RETROSPECTIVE LIVESTOCK CRUDE MORTALIY AND MORBIDITY RATE IN THE SELECTED KEBELLES OF FIVE DISTRICT, BENISHANGUL GUMUZ, WESTERN ETHIOPIA

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ABSTRACT: Questionnaire survey on retrospective crude mortality and morbidity baseline data investigation in the 13 kebeles of Abrahamo, Bilidugilu, Kurmuk and Pawe, and Dangur districts, with the objectives to identify the main constraints related with livestock production and cause morbidity, mortality and associated risk factors. In this survey, the demographic features of respondents were assessed. 7.66%, 6.27%, 8.88%, 3.44% and 23.57% of crude mortality rate were recorded in Cattle, Sheep, Goat, Equine, and Poultry respectively in five woredas (13kebeles) of study sites. The highest and lowest (23.57%) and (3.44%) crude mortality rate were recorded in Poultry and Equine respectively. 22.97% of NCD, 11.86% of avian salmonella, 17.07% of Trypanosomosis, 14.93% of CBPP, were recorded as highest morbidity rate; while, 8.26% Bovine pastuerellosis, 7.65% PPR, 7.19% Shoat pox, 3.82% CCPP and 3.29% Ovine pastuerellosis, were the lowest morbidity rate recorded. In 13 kebeles of the surveyed sites, frequency of treatment per animal in the villages, averagelly were 18.2, 11.8, 8 of Cattle, Shoat and Equines respectively, were come to nearby veterinary health posts in a year. Besides this, 43.8, 23.8 and 28 of average treatment cost were recorded in Cattle, Shoat and Donkey respectively. Majority (57.28%) of the study participants indicated, as the disease transmitted by flies, while 11.65%, 3.88%, and 27.18% of respondents stated as the disease transmitted by ticks, treatment materials, and other (stress) respectively. In study areas, un appropriate treatment, irregular vaccination schedule, less monitoring, evaluation system, and disease surveillance were the main gap identified. Therefore, strategic prevention and control policy would be implemented properly in study area so as to prevent problems encountered.

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1. INTRODUCTION

Livestock in Ethiopia has been recognized as one of the most important sectors in subsistence agriculture in the mission to attain food security and good welfare (Fikre Z, 2016). Livestock is an integral part of agriculture in Ethiopia, and its contribution to the economy accounts for about 19% of GDP and 20% of export earnings (Behnke and Metaferia, 2011). The contribution of the livestock sector to the livelihoods of producers in particular and to the national economy in general can be explained in terms of food production, supply of inputs and services for crop production, raw material for agro-industry, cash income and export earning, savings and investment, and its role as a generator of employment (Behnke and Metaferia, 2011).

Most people in rural areas of these countries depend on agriculture sector for their livelihood, which plays a great role in the socio-economic development. Despite the large number of livestock, in general productivity is low, mainly due to the low genetic quality of local breeds, poor nutrition, and animal health problems. Similar to low-income African countries, per capita consumption of food from a livestock origin is low, mainly due to uncontrolled animal diseases, poor husbandry, and poor infrastructure (Ayele *et al.*, 2003; Negassa *et al.*, 2011). The livestock industry success depends on the good health and managements of the animals that helps to increase the productivity; whereas any compromise on the health ground will shelter the hope of livestock sector (Bangar, 2013).

Benshangul- Gumuz Regional State(BGRS) is the one of the regions, which found in the Northwestern part of the country, having favorable agro-climatic condition in its all parts and suitable for animal rearing. The animal population of the region were estimated to be 544,765 cattle, 605,766 sheep and goats, 97,281 equines and 1,064,995 poultry (BG, Bureau of Agriculture, 2017). Poultry is the highest in population size and is kept almost by all people in the region for egg production and as a source of income. Cattle and

goats are the second and third widely available species. Cattle, Sheep, Goat, Equine and Poultry were study population included the survey. The livestock death in the region indicated that, the mortality rate is 9.19%, 6.52%, 7.36%, and 2.84%, in cattle, sheep, goat and equine respectively as reported by (Asmamaw *et.al*, 2024).

