

# Health of Ethiopian Animals for Rural Development (HEARD)

Public–private partnership (PPP) for improved animal health service delivery of kebele animal health posts (AHPs) in Amhara Region: A baseline and feasibility study



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MINISTRY OF AGRICULTURE

# Health of Ethiopian Animals for Rural Development (HEARD)

## Public–private partnership (PPP) for improved animal health service delivery of kebele animal health posts (AHPs) in Amhara Region: A baseline and feasibility study

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International Livestock Research Institute

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# Abbreviations and acronyms

ACSI	Amhara Credit and Saving Institute
AHP	Animal Health Posts
AI	Artificial insemination
DVM	Doctor of Veterinary Medicine
EC	Ethiopian calendar
ETB	Ethiopian birr
EU	European Union
FGD	Focus group discussions
HEARD	Health of Ethiopian Animals for Rural Development
ILRI	International Livestock Research Institute
LMP	Livestock master plan
MFIs	Microfinance institutes
NGO	Non-governmental organization
PPP	Public-private partnerships

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# Summary

The Health of Ethiopian Animals for Rural Development (HEARD) project is a European Union (EU)-funded program aiming to strengthen animal health services including through public–private partnerships (PPP). In this report we considered the eighth PPP model, which involves leasing the kebele public health posts to jobless veterinary graduates for providing animal health services. Specifically, we considered the feasibility of the model ahead of potential implementation.

The study was undertaken to understand the regional government's policies and strategies regarding animal health service delivery and participation of the private sector, assess the status of kebele animal health posts (AHP), quantify unemployed veterinary graduates, identify feasible PPP modalities and assess credit availability for unemployed veterinary graduates needed to rent the facilities and set up a veterinary practice.

A mixed study approach was used to collect primary and secondary data. The data were collected with combining methods including desk review, key informant interviews, focus group discussions (FGDs) and field visits. Information gathered were analysed/synthesized qualitatively as well as quantitatively to assess the feasibility of PPP model VIII.

There are supportive legal, policy and regulatory frameworks and strategies for PPP for providing animal health. ACSI provide very few loans to young veterinary graduates as most of the districts is below 97% repay loans status. Loans are not readily available to young graduates. Also new graduates were generally unaware of HEARD funding for establishing clinics.

Lack of starting capital and working space are the main challenges for setting up private veterinary services. In Amhara region, about 336 AHPs (out of 3,166 AHPs and veterinary clinics) are not functioning currently. There is a strong need and enabling environment for animal health service provision in PPP modality. The communities are interested to lease their kebele AHPs to unemployed veterinary graduates and the graduates are willing to lease and work at the AHPs. Leasing AHPs to jobless veterinary graduates is compatible to the government policy and strategy and it has acceptance and support from all levels of livestock development and promotion offices.

The private veterinary business using a PPP modality is also financially feasible, a private practitioner can earn a minimum annual net income of 455,696.67 Ethiopian birr (ETB) (USD 1 = ETB 53.5331 at 22 December 2022). Currently, there are about 158 unemployed veterinary graduates in the region and a moderate number of them are willing to work in remote areas. The PPP approach is economically advantageous to the community as well as the veterinary practitioners. Generally, the proposed PPP model VIII is feasible to be executed in Amhara region with due support, monitoring and regulation from concerned bodies.



# 1. Introduction

Several livestock diseases which deter livestock productivity and agricultural development are endemic in Ethiopia including Amhara region. Animal diseases induce direct losses due to mortality and indirect losses through slow growth, low fertility and decreased work output that result from morbidity. Animals that recover from diseases experience severe growth problems, which hinder longer term productivity, all of which lead to poor returns for the livestock keeper.

Strong veterinary services are necessary for enhancing animal performance. Good veterinary service system enables to ensure sustainable economic development of vulnerable livestock producers through limiting animal and zoonotic disease risks. Animal health services provided in Amhara region include diagnostic and clinical services, case treatment, internal and external parasites control, vaccinating, investigating disease outbreak, surveillance, herd health management, animal health extension, advice and training. However, providing adequate animal health services to the livestock producers has remained a problem in Ethiopia in general and in Amhara region.

