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Assessment On Veterinary Service Delivery System in East Gojjam Zone, Amhara Region: Strengths, Weaknesses and Opportunities for Improvement

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Abstract:

Ethiopia is the first in Africa in terms of animal resources and has contributed greatly to its economy in agriculture, exports and food security. Livestock breeding is a key area in the Amhara region in the eastern Gojam zone, where there are more than 2.4 million cattle and various domestic animals. Veterinary services play a vital role in protecting animal health, but there are significant challenges, including inadequate budgets, limited infrastructure and inconsistent disease control measures. This study evaluates the veterinary service delivery system in East Gojam zone and identifies key players, strengths, weaknesses and areas for improvement. The research uses participatory methods including qualitative surveys, key informant interviews and field observations. The findings show that the majority of medical services are provided by government veterinary services, however poor budget support, lack of drug and medical supplies, and insufficiently skilled professionals remain issues. Private sector participation is growing but limited by regulatory challenges, lack of diagnostic tools and high service costs. Community Animal Health Workers (CAHWs) contribute to service delivery but lack training and motivational support. Non-governmental organizations support veterinary services, but their work is often short-lived, making it unsustainable. Recommendations for improving animal health services include providing adequate budget support, strengthening public-private partnerships, implementing mobile veterinary clinics, and improving community-based programs. Improving veterinary education, ensuring appropriate policy frameworks, and integrating CAHWs into formal veterinary structures are also critical. Strengthening these services is essential for improving livestock production and productivity, ensuring food security, and growing Ethiopia's agricultural economy.

Key words: cahws; mixed crop livestock system; east gojjam zone; animal health; veterinary health service delivery

1.Introduction

Ethiopia is known to have the largest number of livestock in Africa. The livestock sector is contributing to the country's economy and plays a significant role in strengthening the country's economic development. Livestock also plays a major role in earning foreign exchange by providing exportable products such as livestock, hides and skins [1]. Livestock is a major source of animal protein, energy for crop production, means of transportation, export trade, agricultural land, and livestock manure for security and wealth accumulation in times of crop failure. The sector contributed up to 40% of agricultural GDP, nearly 20% of GDP and 20% of domestic foreign exchange earnings in 2017 [2]. East Gojjam zone is one of the areas with the highest potential for animal husbandry in the Amhara region. The number of livestock is estimated to be 2.4 million cattle, 951982 sheep, 549778 goats, 31096 horses, 29088 mules and 258407 donkeys, in addition to 1924685 chickens and 241713 bee colonies [3]. The zone covers 57% of the total cattle and 23% of the total sheep, 13% of the goats, 1% of the horses, 1% of the mules, 6% of the donkeys. Most of the animal species are indigenous with good adaptation to the local agro-ecology [4]. The Animal Health Service plays a key role in implementing control measures in the diagnosis and response to forborne diseases. A strong veterinary service that prevents or reduces physical and chemical risks in primary production, ensures the responsible and careful use of veterinary products, provides direction to farmers to reduce the possibility of veterinary drug residues in the animal environment and the development of antimicrobial resistance [5]. In East Gojjam Zone, animal health service delivery covers 98 percent of the population of rural and urban districts. There are 36 veterinarians, 120 animal health technical and 581 animal health assistants in the public sector in the zone (East Gojam Zonal Livestock Development Office [3]. The animal health service in rural and urban areas is composed of laboratories in district towns, district clinics, and rural health centers at the district level. There are also private clinics, dispensaries and Community Animal Health Workers (CAHWs) who supports the service. At the rural level, veterinary services are provided in one clinic, sometimes two in two station clinics. The clinics do is basically individual

treatment, vaccinations, spaying and assisted delivery. The treatments are usually basic injections, drenches and wound care [3].