The infectious diseases of livestock remain a major threat to attaining food security and are a source of economic and livelihood losses for people dependent on this sector for their livelihood. Knowledge of the major infectious diseases that causes majority of deaths in general in our country the most crucial in determining disease control strategies and in the allocation of limited resources available for disease control program. Benishangul-Gumuz Regional State, which found in the North-western part of the country, has favorable agro-climatic condition in its all part and suitable for animal raring. In other way, common animal diseases such as Trypanosomosis, internal parasites and external parasites and several infectious diseases (CBPP, PPR, FMD) occurs in outbreak forms hiders overall effort made to develop livestock sector and improve the life of farmers in region. The study on mortality rates provides important information to determine the health status of livestock and improve livestock production and productivity.

1.1. OBJECTIVE

- To assess the livestock crude mortality rate in the Benishangul Gumuz region .
- To assess the major cause of Livestock mortality,
- To identify the risk factors in the region.

2. METHODOLOGY

2.1. Study Area

Benishangul Gumuz Regional state (BGRS) is situated in western part of Ethiopia, between 09^0 17'-12.06" N latitude and 34^0 10'-37.4'' E longitude. The average annual temperature is 16-39 ^{0c}; its annual rain fall is 650 – 1,900 mm. The region covers a total area of 5,033, 592 hectar (50,380 Km2) or 4.4 % total of the country. From the country's total 1,128, 176 Km^2, Benishangul Gumuz Regional state covers 4.44% of land area, with altitude ranges from 580 – 3300 m.a.s.l. The topography of the region has 75% low land (kola) (below 1,500 m.a.s.l), 24% mid land (weina dega) 1,500 – 2,500 m.a.s.l), and 1% high land (dega) (cover over 2,500 m.a.s.l) (FITCA, 2003). The animal population of the region were estimated to be 544,765 cattle, 605,766 sheep and goats, 97,281 equines and 1,064,995 poultry (B.G Bureau of Agriculture 2017 Animal population). The present retrospective survey covered 5 districts from kurmuk, Abrahamo, and Bildigilu from Assosa zone, Pawe and Dangur from Metkele zone.

Figure 1. Map of the Benishangul Gumuz region

2.2. Target and Study Population

The target population for this study were Cattle, Sheep, Goat, Equine and poultry kept in Benishangul Gumuz region. The study populations were livestock kept in all 5 districts selected from the study area. The sampling population was all livestock in the randomly selected Kebeles selected from each study districts.

2.3 Sample Size

The sample size is estimate using the method described by (Thrusfield, 2018). Accordingly, based on the study conducted on morbidity and mortality rate of livestock in Benishangul Gumuz Region the mortality rate of livestock was reported as cattle 9.19%, sheep 6.52%, goat 7.36%, equine 5.85% and poultry 21.95% (Asmamaw *et al.,* 2024) and the average mortality rate for cattle, sheep goat and equine was 7.22%**.** Then, sample size was calculated based on Thrusfield formula:

$$N = \frac{z^2 Pexp(1-Pexp)}{d^2}$$

$$n = \frac{1.96^2 \times 0.0722\ (1-0.078)}{0.05^2}$$

The sample size for present study calculated to be **103** livestock owners for interview.

2.4. Study Design and Sampling Methods

The retrospective study design was applied to identify livestock mortality rate, cause of morbidity and mortality, risk factors, season of livestock death and economic impact due to death and treatment cost of livestock within the period of July 2024 to May 2025. The combination of Stratified sampling, multistage random sampling method was used to attain true representative of the target population in the region. Accordingly, the region was stratified based on Zonal administrative category. Then, each zonal administrative were clustered into two categories i.e. Categories of more populated districts and less populated districts with livestock. Hence, Abrahamo, Pawe, and Dangur selected from highly populated livestock while Kurmuk and Bilidugilu were selected from less populated districts. Thus, the study district selected with simple random sampling method from each cluster. Also, each sampling Kebeles from selected district was chosen with simple random sampling method. Finally, the house hold /interviewee/ was selected based on simple random sampling method for individual interview.

