry disease in the study area as the respondent give us information and confirmed in ambo town veterinary clinic. Lice were ectoparasites and spend their entire life on an animal host. Most lice are host specific, meaning that they can feed on only or a few closely related

species of animal hosts. Poultry lice cannot survive on humans or on our non-bird domestic pet. Infact, a poultry louse generally completes its entire life cycle from egg to adult on a single bird, and will die within a few days to a week if separated from a host. The number of lice on poultry tends to be greatest during the autumn and winter.

**Conclusions**

The result of the study revealed that in Ambo 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 supports different species of livestock including cattle, small ruminant (Sheep and goat) and equine (Donkey and horse) and poultry. Though livestock are the major source of live hood in ambo woreda, farmer cannot exploit full potential of the sector because of different constraints. Among this constraint livestock disease, feed shortage and water shortage are the major ones. Disease like infectious diseases, external and internal parasite and miscellaneous case are the major health problems of livestock developments for poor productivity of the sector. As the consequence these diseases affect both the local and national economy. So to improve the productivity of the livestock sector: Production of alternative feed resource to reduce livestock feed shortage should be given great attention or emphasis, Consideration should be given to basic animals health and management as well as nutrition to maximizes health service coverage of the area, Veterinary clinic should be available in area where there is no since the Ethiopian economy is dependent on livestock production, 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 miscellaneous diseases.

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