Animal diseases, which are prevalent in all agro-ecological zones of the country, cause huge economic and social losses to livestock owners. The impact of these diseases is devastating in mixed crop and animal husbandry systems and remote areas, where the livelihood of most communities depends on their livestock. Animal health and veterinary services are currently inaccessible to most livestock owners in Ethiopia's mixed cropping highlands, lowlands and midlands. The best existing clinics are located in major cities and mostly cattle owners living around these cities. Poor private and public services such as highland-based veterinary services, drug adaptation, and poor-quality control of veterinary drugs, weak disease reporting system, disorganized research and community service are the main problems affecting the quality of veterinary service delivery system in mixed cropping areas of Ethiopia. Therefore, solutions to improve the quality of veterinary services in Ethiopia's mixed crop areas include privatizing the services, encouraging community-based animal health programs, introducing mobile veterinary clinics, organizing research activities, and implementing community services collaboratively at the regional level [6]. Animal health disease prevention and control require strengthening animal health management and animal health systems to improve productivity, improve food and nutrition security, improve food safety and trade and protect public health [7]. The result of this evaluation is to identify the necessary interventions by government bodies and stakeholders to overcome the problems in the provision of animal health services in various districts of East Gojjam zone, especially in controlling and preventing animal diseases.

1.1 The general objectives of this study are:

To evaluate the veterinary service delivery system of mixed crop livestock farming system in East Gojam zone in different district.

Specific objectives

1.Identify key actors in animal health service delivery;

2.To identify the weaknesses and strengths of various government and private sectors in providing animal health services.

3.To suggest solutions to the limitations of animal health service delivery

2.Materials And Methods

2.1 Approach

Participatory research methods are presented based on the research framework of the mixed crop farming system involving the farmers' community and other stakeholders. The basic principle of this system is based on the participation of farmers in the evaluation and planning of their needs using a multidisciplinary approach and it correctly acknowledges the involvement of different stakeholders in the progression of animal health services development [8],[9].

Accordingly, in the East Gojjam zone, this settlement in order to conduct system analysis, interdisciplinary research and research were conducted with veterinary service delivery system experts.

2.2 Description of the study area

East Gojam is one of the ANRS Management Zones in Ethiopia's Blue Nile Basin (Figure 1). Currently, the zone is made up of seventeen districts and eight city administrations. The total skin area of the zone is 14,010 square km, which is equivalent to 1.40 million hectares of land [10]. However, data from the Zonal Animal Office indicates that the total land area is 1.46 million hectares; characterized by various grazing land uses. Abokut has 45% of arable land and an additional 8% of irrigated land suitable for irrigated agriculture. Different forest cover and pasture land account for 13 percent and 11 percent of the total land cover. East Gojam zone is one of the areas with the highest potential for animal husbandry in the Amhara region. The livestock population is estimated to be 2.4 million cattle, 951982 sheep, 549778 goats, 31096 horses, 29088 mules and 258407 donkeys, in addition to 1924685 poultry and 241713 bee colonies [4]. The East Gojjam zone covers a diverse topography ranging from 800 to 4200 meters above sea level. The highest mountain, Choke, 4100 miles high, is located in this zone.

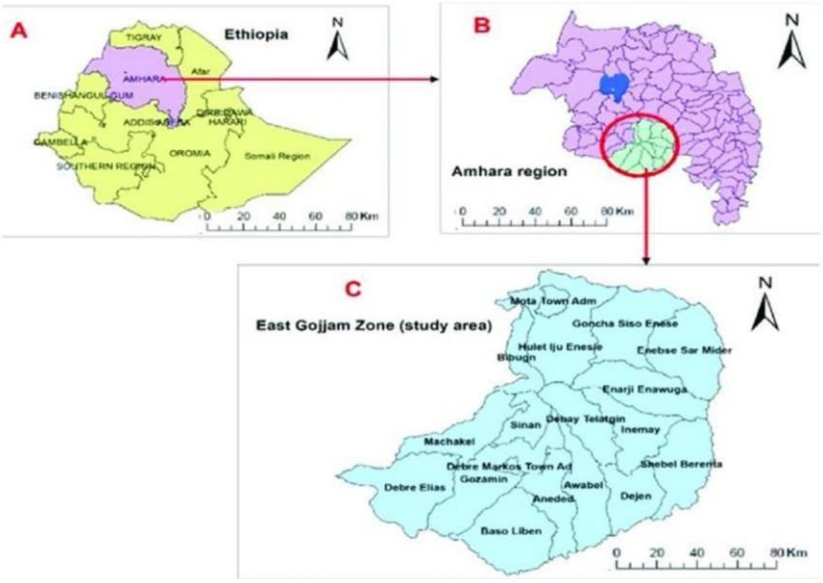

Figure 1: Map of study area.