2.5. Sampling Procedure

The study districts were selected randomly at regional level before the mobilization to the field study. While, selection of Kebeles, and interviewee household for sampling was carried out at each district and Kebeles respectively. Then, 10% of Kebeles from each sampling district was selected for sampling. Accordingly, a total of 13 Kebeles 2, 4, 2, 3, 2, Kebeles from Kurmuk, Abrahamo, Bildigilu, Pawe and Dangur respectively. Finally, the interviewers gave a brief to all household under interview about the procedure and the goal of the research and provoke them to be honest and gave un biased data. The study was addressed all the randomly selected households in the study area.

2.6. Data Management and Analysis

All necessary data concerning livestock morbidity and mortality, were collected from each livestock owners /interviewee/ as primary data and from case books and reports as a secondary data source. Recorded data was entered, stored and coded in Microsoft Excel spreadsheet. Descriptive and inferential statistics were used to determine major livestock morbidity and mortality rate. The finding was expressed using tables, graphs and charts.

2.7. Ethical approval

The data collection from livestock owner was conducted under strict ethical way. Therefore, permission to collect data and Kebele selection was carried out in front of each district agricultural office head or animal health team leader. Individual interview person selection was done with the help of Kebele Agriculture office head and animal health technician at each Kebele.

3. RESULT

3.1 Questionnaire survey with livestock owner

Table 1: Demographic features of respondents

Respondents	Categories	Frequency	Response rate (n=103, %)	t	P(t)
Sex	Male	84	81.55	4.80	0.000
	Female	19	18.44		
Education level	Illiterate	33	32.03	10.83	0.000
	1-4	32	31.06		
	5-8	19	18.44		
	8-12	13	12.62		
	College	6	5.82		
Age	<35yrs	18	17.47	17.02	0.000
	35-50 yrs	66	64.07		
	>50 yrs	19	18.44		
Marital	married	84	81.55	4.80	0.000
	single	19	18.44		

As *Table 1* indicated, from 103 respondent livestock owners in three woredas (13 kebeles), 81.55 % were male respondent whereas 18.44% were female respondents. Of 103 respondents participants', 32.03%, 31.06%, 18.44%, 12.62% and 5.82% of the education level categories were illiterate, 1-4, 5-8 , 8-12 grade and college respectively during the assessment of the study. Of these 103 study respondents' age categories, majority (64.07%) of participants were 35-50 years old while the lowest (17.47%) were less than 35 years old.

Table 2: Scored causes of animal diseases in the selected districts by respondents

Causes of animal diseases	Woredas					Response rate	
	Abrahamo	Kurumk	Bilidugilu	Pawe	Dangur	(N=103)	%
Disease outbreak	24	16	20	23	20	103	100
Lack of treatment	11	19	11	16	14	71	68.93
Failure of treatment response	10	16	9	11	16	62	60.19
Lack of veterinary service	0	0	8	7	9	24	23.30

As *Table 2* indicated; with regard to causes of animal diseases, the highest (100%) of the respondents were indicated as disease outbreak was prevailing in the areas while the rest 68.93%, 60.2% and 23.30% of participants said that, lack of treatments , failure of treatment response, and lack of veterinary service respectively

Table 3: Animal died in 2025 in the five woredas with age categories

Woreda	Species	Animal died in the 2025						(n=547, %)
		<1year		1-3 year		>3 year		
		N=402	%	N=296	%	N=280	%	
Abrahammo(4pa), Kurmuk(2pa); Biludigilu (2pa) , Pawe (3pa) ; Dangur (2pa)	Cattle	46	19.65	30	13.51	29	31.86	105 (19.19%
	Goat	41	17.52	25	11.26	23	25.27	89(16.27%)
	Sheep	20	8.54	12	5.40	17	18.68	49(8.95%)
	Donkey	0	0	0	0	1	1.09	1(0.18%)
	Poultry	127	54.27	155	69.82	21	23.07	303(55.39%)
Total		234		222		91		547

As Table 3 indicated, 19.19%, 16.27%, 8.95%, 0.18% and 55.39% of relative mortality rate were recorded in Cattle, Goat, Sheep, donkey and poultry respectively in five woredas (13 kebeles) of study sites.