The current delivery of animal health services is unsatisfactory both in terms of coverage and quality. There are very few private veterinary service providers other than private veterinary pharmacies. The regional government, instead of providing incentives to the private sector, has been expanding the number of public clinics and AHPs, which does not necessarily increase providing clinical service delivery in these areas. In the region, animal health service is provided mainly by the public sector, with clinics and AHPs in every district centre and kebele, respectively. However, the district's livestock development and promotion offices currently face problems in employing and assigning animal health personnel and making their AHPs functional. The private sector participation is limited due to inadequate policy support and subsidized service provision by the public veterinary service.

A system of sanitary mandates also does not exist in the region. Thus, livestock producers in the region do not get effective animal health services for their animals. A veterinary service Rationalization Road Map has been initiated to increase participating private sector in providing animal health services, though its implementation is delayed. To give an impetus for implementing the veterinary service Rational Road Map, a project called 'Health of Ethiopian Animals for Rural Development (HEARD) project' was launched in 2019.

The HEARD project is an EU funded program to strengthen animal health services involving public and private sectors. The HEARD program aims to increase sustainable livestock productivity and improve the marketing of livestock products through enhancing quality and reliability of integrated public and private veterinary service delivery.

One of the project activities is piloting the veterinary service rationalization road map in Amhara region. Piloting novel models for veterinary service delivery involving public and private sector is one of the intentions of the project. The eighth PPP model (which was proposed by Amhara PPP Taskforce) involves leasing the public kebele health posts to jobless young veterinary graduates to provide animal health services. The services may include clinical services, strategic deworming, vaccinating, and health extension services in collaboration with the district public clinics. Establishing the

viability of an idea or model can ultimately determine whether a business succeeds or not. The best tool for determining this is conducting a feasibility study. Hence, this baseline and feasibility study was proposed and undertaken as the first task to implement this model.

## 2. Objectives

The general objective of the study was to assess the feasibility of leasing kebele public AHPs to jobless veterinary graduates and identify the most feasible alternative PPP model that is compatible with the regional government animal health services delivery policy/strategy/plan.

*Specific objectives:*

- Making inventory on the functional status and capacity of AHPs in Amhara region
- Quantifying the unemployed veterinary workforce in Amhara region
- Understanding regional government policy/strategy/plan on animal health services, specifically services by AHPs and privatizing services
- Identifying alternative modalities to PPP for AHPs involving unemployed veterinarians
- Assessing the feasibility of leasing kebele public health posts to jobless veterinary graduates with respect to alignment to government policy/strategy and acceptance, the proposed business model for the PPP, financial feasibility of the private veterinary business and suitability of identified AHPs for privatization
- Assessing the attitude of unemployed veterinary graduates to engage in private practices and work in rural communities

## 3. Materials and methods

### 3.1. Study area

The study was conducted in Amhara region. The document review and some of the key informant interviews were undertaken at regional level. However, the field visit was made to three selected zones (Central Gondar, West Gojjam and, South Wollo), six rural districts (Gondar Zuria, West Denbiya, Jabitehnan, Dembecha, Woreillu and Legehida) and one urban (Dessie) and 13 kebele AHPs in the selected zones and districts.

### 3.2. Study design

A mixed study approach was used to collect primary and secondary data. Primary data were collected from regional/zonal/district government offices, farmers, private veterinary clinics and unemployed veterinarians whereas secondary data were mined from regional government policy/strategy/plan documents for animal health service delivery. Assessments of alternative modalities/arrangements for using kebele AHPs by unemployed veterinarians and understanding the existing opportunities and constraints of credit services for unemployed veterinarians were undertaken using the information obtained from the secondary and primary data collected.

### 3.3. Data collection methods

The methods used for collecting data include a combination of desk study (review of documents and compilation of secondary data), key informant interviews with different stakeholders, FGDs and field visits. Guiding questions (Annex 1) were prepared and used as a tool to guide the discussion and facilitate the data collection from different categories of stakeholders.

Document review was done on the government policy, strategy and plan documents for animal health service delivery; credit service for small businesses; and other documents related to the study. Compiling a database was done for kebele AHPs with their status in terms of current functionality (service status), capacity and other relevant information. A data base was also created for unemployed veterinary graduates by district and zones. The unemployed veterinary graduates list and their location was collected through social media, particularly telegram and telephone call.

Key informant interview was undertaken with relevant public and private sectors stakeholders. Government offices such as regional, zonal and district Livestock Development and Promotion Office; Labour and Training Offices (region, zone and district level); ACSI (region, zone and district level); unemployed veterinary graduate representatives and private practitioners were contacted and interviewed to generate information on feasibility of PPP model VIII and alternative modalities.