2.3 Survey design and data collection

The study employed a mix of qualitative survey techniques and tools to generate data from primary and secondary sources that served its purpose. Before the implementation of the field research, an extensive desk review was conducted to identify critical data gaps that served as input in designing survey instruments for primary data collection. It should also be noted that reviewing secondary data was an important part

of the report writing process to ensure qualitative research results. The research reviewed published and unpublished documents of the Ethiopian Agricultural Research Institute, Central Statistics Authority (CSA), Ministry of Agriculture and other governmental and non-governmental organizations. Major secondary sources include scientific papers, Amhara Agricultural Research Institute, unpublished documents from the East Gojjam Zone Animal Husbandry Office, and related investigative farming system survey reports.

After initial extensive desk review work, the study developed essential semi- structured survey strategies covering delivery issues affecting animal health services and the animal sector. Over five years of field research (SMS) was conducted to generate primary data from the livestock owner and veterinarian community. A study design was conducted to identify the animal health service key players and trends in the study area. The survey was prepared in consultation with Debre Markos University animal production expert and zonal office animal husbandry expert by classifying the eastern Gojam zone into three levels, i.e. plateau (high altitude), or plateau (mid land) and kola (low land) in the classification of agro-ecosystem, taking into account the diversity of the natural farming system. Following the zonal classification, districts representing agricultural research were identified based on the expert opinion from the zonal livestock sector office. Accordingly, Bibugn District (Dega); Gozamin, Enimay and Awabel districts (Wyna Dega), Dejen and Gendwein districts (Kola) were selected for community level survey.

A combination of different qualitative survey techniques such as Key Informant Survey (KIS) and field observation was used to generate primary data. The selection of farmers with knowledge and experience in animal husbandry was conducted in consultation with technical experts from various district offices of animal husbandry. In addition, the research was conducted KIS with animal health service workers from the zone, animal husbandry member of Debre Markos University and district level animal husbandry office.

2.4. Data management and analysis

Data from the recorded data were stored, filtered and entered into a Microsoft Excel 2010 spreadsheet for statistical analysis. The involvement of public and private sector as well as community-based animal health workers in veterinary medicine and service provision is thoroughly evaluated.

3.Analysis And Accuracy of Survey Results

3.1. Provision of animal health services

Veterinary services may be classified as curative medical services, particularly laboratory testing and treatment for the treatment of sick animals. In order to stop the occurrence and spread of diseases, vaccination, vector control and control measures, such as isolation and forced slaughter of affected animals, provision of veterinary drugs and human health protection such as sanitary control of animal products, although the East Gojjam zone is rich in animal resources, a high level of animal disease transmission occurs, animal health services have not developed over time. Animal health service delivery in districts within East Gojjam zone covers only 90- 95%. Despite this high service coverage, many problems have been identified in the treatment, among them, the lack of adequately trained staff, and lack of medicine, vaccine, equipment, lack of mobile medicine and poor rural health checkpoint clinic and highland-oriented animal health service delivery. Therefore, in order to increase the efficiency of animal health care delivery, by reviving veterinary services, in order to have a higher contribution to animal production and productivity, public health protection and national development, the purpose of this evaluation is to identify the main problems in the veterinary service delivery system in all districts in the East Gojjam zone, and work to improve the service by communicating solutions.

3.2. Level of veterinary services for mixed crop cattle in East Gojjam

The provision of veterinary services is largely carried out by the public sector, with over 90% of veterinary practitioners still working in the public sector. Veterinary services are provided to the farmers and animal breeders of the East Gojjam zone in 18 district veterinary clinics and 394 health posts. Their clinical level is divided into five types called A-type, B-type, C-type, D-type and below D. out of 412 government clinics, 112 private clinics, 89 private pharmacies in the zone; about 353 (86%) clinics are below standard (Table 1).

The veterinary service delivery system started with hard copy and continued until this year, and during this period, the veterinary clinic effectively managed the small budget managed by the district administration, and the total budget was allocated from a minimum of 200,000 ETB to 1 million three hundred (1300000) per year. In East Gojjam Zone, animal health service delivery covers 98 percent of the population of rural and urban districts. There are 36 veterinarians, 120 animal health technical and 581 animal health assistants in the public sector in the zone (Table 2).

3.3 Sectors involved in the provision of animal health services

3.3.1 Public Sector Participation: Weaknesses/Challenges, Strengths and Opportunities

East Gojjam Zonal District has a wide distribution of small veterinary clinics in district and rural, remote areas. They will be supported by senior experts in zonal and district animal husbandry offices. Veterinary services continue to be provided. It is largely controlled by public sector players, however, in some districts, there is a situation where clinics are being built and are operating on the basis of good drug management (Figure 2). Professionals in the field under Veterinary Group or Directorates with different functions.