Table 4: Animal crude mortality rate in 13 villages by livestock owners in 2025

No	Animal type	No of animal population in HH	No of animal died	Crude mortality rate %
1.	Cattle	1,370	105	7.66
2.	Sheep	781	49	6.27
3.	Goat	1002	89	8.88
4.	Equines	29	1	3.44
5.	Poultry	1285	303	23.57
Total		4,467	547	12.24

As the Table 4 above indicated, the crude mortality rate in animal type were, 7.66 % of cattle, 6.27 % of sheep, 8.88% of goat, 3.44% of equines and 23.57% of poultry in 13 villages of the study area. Without poultry, death rate=244/3182x100%=**7.66.**

Table 5: Animal diseased(sick) in the Five woreda in 2025

Woreda	Species	Sick						Total	
		<1year		1-3year		>3 yr			
Abrahammo (4 pa), kurmuk (2 pa; Biludigilu (2pa) , Pawe (3 pa) ; Dangur (2pa	Cattle	19	7.94%	111	28.90%	396	57.98%	526	40.27%
	Goat	53	22.17%	85	22.14%	106	15.52%	244	18.68%
	Sheep	11	4.60%	19	4.94%	13	1.90%	43	3.29%
	Donkey	7	2.92%	6	1.56%	25	3.66%	38	2.90%
	Poultry	149	62.34%	163	42.44%	143	20.93%	455	34.84%
Total		239		384		683		1,306	

As Table 5 indicated, 40.3%, 18.68%, 3.29%, 2.90%, and 34.84% of relative morbidity rate of Cattle, Goat, sheep, Donkey and poultry respectively were recorded in the 13 kebeles of study sites.

Table 6: Diagnosis of diseases and syndromes responsible for animal morbidity in five woredas in 2025

Diseases and syndrome	Species	No. of sick	morbidity rate (n=1306 diseased)
Trypanosomosis	Cattle	223	17.07
CBPP		195	14.93
Bovine pasteurellosis		108	8.26
PPR	Shoat	100	7.65
Shoat pox	Goat	94	7.19
CCPP		50	3.82
Ovine pasteurellsis	Sheep	43	3.29
Pneumonic case	Equine	38	2.90
NCD	Chicken	300	22.97
Avian salmonella		155	11.86
		Total =1,306	

Table 7: No. of animals born in 2025

Animals	Animal born by Sex		Total (N=1403)	%
	Male no.	Female no.		
Cattle	101	110	211	15.43%
Sheep	46	29	75	2.26%
Goat	79	133	212	21.35%
Donkey	6	5	11	1.18%
Poultry	306	588	894	59.76%
	538	865	1403	

59.8% of poultry were born while 15.43%, 2.26%, 21.4%, and 1.18% of cattle, sheep, goat, and donkey (equine) were born in 2025 in the study sites as Table 9 indicated.

Table 8. Young mortality in 2025

Calves			Sheep lamb			Kid goat			Crude Young mortality (died=105, popn=498
Born		Died	Born		Died	Born		Died	
F	M		F	M		F	M		
101	110	14/211	88	47	20/135	79	133	41/212	21.08
211		**6.64**	**135**		**14.81**	**212**		**19.33**	

6.64% of cattle(calf), 14.81% of sheep(lamb), and 19.33% of goat(kid) were died in 2025 in the study sites as Table 8 indicated.

Table 9. Frequency of treatment in the selected five woredas in year

Livestock kept	Woredas					Mean frequency in a year
	Abrahamo	**Biludigilu**	**Kurumk**	**Pawe**	**Dangur**	
Cattle	24	16	12	20	19	91/5=18.2
Shoats	11	12	12	12	12	59/5=11.8
Equine/ Donkey/	5	9	8	9	9	40/5=8

As *Table 9* indicated; respondents in the five woredas reported domestic animals such as cattle, shoats, and equine (donkey) were taken averagely, 18.2, 11.8 and 8 defined frequency of treatment in the year.

Table 10. Cost of treatment in the woredas in 2025

Livestock kept	Average cost of treatment in five woredas					Average cost
	Abrahamo	**Biludigilu**	**Kurumk**	**pawe**	**Dangur**	
Cattle	45	43	42	46	43	43.8
Shoats	22	25	20	26	26	23.8
Equine/ Donkey/	29	28	30	28	25	28

As *Table 10* indicated, 43.8, 22.8, and 28 birr of average cost of treatment were given to cattle, shoats and donkey in selected five woredas respectively.