FGD was carried out with farmers, unemployed veterinary graduates and animal health professionals at visited zones, districts and kebeles.

A field visit was made to South Wollo, West Gojjam and Central Gondar administrative zones. In each zone two districts and three to four AHPs were visited. In South Wollo administrative zone, kebele 02, 04 and 07 AHPs from Woreilla District and kebele 02 AHP from Legehida District were visited. In West Gojjam Administrative Zone, Kendamo kebele AHP from Dembecha District and Wengie, Berkegn and Maksegn kebeles AHPs from Jabitehnan District were visited. In Central Gondar Zone, Chenkela kebele and Abawra kebele AHPs from West Denbiya District and Chehra Kebele AHP from Gondar Zuria District were visited. During the site visit, observing was done on the building status, facilities, functionality and the overall suitability of the APH to animal health services delivery. Besides, discussion was made with zonal/district government offices (livestock development and promotion offices, credit and saving offices, labour and training offices), farmers and unemployed veterinary graduates on the feasibility of the eighth PPP modality and alternative modalities.

During the field visit, data which used for financial feasibility assessment of PPP modality were collected from AHPs and private veterinary clinics. The number of cases handled annually by an AHP were taken from three (low, medium and high performing) representative AHPs from each visited district and the net profit data for each case type (deworming, external parasite, surgery, wound, trypanosomiasis, infectious diseases, castration) were obtained from contacted private practitioners.

### 3.4. Data analysis/synthesis

The data gathered by document review, key informant interviews, FGDs, and field visits were analysed qualitatively as well as quantitatively. Qualitative data were analysed using content analysis whereas quantitative data were reported descriptively using frequencies. Data from different stakeholder categories were summarized thematically into the subheadings of animal health service and coverage, need and benefit of the service, enabling environment to run the service, feasibility of the modality, concern of stakeholders, alternative modality, and veterinary graduate's attitude towards the business. Similarities and differences across respondent's category were noted. Moreover, by combining this thematic information with the information mined from document review, the feasibility of PPP model VIII, the possible alternative modalities and opportunities and constraints related to credit services were revealed.

The financial feasibility analysis was done by considering the number of cases that will be handled by the practitioners and the net profit expected from each case. The number of cases that will be handled by a PPP modality practitioner was estimated in three scenarios: high, medium and low by taking the number of cases indicated in the annual performance reports of six high, six medium and six low case performing public AHPs in the six visited districts as a base. The six high, six medium and six low performing AHPs annual case reports from six districts were added by category and averaged to get the number of cases for the high, medium and low performing scenarios. Finally, the average number of cases of each case type (deworming, external parasite, surgery, wound, trypanosomiasis, infectious diseases, castration) for each scenario were multiplied by the net profit expected to be obtained by treating a single case/animal to get the net profit for each scenario. The net profit was calculated using the net profit data obtained from private practitioners for each case type.

## 4. Findings of the study

### 4.1. Baseline analysis of AHP and unemployed veterinary workforce

#### 4.1.1. AHPs and service coverage in Amhara region

In Amhara region, there are about 3,166 woreda public veterinary clinics and kebele AHPs and 569 private clinics and 447 private pharmacies (Table 1). Most of these private clinics and drug shops are located at the district town and other small towns in the districts. The animal health service coverage in the region reach 84%, but this coverage did not consider private services. The private clinic coverage is about 10%. This animal health service coverage is computed based on area coverage assuming that an AHP can serve for one kebele animal population but did not consider the actual animal health services.

Table 1. Number of public veterinary clinic, AHP and private clinic and pharmacy by zone

Zones	No. of districts	No. of kebeles	No. of public veterinary clinics and AHPs	No. of private veterinary clinics	No. of private veterinary pharmacies
West Gondar	5	82	70	4	24
Central Gondar	15	409	341	47	64
North Gondar	8	169	130	?	4
South Gondar	15	352	348	33	34
North Wollo	14	311	268	9	7
North Shewa	24	389	382	12	20
Oromia	7	110	71	?	8
Awi	12	198	184	85	50
Waghimra	8	136	77	0	0
West Gojjam	16	395	394	251	69
East Gojjam	19	403	419	94	105
South Wollo	22	528	459	13	35
Dessie town		6	6	4	4
Gondar town		11	8	8	5
Bahir Dar		11	9	9	18
Total	165	3,510	3,166	569	447

### 4.1.2. Unemployed veterinary graduates

There are about 158 jobless veterinary graduates in the region (Table 2). The number of unemployed graduates in the region is less than the number of AHPs that currently not serving the community as animal health personnel are not assigned to them. Most of the unemployed veterinarians were graduated in 2011, 2012 and 2013 EC (*Ethiopian calendar*).