Strengths

There is good coordination between different departments such as the research team, the finance team and the pharmacy. Among the veterinary clinics established within the district that provide veterinary service there are some that are below standard, but those that are mentioned are well established and provide good services (Figure 3). They are working to control and prevent Transboundary Animal Diseases (TADs) through disease reporting and surveillance. They are taking legal action against illegal drug trade activities in animal health profession control as well as animal drug control. They try to prescribe necessary tests and medicines for sick animals in accordance with medical ethics. A vaccination calendar-based service is implemented to prevent and control various diseases The management, distribution and use of drugs have improved over time; Professionals conduct audits by their own experts every time so that there is no wastage of money

Figure 2: A clinic with medicine in one room in every street and kebele in Awabel district.

Figure 3: A very good clinic building in Awabel woreda.

Weaknesses

Inadequate resource allocation: The resources allocated to the public sector cannot adequately fulfill more than 50% of the requirements that contribute to performance. Having poor information management systems Assigning them to lead the sector while they have insufficient technical and managerial skills. Public sector players lack technical and managerial skills and lack of experts in the relevant fields. Inadequate infrastructural facilities and building such as medical equipment required for veterinary clinics to provide satisfactory community services for disease control and surveillance are minimal requirements (Figure 4). Lack of laboratory equipment In some districts, the failure of laboratories to provide services based on temporary clinical examination while a specialist is assigned to the field; Unequal distribution of human resources. Technical experts Gozamin district has 4 veterinarians, while Goncha siso and Shebel berenta have only one veterinarian in district and Debay and Machakel have no veterinarians.

Weak public-private partnership.

The lack of policy guidelines and strategies on animal health services is an obstacle to correcting problems in the sector. Veterinary services week

(decentralized government system) failure to report disease outbreaks in a consistent and quality manner Lack of strong communication at the district level: failure to jointly control transboundary animal diseases (TADs), control of zoonotic diseases and vectors, and illegal drug trade. Poor regulatory framework for public rural health centers, private veterinary clinics and pharmacies; State animal agencies have developed some field test manuals, but their distribution is very limited or they are not supported by private animal health services.

Figure 4: A building that is not satisfactory, at Enemay district

3.3.2 Private sector participation Strength

Pastoral Mobile Clinics work closely with the community to serve clients when they need them using a motorcycle. Having an integrated combination of services, ie clinical work, agro-vet shop (veterinary drugs, animal feed, minerals, agricultural chemicals, service delivery, etc.) They report to the relevant authorities for the provision of medicines to clients, counseling services to clients and information capture. Knowledge creation and information transfer in their workplace; Vaccination campaign coordination Reporting to veterinary authorities when there are incidents of transboundary diseases (including TADs).

Weaknesses / challenges / gaps

Limited practical knowledge of most private practice practitioners (especially veterinarians in Animal Health Technical/AHT), often leading to misdiagnosis and mistreatment. Reluctance to fill the gap to admit a lack of knowledge; Inadequate diagnostic tools such as laboratories, inadequate use of laboratories - treating many cases based on temporary clinical diagnosis without confirmation; Poor referral system - Most veterinarian is reluctant to refer difficult cases to your nearest veterinarian. Animal health services do not have veterinary manuals, either from government or non-governmental organizations. State animal agencies have developed some field test manuals, but dissemination is very limited or not observed by private animal health services. Conducting clinical examinations by working in an unsatisfactory clinic building. There is a problem with the quality of medicine. Illegal drug trade activities have increased, selling illegal drugs to pet owner private sector/pharmacists or clinics.