Table 11. Do you think the treatment is effective?

Variables	Freq.	Response rate (n=103, %)
a. Yes	81	78.64
b. No	13	12.62
c. I don't know	9	8.73

As Table 11, 78.64% of the respondents indicated that as treatment was effective while the rest 12.62%, and 8.73% of study participants noted as there was no effective treatment and as they did not know whether the drug was effective or not in the surveyed areas.

Table 12. Is the animal drugs used in the area are effective treatment?

Variables	Freq.	Response rate (n=103, %)
a. Yes	73	70.87
b. No	30	29.12

As Table 12 indicated that, 70.87% of the respondents noted that, the animal drugs used in the area were effective while 29.12% of the respondents noted as it was not effective.

Table 13. How do you control or treat diseases, when it occurs in your herd?

Variables	Freq.	Response rate (n=103, %)
1. By using traditional medicine locally available	4	3.88
2. Buying and administration of veterinary drugs by their own	0	0
3. Travelling to nearby veterinary clinic	99	96.11
4. All alternatives	0	0

96.11% of the study participants indicated that, diseases in the areas were controlled by travelling to nearby veterinary clinic while 3.88% of the respondents noted as they control diseases by using traditional medicine locally available as Table 13.

Table 14. What is the effect of diseases?

Variables	frequency	Response rate (n=103, %)
a. Cause death of livestock	54	52.42
b. Cause production loss(milk, meat, and hides/skin	39	37.86
c. Cause loss of work efficiency (draught power) of oxen and other	10	9.70

52.42% study participants noted that, the effect of diseases would cause death of livestock while the rest 37.86% and 9.70% of respondents stated the effect of diseases would cause production loss (milk, meat and hides/skin) and cause loss of work efficiently (draught power) of oxen and other respectively as table 14 indicated.

Table 15. How is the disease transmitted?

Variables	frequency	Response rate (n=103, %)
a. By flies	59	57.28
b. By ticks	12	11.65
c. By treatment materials	4	3.88
d. Others (stress)	28	27.18

Majority (57.28%) of the study participants indicated, as the disease transmitted by flies, while 27.2%, 11.65%, and 3.88% of respondents stated as the disease transmitted by ticks, other (stress), and treatment materials respectively, as table 15 showed.

Table 16 : Is there any operation for animal disease in your area?

Variables	Freq.	Response rate (n=103, %)
a. Yes	103	
If yes, what kind of control methods employed in your area?		
1. Fly control using insecticides	28	27.18
2. Resting animals from work	11	10.67
3. Treatment of affected animals	31	30.09
4. Vaccination	30	29.12
5. Animal movement control	3	2.91
b. No	0	0

30.09% of the respondents noted that, as there was treatment of affected animal in the areas followed by 29.12 % of vaccination, and 27.2%, 10.67%, and 2.91% of participants said that as there was fly control using insecticides, resting animals from work, and animal movement controls respectively which were set as operation for animal diseases in your areas as the Table 16 showed.

Table 17. Where do you get drugs for the treatment of patient animals?

Variables	Freq	Response rate
a. Vet. pharmacy	88	83.80
b. Shops	15	14.56
c. If exist other	0	0

83.80% of study respondents indicated as the drugs for treatments of patient animals get from veterinary pharmacy while the 14.56% of the respondents stated as they get from shops as table 18 indicated.

Table 18. Do you think that drugs found in your area is effective for the treatment of animals disease encountered there ?

Variables	Freq	Response rate
a. Yes	73	70.87
b. No	30	29.12

The highest (70.87%) of the participants noted as the drugs in the areas were effective for treatment of animals diseases while 29.12% of the respondents said as the drugs provided were not effective for animals disease as (Table 18).

6. Disscussion

The present survey was conducted in Abrahamo (4 kebeles), Biluduglu (2 kebeles), Kurmuk (2 kebeles), pawe (3 kebeles) and Dangur (2kebeles) of five districts for retrospective animal mortality and morbidity rate and problems identification in the areas. Overall 103 respondents of livestock owners and 13 kebeles animal health workers were interviewed. Animal crude mortality and morbidity rate, treatment cost per animal in a year, domestic animal level of importance, disease and syndrome prioritization, and animal population in 2025,were assessed.