Table 2. Number of unemployed graduates and non-functional AHPs by zone

Zones	No. of districts	Number of non-functional AHPs	No. of unemployed veterinary graduates
West Gondar	5	6	1
Central Gondar	15	31	7
North Gondar	8	14	4
South Gondar	15	36	15
North Wollo	14	28	20
North Shewa	24	47	21
Oromia	7	22	1
Awi	12	14	9
Waghimra	8	7	1
West Gojjam	16	36	18
East Gojjam	19	6	20
South Wollo	22	85	25
Dessie town		3	3
Gondar town		1	6
Bahir Dar		0	4
Unknown		0	3
Total	165	336	158

## 4.2. The government policies/strategies/plans for privatizing animal health services

For PPP models to succeed they must fit in with current government policy and regulations. There are proclamations issued by the Government of Ethiopia that lay a favourable ground for private animal health service delivery and PPP in the delivery of animal health services. The proclamation No. 267/2002, the "Animal Diseases Prevention and Control" Proclamation and Proclamation No. 1076/2018, the "Public Private Partnership" proclamation can serve as a legal framework for PPP in animal health service delivery. Articles 17.1, 17.3 and 17.4 of the proclamation No. 267/2002 encourage the delivery of animal health service through private practitioners and PPP modality. Furthermore, the investment law of the country fully accepts the establishment of private veterinary practices, pharmacies and drug shops.

The Veterinary Services Rationalization Road map which is initiated by the State Ministry for Animal Resources create an enabling environment for participating private sector in veterinary service delivery. Besides, the livestock master plan (LMP) (2015), adopted by the Ministry of Agriculture, indicate the need to increase involving the private sector in producing livestock and it also emphasizes implementing the road map for the rationalization of public/private veterinary services.

The livestock master plan forwarded many recommendations to expand private animal health services and strengthen PPP strategic interventions, for instance, outsourcing certain public goods activities to the private sector through the

use of sanitary mandates, supporting existing veterinary practitioners and new graduates to set up private rural farm stores, providing loans to interested private service providers and incentives for establishing a private animal health service delivery system. The 2013 animal health strategy for Ethiopia also indicated the long-term plan of the government to withdraw from providing animal health services where good private clinical services exist. This would allow public veterinary services to concentrate on core functions and to get rid of noncore functions to the private sector. It also indicated some strategic intervention to be taken such as removing unfair competition through cost recovery, gradually withdraw the public service from clinical services, contracting certain public goods activities to the private sector through sanitary mandates to expand private animal health service and strengthen PPP.

The Amhara regional state government policy and cost recovery guideline encourage animal health services delivery on a cost recovery basis for treatment and vaccination (for non-transboundary animal diseases). The cost recovery system has been practising in the region for the past few years and this creates a favourable environment for privatization. The regional livestock development and promotion agency in its 10 year (2021–2030) animal health strategy plan indicated the agency's determination to establish and strength PPP for livestock development, increase the private veterinary services share and coverage and expand the private veterinary services by creating a conducive environment through veterinary service rationalization road map implementation. The agency has also planned to raise the private animal health service coverage from 10 to 35% via increasing the service fee in the cost recovery system and gradually withdraw the public veterinary service from clinical services particularly at the urban centres and in areas where modern livestock production flourished.

Generally, in the nation, particularly the Amhara region, there are supportive legal, policy and regulatory frameworks and strategies for PPP for animal health provision and development including leasing AHPs for unemployed young veterinary graduates.