01.	Bebugn	17	3	4
02.	Aneded	17	7	3
03.	Machakel	26	19	17
04.	Sedie	15	3	3
05.	Enarige	28	2	
06.	Basoliben	23	1	7
07.	Huleteju Enbise	34	14	2
08.	Awabel	27	1	7
09.	Enemay	29	14	2
10.	Debre Elias	16	11	5
11.	Debay	24	2	2
12.	Goncha siso enise	43	12	13
13.	Dejen	21	6	
14.	Gozamin	21	9	7
15.	Enebisesair mider	34	1	3
16.	Mota city administration	1	6	5
17.	Shebel	22	1	
18.	Sinan	18		4
Total		**412**	**112**	**89**

Table 1: Number of private and public sector East Gojjam zone at district Livestock and fishery sector development office

3.3.3 Participation of non-governmental organizations

3.3.4 Strengths

Working closely with communities - Communities working closely with NGO projects/Brook Ethiopia, FAO, FSSRP Monitoring and Evaluation (M&E) animal health experts. Working with other sectors and collaborating with other players including government departments (Department of Animal Health, Animal Husbandry, Water Bureau, Health etc.). Non-governmental organizations are supported by the budget and have the ability to perform relatively quickly against the government. Animator/community-based animal health service delivery is highly supported in most of the districts where the Brock project works. Their activities are advocacy work - policy lobbying and advocacy, animal welfare policies and law enforcement/illegal donkey trade. Prevention of disease spread and facilitation of animal health service delivery worked to facilitate kebele and district experts to carry out vaccinations, treatments, disease surveillance and baseline surveys; Procurement of various medicines and vaccines; Training and extension services (capacity building for communities and veterinary practitioners) Provision of training

No		Zone			Wereda					kebele					
	Zone/ Wereda	Msc/DVM	DVM	Sum	DVM	BSC	Diploma	AHT	Sum	DVM	Bsc	Diploma	AHT	Sum	Total
	Zone	2	3	5											
01															57
	Awabel				3	1	4		8		1	48		49	
02															34
	Dejen				4	1			5		2	27		29	
03	Gozamin														34
					5	1	1	1	8		4	22		26	
04															32
	Shebel				3	1	2		6		3	23		26	
05	Enemay														36
					5	1	1		7		4	25		29	
06															37
	Bibugn				3	3	2		8		1	28		29	
07	Mota				1	1	1		3			0		0	3
08															28
	Debay				3	3	2		8		3	17		20	
09															27
	Aneded				4	1	1		6		2	19		21	
10															59
	H/Ein				3	4			7		1	51		52	
11	Goncha														81
					1	6			7		1	73		74	
12	Enebsie														43
					2	5	2		9		1	33		34	
13															58
	Enari				2	1	3		6		3	49		52	
14	Basolibeu														42
15					1	4	3		8		3	31		34	
						2	1		3	1	0		1		4
16															32
	Sinan					2	3	1		6	1	25		26	
17	Machakel														36
						3	4	1		8	4	24		28	
18	D/Eliyas														32
						3	3	1		7	1	24		25	
19															30
	Sede					2	1	1		4		26		26	
	Total No	2	3	5	1	50	46	27	1	124	36	545		581	710

3.3.3 Participation of non-governmental organizations Strengths

Working closely with communities - Communities working closely with NGO projects/Brook Ethiopia, FAO, FSSRP Monitoring and Evaluation (M&E) animal health experts. Working with other sectors and collaborating with other players including government departments (Department of Animal Health, Animal Husbandry, Water Bureau, Health etc.) Non-governmental organizations are supported by the budget and have the ability to perform relatively quickly against the government. Animator/community-based animal health service delivery is highly supported in most of the districts where the Brock project works. Their activities are advocacy work - policy lobbying and advocacy, animal welfare policies and law enforcement/illegal donkey trade Prevention of disease spread and facilitation of animal health service delivery worked to facilitate kebele and district experts to carry out vaccinations, treatments, disease surveillance and baseline surveys; Procurement of various medicines and vaccines; Training and extension services (capacity building for communities and veterinary practitioners) Provision of training and extension materials; They have worked to provide education on animal welfare to primary schools and build capacity of public sector workers to establish public veterinary testing facilities/clinics.

Weaknesses / challenges / gaps

As most of the projects were short-term - it was difficult to measure impacts; In most of the activities carried out by projects, it is doubtful to continue with sustainability activities beyond the life of the project Projects are understaffed - often civil servants are assigned a focal person to carry out the tasks. Project headquarters budget support donors do not have a strategy to coordinate activities because they skip meetings and go with the community, creating transparency problems. Lack of legal framework work - they need to work within the legal and policy framework In most non-governmental organizations, beyond animal health services, unsustainable project activities are cut short without handing over to the community or the government.