Of 103 respondents of kebeles rural residents, 81.55% were males, and 18.44% were females. Regarding the educations categories, (32.03%), (31.06%), (18.44%) , (12.62%) and 5.82% of respondents were illiterate, 1-4, 5-8, 8-12 grades and college respectively in the 13 sites. And < 35 years, 35-50 years and >50 years of age categories were 17.47%, 64.07%, and 18.44% of respondents respectively in the 13 villages of study sites. The present findings were concord with the previous findings of Umer seidGeletu *et al*. (2021) in Doba District of WestHarerghe Zone, Ethiopia; who indicated demographic features the respondents.That is 86.7% of males and 13.3% of females of sex groups. 66.7% of illiterate, 24.4% of literate, 8.9% of primary school of education status. And 37.8% of respondents were less than 15 years, 62.2% of respondents of family size were age ranging greater than 15 years.

Similarly, Abdihakim M, *et al*.(2022) in SomaliShabelle Zone, Somali Regional State,

Ethiopia, showed that, Gender, age, educational level and family size were assessed, that was, 75% of respondent males and 24.5% females of sex groups. 63.5% of respondents illiterate, 26% of primary grade, and 10.5% religious school of educational levels. Furthermore, Gebremedhin A.(2007) who studied that, major animal health problems of market oriented livestock development in Atsbi Womberta woreda, Tigray regional state, that is 82% respondents of males, and 18% of females. Respondents of 82 % of illiterate, 10%of Religious, and 6% of elementary school and 2% of junior and above. 39.8% of respondents were less than 15 years old, and 61.2% of respondents of greater than 15 years of demographic features in the areas.

Majority (57.82%) of the study participants indicated, as the disease transmitted by flies, while 11.65%, 3.88%, and 28.18% of respondents stated as the disease transmitted by ticks, treatment materials, and other (stress) respectively. 52.42% of study participants noted that, the effect of diseases would cause death of livestock while the rest 37.86% and 9.70% of respondents stated the effect of diseases would cause production loss (milk, meat and hides/skin) and cause loss of work efficiently (draught power) of oxen and other respectively.

Up on investigation of animal health problems, majority of respondents said that disease occurrence, communal grazing land and water are the most common livestock production limiting factors in the areas. Comparably, Umer seid Geletu *et al*. (2021) in Doba District of West Harerghe Zone, Ethiopia; indicated that, 100% of occurrence of health problems, and 37.8% of animal loss due to diseases were animal health constraints that limit the productivity in the area. Besides this, Birhanu A *et al.(*2015) who studied on Investigation of major cattle production constraints in KembataTambaro zone of Southern Ethiopia, showed shortages of feed and free grazing land and diseases as the major constraints affecting production and productivity of cattle and small holders' livelihood. In addition, Markos T, (1999) in a M2-2 sub-agroecologicalzone with special reference to goat production, who investigated, livestock production constraints as feed shortages, livestock diseases, low genetic potential of indigenous livestock, lack of marketing infrastructure and water shortages.

Comparably, this finding was in line with the previous finding of Nigatu D. *et al. (2017)* who studied assessment of potential factors contributing to animal health service delivery problems, in Benishangul Gumuz Regional State, Ethiopia and indicated that, shortage and poor quality of drugs, misdiagnosis, lack of consistent and systemic way of monitoring, evaluation, and controlling of service delivery, lack or shortage of diagnostic materials, limitation with timely provision of vaccines and treatment chemicals, biased managers, shortage or lack of infrastructures, lack of initiation, and lack of professional refreshment trainings as existing constraints in selected woreda kebeles of Assosa zone.

As community livestock owners respond, animal crude mortality rate with animal type were 7.66% of cattle, 6.28% of sheep, 8.88% of goat, 3.44% of equine(donkey), and 23.57 % of poultry. Similarly, 19.19%, 16.27%, 8.95%, 0.18% and 55.39% of mortality rate were recorded in Cattle, Goat, Sheep, Donkey and Poultry respectively in five woredas (13 kebeles) of study sites. This study was consistent with the earlier works of Asmamaw A *et a*l., 2024 in 16 kebeles of Bambasi, Menge, Ura, Wombera and Dangur districts in Benishangul Gumuz regional state, which were 9.19% of cattle, 6.52% of sheep, 7.36% of goat , 5. 85% of equine and 26.95% of poultry crude mortality rate.