### 4.3. Alternative PPP modalities for AHP privatization

Alternative PPP modalities for AHP privatization involving unemployed veterinarians were proposed from different stakeholders (the communities where non-functional AHPs are located; district, zonal and regional livestock development and promotion offices; and unemployed veterinarians). Each proposed modality/arrangement was triangulated by discussing with the three stakeholders. The proposed modalities are categorized into three PPPs typology:

- Collaborative PPP arrangement (AHP clinical service and providing artificial insemination service, animal health services through joint venture between unemployed graduate and the community, leasing AHP as a purely private business, transferring some of the currently well-functioning public veterinary clinics and AHPs to private practitioners and participating unemployed graduates in producing poultry, beekeeping, sheep and cattle fattening enterprises and meat inspection);
- Transaction PPP arrangement (managing mobile herd health service and providing herd health program and animal health consultancy services to commercial livestock farms); and
- Transformative PPP arrangement (establishing a shareholder animal health providing company that should involve unemployed graduates).

The PPP types were differentiated by the type of partner, initiation and funding and typical governance. There are some degree of overlap and some PPPs may have elements from more than one of the PPP types. The priority which alternative PPP model should be implemented depends on the situation and prevailing environment at the implementation locality. The proposed modalities can be implemented separately or in combination with the PPP for AHPs privatization modality. The description of the proposed alternative modalities are presented in the following subsections.



### 4.3.1. Alternative modalities with collaborative PPP arrangements

*Providing animal health services through joint venture of graduates and the community:* Some communities would like to run the animal health services provision at their kebele AHP in a joint venture with unemployed veterinary graduates. They proposed that the community will provide the AHP building for unemployed graduates freely and the graduates fulfil drugs and other necessary materials and supplies for providing the services. The community also take responsibility for guarding the AHP. However, the community through their representatives will involve in price setting for the drugs and services, monitoring and regulating the services and the graduates' activities. The modality involves a collaborative partnership between the community and the veterinary graduate. The community proposed this modality to manage the fear of exaggerated fee request for service and medicament by the practitioners.

The feasibility of this modality is very low as the graduates are not interested in this joint venture. Almost all the graduates contacted were not interested in this modality. Their main reason was that the community would like to get the service with the same price as that of the public service and manage the services as they wish, this will lead the graduate to financial loss and interrupting service. However, there is a room to adopt the arrangement after negotiating among the community, the veterinary graduates and district livestock development and promotion office.

*Leasing AHP as a purely private business:* Currently, in the region there are about 336 AHPs, which are not offering animal health services to the surrounding community as a result the community face a problem of getting animal health services for their animals. The livestock rearing community as well as the government need the service highly to improve the animal health and productivity. However, the district livestock development and promotion offices unable to employ and assigned animal health personnel and make these AHPs functional. One way to solve this problem is leasing the non-functional AHPs to young unemployed veterinary graduates to run it in private business modality. In this modality, the community and the graduate create a collaborative partnership, the community will lease their AHP building to unemployed graduate with reasonable rate and the graduate fulfil drugs and other necessary materials and supplies for providing animal health services.

Leasing kebele AHPs to jobless veterinary graduates is compatible to the government policy and strategy and it has acceptance and support from all levels of livestock development and promotion offices. Most of the communities are voluntary to lease their kebele AHPs to unemployed veterinary graduates and most of the graduates are also interested to lease the kebele AHP and provide animal health services to the needy community in private modality. Besides, most of the stakeholders strongly believe that leasing AHPs and offering animal health services is operationally feasible as there are reasonable enabling environments. However, it needs a close follow up and regulation by the public veterinary services. The AHPs should be leased to the graduates with reasonable rate or allowed to use freely if the practitioners consider it in their service pricing. The minor problem in relation to this modality will be access to veterinary drug stores and transport and this can be easily managed by the graduates.

Generally, this modality is operationally feasible and beneficial to livestock producers, graduates and the government. Livestock producers can get the animal health services in their vicinity and increase their animal productivity. The veterinary graduates will get their living income by leasing the kebele AHP and providing clinical service for their clients. The government will get chance to concentrate its effort and resources to the main public goods.

*AHP clinical service integrated with artificial insemination (AI) service in a PPP arrangement:* A graduate who leased a kebele AHP can provide AI service by integrating with clinical services. The typology of this model assumes collaboration. It involves partnership among the government, community and graduate. This modality was proposed by the animal health professionals during the field visit of the regional, zonal and district livestock development and promotion offices. Currently, in most part of the region there is a scarcity of well-trained AI technicians as a result the AI service is limited in and around the district towns.