3.3.4 Participating Community Animal Health Workers (CAHWs)

CAHWs have played an important role as animal health service providers in many zones in the Amhara region, including the East Gojjam zone. They never received any training from government or non-government institutions, but their role was limited but important. In the past 20 years, CAHWs have become an integral part of the delivery of animal health services both nationally and regionally, including sustainability of the community-based animal health care system. CAHWs have been widely used, especially in areas where there is insufficient animal health support A CAHW is defined as a farmer/field agent selected by the community through community veterinarians, veterinary public services and supporting government bodies and NGOs. They provide basic animal health services and animal husbandry advice to improve animal health and production. As a transmission agent, CAHWs also have an important role in epidemiological surveillance. Currently, community-based animal health programs are the only option for providing animal health services in mixed cropping systems and in the most remote areas of the country because government veterinarians are not always efficient or effective providers of services.

Current status of CAHWs

A total of 150 CAHWs have been trained by NGOs in East Gojjam zone. Currently, community animal health program promoters are on the rise. CAHWs act as primary health care providers and much is accomplished by the BROOKE Project. Provided training of trainers and training curriculum for community animal health professionals developed by the BROOKE project. Animal health services have become accessible to the community because every kebele, especially the project district, has a CAHWS. As a result, improved access to animal health has increased and animal deaths have decreased.

The role of CAHWs

Animal health services provided by CAHW include mobilizing the public for vaccination campaigns, spraying external parasites, treating minor wounds, removing dead animals, organizing clinic building campaigns, raising awareness and counseling animal breeders, collecting and sharing information and reporting.

Challenges of CAHWs

There are some challenges in implementing participatory community-based animal health services programs. These include: CAHWs with poor skills, not properly selected during elections, poor work motivation, security concerns, some CAHWS waiting for funds from community/government/NGO, not frequently monitored or supported by budget, CAHWs quit because of no benefits they receive are the main problems.

3.4 Possible solutions

Solutions to improve the quality of veterinary services in mixed cropping in East Gojjam zone include prevention and control of animal health diseases, strengthening of veterinary bodies with adequate resource allocation and strengthening of animal health systems, improved food and nutrition security and trade, privatization of animal health sector services to some extent, and encouraging privatization of public health and investment. Chains, supporting the private sector by enacting policies and laws that stimulate the private sector and - creating an enabling environment (for example, improving policy and legal frameworks related to the regulation of the animal health profession and controlling the illegal veterinary trade), promoting and operating a mobile veterinary clinic, and carrying out research activities and co-implementation of community services.

3.4.1. Encourage or strengthen veterinary government bodies/players

Adequate allocation of resources or resources allocated to animal health services should be allocated to carry out the activities of veterinary services. Estimates from districts under East Gojjam zone indicate that on average, 20% to 40% of the funds allocated to animal health services are required to cover these activities. It requires strong implementation of policies, laws and regulations and involvement of stakeholders. This collective policy gap exists as a country because of insufficient implementation strategies and stakeholder engagement, limited financial capacity and lack of commitment by political leaders. Working with stakeholders and creating awareness. Provide veterinary professions with strong supervision and adequate continuing education. Establish a strong regulatory framework to regulate the private sector/especially veterinary pharmacies and clinics. Create, encourage and support strong relationships and interactions between private and public veterinary players. Inequitable allocation of resources is one of the issues limiting the delivery of animal health services, especially in the public sector, so budgetary support is needed. Not only in the provision of animal health services, but in the general animal husbandry sector, the government and all the stakeholders in the sector have complained about the low budget. Budgetary provisions need to be revised to reduce the gap. Strong institutional linkages and cooperation, adequate institutional linkages and cooperation, exchange of information and experience, joint programs and sharing of critical resources, enabling stakeholder cooperation and raising public awareness in general.

3.4.2 Encourage the privatization of veterinary service

Currently, the participation of the private sector in the provision of veterinary services is increasing. However, most of the participants work in dispensaries and very few participate in clinical or diagnostic services. In large cities with large numbers of livestock and infectious diseases, encouraging the private sector to participate in clinical and diagnostic services creates a competitive environment that helps provide quality veterinary care. Establishing a strong public private partnership framework for better participation of the private sector in animal health services, including resource support and establishing a common forum for

discussion. Establish a government private case investigation referral system and ensure strong disease reporting links between the private sector and the public sector with a strong chain of command. Empowering the Private Sector If properly empowered, private animal health sector actors have the potential to contribute significantly to the provision of animal health services. In this regard, it is recommended that a regional body supports the strengthening or establishment of sustainable regional or national private sector cooperation. The Amhara National Regional Government should support private sector actors in the animal health sector through capacity building programs such as training and financial support.