In addition, the current study was concord with the previous findings of Gebremedhin A. (2007) who indicated in AtsbiWombertaworeda, Tigray regional state, as 16.98%, 6.6% of anthrax in cattle, sheep, 15.7%, 14.7% of black leg in cattle, sheep, 10.6% of mastitis of cattle, 8.9% ,17.0% of Pasteurellosis in cattle, sheep, 5.3% of LSD in cattle, 7.9% ,53.7% of shoat pox of sheep , goat and 53.7% of NCD of livestock mortality rate respectively, and also, Gebremedhin A. (2007) reported that, during 2005/2006 years, a total of 223 animals died from different causes, but according to farmers, most of sheep died of diseases that is categorized as unknown disease. From the total number of animals died, 12.3% were cattle, 40.8 % were sheep, 20.1% Goat, 18.7% were poultry and 4.1% were equine.

Comparably, the present crude mortality was in line with the previous findings of Asmamaw A *et al.*(2017) which was reported as crude animal mortality rate were, 21.46 % cattle, 22.1% sheep, 22.52 % goat, 6.75 % equines and 75.1 % poultry. Besides this, 2.32% LSD, 2.91% CBPP, 0.87% anthrax, 21.97% PPR, 7.2% Shoat pox, 10.92 % CCPP, 52.32 NCD% and 1.46% Rabies, were reported as proportional mortality rate. These varieties might be due to, the major causes of mortality were poor management problems followed by viral and bacterial diseases. Similarly, it was also slightly inconsistent with mortality rate of 12.17% cattle, sheep 38.06%, goat 68.58% and equines 30.28% and crude mortality rate excluding

poultry were 48.63% in Assosa zone woredas' (CSA, 2013).

However, the present finding is lower when compared with the previous findings of, Tesfaye D *et al*. (2011) who indicated, 4.4 % overall mortality rate of cattle due to trypanosomosis and 12.1% of overall prevalence of the disease, during his research activity on economic burden of bovine trypanosomosis in three villages of Metekel zone, Northwest Ethiopia. In addition, it disagrees with the previous findings of Hossain MM *et al.* (2014) who reported, 5.6% average overall mortality rate, and higher mortality of cattle in rainy season (37.98%) followed by winter (33.03%) and summer (28.99%) and also pneumonia (39.91%), Tuberculosis (20.58%) and enteritis (15.58%) cause of deaths. In addition, this result was in line with the earlier reports by Solomon w. *et al*. (2014) during their studies on major causes of lamb mortality at Ebinatworeda, Amhara National state, north western, Ethiopia, that, 40% of overall lamb mortality, most of mortalities were due to diarrhea (51.0%), pneumonia (38%)and others 10.0%.

In the present study, Young mortaliy were reported as ,6.64% of calf, 14.81% of lamb (sheep) and 19.33% of kid (goat). This findings were comparable with the previous findings of Asmamaw A *et a*l., (2024) in 16 kebeles of Bambasi, Menge, Ura, Wombera and Dangur districts in Benishangul Gumuz regional state, reported as 11.67% of calf, 15.06% of sheep lamb, and 4.67% of goat kid of young crude mortality rate.