The livestock raising community as well as the government need the service highly to improve the existing dairy cattle genetic potential. One way to improve the AI services and coverage is allowing the veterinary graduate to provide the AI service parallel to their AHP clinical services. The stakeholders strongly believe that veterinary graduates can provide AI service with minor technical training. This modality is beneficial to both livestock producers and graduates. Livestock producers can get the AI service and animal health services in their vicinity and increase their animal productivity. The graduates also top up their clinical service income by providing AI services for their clients. As indicated above the graduate should lease the kebele AHP and fulfil the necessary facilities to run the services whereas the district livestock development and promotion office shall provide the nitrogen container with semen straw cans, semen straw at Kality manufacturing cost and monitor/regulate the service. The AI service should be provided at cost negotiated between the practitioner and district livestock development and promotion office. The problem in relation to this modality will be access to semen, liquid nitrogen and transport. The graduates may need frequent travel to district centres to take semen and liquid nitrogen to their working sites and for this transport access is crucial. In areas where there is not enough transport access, feasibility of this modality will be low.

*Transferring some of the currently well-functioning public veterinary clinics and AHPs to private practitioners:* This model involves a collaborative partnership between the public service and private practitioner. During the field visit discussion, in some zones and districts the animal health professional suggested transferring the active and well-functioning veterinary clinic and AHPs to private practitioners. Even they proposed to transfer those veterinary clinics and AHPs to the public animal health employees currently assigned at them if they are interested to work privately. The current employee or unemployed veterinary graduate shall get the public veterinary clinic or AHPs with fair rent. This idea has been raised and discussed even before a decade, but still it did not come into practice. The modality will help in enhancing privatizing and providing sustainable and quality veterinary services in the region.

It will create a fair competitive environment for private veterinary services especially at urban centres. It will also enable the public service to divert its efforts and meagre resources to provide animal health services in remote and inaccessible areas. This is also in line with the Amhara regional livestock development and promotion agency strategy plan. However, this may not be supported by some of the public animal health professionals who want to continue their tenure in the public sector and the regional government may not be committed to transfer those active and well-functioning AHPs and clinics to private practitioner due to fear of the complaints that may come from the community.

*Participating unemployed graduates in livestock enterprises and meat inspection service:* This model involves a collaborative partnership between the government, community and the graduates. Livestock resources of Ethiopia has a huge potential for producing food and economic development. Livestock is a leading sector for creating job and income in the country. The unemployed graduates can participate in producing eggs and day old chickens, producing and processing chicken meat, producing and processing honey, producing and processing dairy cattle, fattening (cattle, sheep and goats) and providing improved breed of animals where the situation permits. These are visible business enterprises in many parts of the country. The national demand is unmet and will further increase thus, many unemployed graduates can easily engage in these livestock based business and make their living out of it.

This modality can be run in integration with abattoir meat inspection service or as its own if enough initial working capital and place are available. However, veterinary graduates are not given enough opportunity and emphasis by the government youth job creation schemes. The job opportunity is more open for other discipline graduates such as engineering than veterinary graduates, this is a shame and unproductive. This alternative modality is beneficial for the government as well as the graduates if the opportunity would be given to graduates who have better knowledge on the job. The main problem for the modality will be lack of working space (shed) and initial capital. However, there is supportive policy and regulation for implementing this modality. The government should provide farm area and shed and facilitate credit access to livestock enterprise established by the graduates and the graduate use their knowledge and skill to enhance modern livestock production which serve as a model for other livestock enterprises.

The livestock production can be well integrated with providing meat inspection service. In some urban centres there is no meat inspection service. The reason for this might be absence of abattoir facilities or meat inspector at some urban centres. In those towns people slaughtered animals at their back yard for human consumption and exposed to various zoonotic diseases. It is possible to reduce the problem by constructing and leasing slaughterhouse facility to unemployed graduates for providing slaughtering and meat inspection services. In those urban centres where the municipality is unable to construct a slaughterhouse, it is wise to construct it in cooperation with public and provide the slaughtering and inspection services. The modality is beneficial for the community to get healthy wholesome meat and prevent zoonotic diseases and for graduates to top up their income from livestock enterprise. This modality also creates a job opportunity for people who will be involved in slaughtering of animals. The problem in relation to this modality will be getting standard slaughterhouse facilities and supportive legislations, directives and policy.

Under collaborative PPP, other PPP modalities which shall be considered in the future include sanitary mandates for transboundary disease vaccinating and inspecting meat services, combining animal health provision with livestock enterprises and involving graduates in animal feed processing.