3.4.3 Community-based animal health programs

In East Gojam Zone Community Animal Health Program, CAHWs have been found useful and have improved their management and integrated with the existing system. In order to strengthen the delivery of animal health services, there is a need to create linkages between veterinarians, paravets and CAHWs as they support each other. Currently, community-based animal health program is the best alternative way to provide animal health services in remote areas or districts. Therefore, government bodies can support financial support for goods and services. The public sector is not always an efficient or effective provider of goods and services and should focus on policy formulation and regulation. Community Animal Health Workers (CAHWs) are community members who have basic and informal training in animal health care and who prevent and treat animal diseases in their communities. CAHWs in East Gojam zone have been trained by government and non-governmental organizations so far. Services provided by CAHWs include antibiotic treatment, vaccination, deworming, treatment of minor wounds, organizing and implementing vaccination campaigns, deworming campaigns, raising awareness and counseling animal keepers, collecting, sharing and reporting disease outbreak data.

3.4.4 Mobile veterinary clinic

The mixed crop highland community does not have a stable life as they wander from place to place following the animals in search of fodder and water. This situation makes highland style permanent animal health services very difficult and ineffective to control and prevent animal diseases in mixed crop areas of East Gojjam zone. Therefore, introduction of a full-fledged mobile veterinary clinic with all the necessary facilities and services through the national policy and budget is a timely solution to control and prevent animal diseases and improve the livelihood of the pastoralist community.

3.4.5. Veterinary extension service delivery

The livestock extension education plays an important role in empowering the farmers with appropriate technological knowledge and skills through various extension educations and training programs. Livestock Extension Service/Education focused on livestock extension, development process and goals, extension approaches, technology transfer and adoption and various livestock development programs. Transforming livestock farming into market-oriented enterprises has been the dream of many developing countries. Develop a comprehensive strategy for animal health extension service delivery - involving public, private sector actors, NGOs and community-based organizations and animal farmers.

Discussion

It is often said that animal husbandry is the main source of livelihood in our country. People living in rural and urban areas of central Ethiopia. For example, according to Zewudie [11]. due to the presence of various animal diseases, the more has been identified in our study for low production and poor animal health services. Actors and restrictions related to animal health services. Findings of this study include 1) identified actors in veterinary services and the actors are identified in terms of strengths and weaknesses. Private drug sales and clinic The number of private institutions in East Gojjam zone, pharmacy and clinic, is low compared to the government, which is similar to the findings. An informal medicine distributor on the market mainly sells their medicine to the animal breeder Private providers are good during emergencies and holidays, however, private veterinary services are expensive, problems include expired drugs, and sales rates are very high with the government. This is similar to the findings of Tefera [12]. This is similar to the findings of [13], that no policy or strategy is designed and supported by the government to encourage private service providers.

Government Veterinary Service

GOVERNMENT VETERINARY SERVICES In urban and rural areas, primary veterinary services are provided mainly by the government, contrary to Girma's study [14].

Veterinary services were not satisfactory due to lack of adequate budget, logistical problems, lack of basic veterinary equipment and lack of trained personnel according to historical research [15].

Lack of veterinary medicine and distance, which closes on weekends and public holidays, are the main limitations of public veterinary services. Public veterinary services are chosen as the first choice because of their accessibility.

Compared to private veterinary services, the cost of a clinical case is affordable as the cost of medical services and pharmaceuticals is subsidized by the government and is similar to services provided elsewhere in Ethiopia. The finding is similar to the story [15], that mentions the role.

The public is not satisfied with the service provided by the sector, that is, the private institution, because they are graduated with a label. The findings are similar to the story that mentioned the role [16],[17] and there are very few professionals who have specialized in each sector in the government institution.

Community Animal Health Workers (CAHWs)

Community animal health workers (CAHWs) Animal health services provided by CAHWs include mobilizing the public for vaccination campaigns, spraying external parasites, treating minor wounds, disposing of dead animals, organizing clinic building campaigns, awareness raising and counseling of animal breeders, data collection and sharing and reporting.