Livestock owners respondents said that, morbidity rate in animal type were 17.07% trypanosomosis, 14.93% CBPP, 7.65% of PPR, 8.26% of Bovine pasteurellosis, 7.19% of shoat pox, 22.97% NCD, 11.86 % of avian salmonella, 5.97% of shoat pox, and 3.82% of CCPP, 3.29% of ovine pasteurellosis, in 13 villages of surveyed sites. Besides this, 40.3%, 18.68%, 3.29%, 2.90%, and 34.84% of relative morbidity rate of Cattle, Goat, sheep, Donkey and poultry respectively were recorded in the 13 kebeles of study sites. Comparably, Asmamaw A *et al*.(2017) reported that, 28.72% Trypanosomosis (cattle, shoats), 26.39% internal parasites (cattle, shoat, equines), 13.46% ectoparasites (cattle, shoat, equines) and 31.43% other disease x|complications were studied as proportional morbidity rate during the study period.However, the present findings were inconsistent with the findings of Chaudhary JK, *et al*. (2013) who reported an overall bovine morbidity of 31.22%. Besides this, it was in accordance with the study conducted by Kelay B *et al*. (2008) who reported incidence of crude morbidity 61.5%, due to (diarrhea, pneumonia, navel ill, septicemia and congenital disease), during the study of calf morbidity in dairy farms in Debre zeit, its environs, Ethiopia and also the most frequent disease of calf diarrhea with incidence of 42.9%. This variation were due to substantial economic losses and/ or animal death, due to disease occurrence, shortage of variety drugs, in appropriate vaccination program, and different health constraints in the areas.

The current finding was similar with the findings of Nigatu D.*et al*. (2017) who indicated, the response of the animal health workers at the public animal health service centers and the common priority animal diseases of the area as, Trypanosomiasis, Pasteurellosis & CBPP, PPR, Pneumonia, ectoparasites and endoparasites, NCD, Salmonella, FMD, Blackleg, Lumpy skin disease, and Sheep and Goat pox, in the study area of Assosa zone of Benishangul Gumuz Regional State.

The present study indicated that, 43.8 for cattle, 23.8 for shoat, 28 for equine of average treatment cost was reported by livestock owners during the survey period in selected five woredas. This survey was comparable with the findings of Gebremedhin A. (2007), in AtsbiWomberta woreda, Tigray regional state, who indicated that 42.5% of modern treatment cost, and 35.2% of traditional treatment cost as frequency of treatment. Similarly, 44.0% expensive, 44.0% moderate and 12.0% cheap of degree of treatment cost as respondents in the study areas. This finding was relatively comparable with that of Asmamaw A *et al*.(2024) who showed, the farmers in the area were spending a significantly higher amount of money for the treatment of priority common animal diseases. Many of the farmers prioritized losses of draft power as the most important impact of the disease. The disease burden was significantly higher in the rainy season than at other times of the years.

7. CONCLUSION AND RECOMMENDATIONS

The retrospective survey on animal health problems investigation in Abrahamo, Kurmuk, Bilidugilu, pawe and Dangur (13 kebeles) were assessed. The highest and lowest (23.57%) and (3.44%) crude mortality rate were recorded in poultry and donkey respectively. Similarly, 6.64%, 14.81% and 19.33% of Calf, Sheep lamb and Goat kid Young mortality respectively, were investigated in 13 study villages. 22.97% of NCD, 11.86% of avian salmonella, 17.07% of Trypanosomosis, 14.93% of CBPP, were recorded as highest morbidity rate; whereas, 8.26% of Bovine pastuerellosis, 7.65% of PPR, 7.19% of shoat pox, 3.82% of CCPP and 3.29% of ovine pastuerellosis, were the lowest morbidity rate recorded. Majority

(97.3%) of the study participants indicated, as the disease transmitted by flies, while 11.65%, 3.88%, and 27.18% of respondents stated as the disease transmitted by ticks, treatment materials, and other (stress) respectively. In studied area, un strategic treatment and vaccination service, mis diagnosis, lack of veterinary diagnostic equipments, less monitoring and evaluation system, less surveillance and assessment were main gap identified. Therefore, strategic prevention and control policy would be implemented properly in study area so as to prevent problems encountered.

Based on the above findings, the following recommendation was forwarded:

- Surveillance on major animal disease, mortality and morbidity should be encouraged,
- Community sensitization should be done in order to increase their attitude, knowledge and practice, perspectives up on animal husbandry, handling, sanitary measures, disease reporting, management options of communal feeding and watering strategy,
- Legal Animal movement control system could be motivated ,
- Investigations up on drug seller /shoppers, venders and injectors in the locality, should be further observed,
- Capacity building for community front line animal health workers so as to increase their attitude, knowledge and skill regarding advanced veterinary service such as diagnostic, surveillance and monitoring on the animal health problems and constraints encountered during the survey.

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