CAHWs are not as motivated as veterinarians to work in remote areas. This study shows that it is working to make veterinary services accessible. CAHWs systems are the most viable and effective way to provide basic veterinary services, disease surveillance and animal health information systems, research and disease eradication programs. Significant progress has been made in developing CAHWs systems and their impact on community livelihoods in East Gojjam Zone. However, many challenges remain that affect the effectiveness and sustainability of these initiatives. Many of these challenges lie in the level of veterinary governance and the capacity of government veterinary facilities to provide veterinary medicine and ensure effective supervision of CAHWs and private veterinary services. The finding is consistent with the role of history [18], that lack of effective communication between veterinary legal entities, systems of CAHWs and private veterinary service agencies has exacerbated service inefficiencies in most districts.

Conclusion

The study on the provision of animal health services in East Gojam zone highlights the important role in the Ethiopian agricultural economy and the challenges in the sector. Although Ethiopia is the first in Africa in the number of animal resources, lack of budget for veterinary services, lack of infrastructure, sufficient trained professionals and supplies of medicine and medical supplies continue to be major obstacles for the sector. While government veterinary services dominate the sector, their effectiveness is limited by budget constraints and lack of logistical support. Private sector involvement is growing, but illicit trade continues to be hampered by a lack of investigative tools and a lack of operational policies for regulators. NGOs make important contributions to the sector but are not sustainable.

Community animal health workers (CAHWs) contribute to service delivery, but face challenges such as inadequate training and lack of motivation.

The study identified significant gaps in service delivery due to weak public-private partnership, weak disease prevention and control systems, and limited access to veterinary services in remote areas. Lack of strong policy frameworks and financial support exacerbates these problems and reduces the effectiveness of veterinary services. Despite these challenges, veterinary services continue to be critical to the population of the region, as well as to Ethiopia's animal health, food security, and economic growth. Solving these problems requires concerted efforts from the government, private sector actors, non-governmental organizations and local communities.

Recommendation

1. The following recommendations should be considered to improve the delivery of veterinary services in the districts in East Gojjam zone and throughout Ethiopia.
2. Increase budgetary support - To improve access to medicines, medical equipment and trained professionals, the government should allocate sufficient funds for veterinary services.
3. Strengthening Public-Private Sector Cooperation - Strengthening cooperation between the public and private sectors will improve service delivery and expand access to veterinary care, especially in rural areas.
4. Implementation of mobile or mobile veterinary services - Introduction of mobile veterinary services will increase service access in remote kebeles where fixed clinics are ineffective.
5. Improving Veterinary Education and Training - Expanding training programs for veterinarians and CAHWs will improve the quality of services and reduce medical misdiagnosis.
6. Development of strong policy frameworks - Establishing clear rules for veterinary services, private sector participation and drug distribution will help ensure standard of service delivery and curb illegal drug sales.
7. Integrating Community Animal Health Workers (CAHWs) into a formal structure - Providing integrated training, certification and incentives can enhance the contribution of CAHWs to animal health services.
8. Developing disease surveillance and reporting strategies - Strengthening disease surveillance and reporting mechanisms will improve early prevention and control of animal disease outbreaks.
9. Encouraging Private Sector Investment - Providing incentives such as tax breaks, subsidies or loans to private veterinary service providers will encourage investment in medical equipment and clinic construction.
10. Improving infrastructure and logistics - Investing in veterinary clinics, laboratories and transportation will increase the ability of veterinarians to serve animal owners more effectively.
11. Promote community-based programs - Supporting community-led initiatives in animal health care improves sustainability and encourages active participation from animal owners.

By implementing these recommendations, she can strengthen the veterinary services in the zone as well as in Ethiopia, reduce animal disease epidemics, improve livestock production and productivity, and support the agricultural economy.

Consent For Publication

Not applicable.

Availability of data and materials

All the datasets generated or analyzed during this study are included in this manuscript.

Declarations

Ethics approval and consent to participate.

The study was approved by the Research Ethical Committee of the East Gojjam Zone Livestock and Fishery Sector Development Office. All methods were carried out in accordance with the applicable guidelines and regulations. Verbal informed consent was obtained from the study participant for their voluntary participation and anonymous reporting of the results of the study, and this process was approved by the ethical committee.

Competing interests

I have nothing to disclose in this work.

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Authors' Contributions

I the authors contributed to data collection, study design, data interpretation, reference search, manuscript writing and editing and I have approved the submission myself final manuscript.

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