### 4.3.2. Alternative modalities with Transactional PPP arrangements

*Mobile herd health management service:* Animal health service by public sector is focused mainly on treating and vaccinating. Animal health extension, herd health program and coaching and mentoring of livestock producers are highly limited or absent in most part of the region. The target for this modality will be mainly smallholder livestock producers. The typology of this alternative model assumes transactional PPP. In this modality the private practitioners will provide animal health services such as managing herd health, training, pregnancy diagnosis, deworming and providing treatment for sick animals by going door to door. Whereas the public wing will provide the extension services and undertake monitoring and evaluation for the activities of the model. The public sector shall procure funds from non-governmental organizations (NGOs) to support the program and payment for the veterinary services. However, legal issues related to private practitioner licensing for mobile services, securing enough amount of money to run this model and willingness of the practitioners may limit the practicability of this modality. Combining mobile herd health managing service with AI service shall be considered in the future.

*Providing herd health program and animal health consultancy services to commercial livestock farms:* This model assumes transactional PPP. Herd health program is very useful to keep animals in a herd health and increase their productivity. Providing herd health program is not well developed and accustomed in Ethiopia as producing commercial livestock is not yet well developed. However, in the past few years' commercial dairy farms and feed lots are developing in urban and peri-urban areas and these need a herd health programs which run by veterinarians. This will be one area in which unemployed graduate can participate. However, the problem in relation to this modality is providing consultancy on the herd health program needs experienced and all rounded competent professionals, but the graduate lack this experience and will not be involved meaningfully. However, in the future it will serve as one area of job opportunity.

### 4.3.3. Alternative modalities with Transformative PPP arrangements

*Establishing a shareholder animal health providing company that should involve unemployed graduates:* This model assumes transformative PPP. For this modality, the first step is establishing the company by initiating a responsible body and concerned professionals who would like to give employment opportunity to young veterinary graduates and making business. When the company is formed, unemployed graduates should be invited to buy share and be member of the company. The company shall have a head quarter and branches at different parts of the region. The company will build animal health infrastructures and drug stores for providing animal health. The company shall employ unemployed young graduates and provide animal health services in the region. The company will be profitable and can absorb many young graduates in the future. It also improves the animal health services and boost livestock production and productivity in

the region. However, it will be difficult to establish the company and get enough capital that enable to run animal health services at many areas and absorb significant number of graduates. Establishing the company may take longer time and may not reach for the current unemployment problem, but in the future, it will greatly help in reducing unemployment in the region.

Other PPP modalities which shall be considered in the future under transformative PPP arrangement include but are not limited to linking the unemployed veterinary graduates with well-established private veterinary clinics and establishing pharmacy services on call bases.

## 4.4. Feasibility analysis of PPP arrangement for AHPs

The operational feasibility, acceptability by the public and government and financial feasibility of PPP arrangement for AHPs were assessed by gathering information on animal health service coverage, non-functional AHPs, need and benefit of the animal health service, the presence of enabling environment to run the service, possibility of leasing AHP to jobless veterinary graduates, financial feasibility and veterinary graduate's attitude towards the business.

### 4.4.1. Animal health coverage in the visited zones and districts

The animal health coverage in the visited zones (Central Gondar, West Gojjam and South Wollo) and districts (Gondar Zuria, West Denbiya, Jabitehnan, Dembecha, Woreillu and Legehida) are indicated below.

*Central Gondar Zone:* The animal health service area coverage in Central Gondar is 75.8% (310/409) but the service coverage is almost 100% due to satellite and mobile clinic services provision. There are 31 AHPs which are not functional. Number of private veterinary clinics are 47 and pharmacies are 64.

- *Gondar Zuria District:* The overall animal health service coverage of the district is  $36/44 = 81.2\%$ , of which the public services coverage is  $33/44 = 75\%$  and the private clinic coverage is  $3/44 = 6.8\%$ . The number of non-functional AHP is 2.
- *West Denbiya District:* Overall coverage is  $19/23 = 82.6\%$ , Public =  $18/23 = 78.3\%$  and private =  $1/23 = 4.3\%$ . The number of non-functional AHP is 6.
- Most of the visited kebeles get the service by private practitioners. There is no public animal health service providers in those kebeles.

*West Gojjam Zone:* The public veterinary service coverage is  $358/395 = 90.6\%$ . The number of non-functional AHPs in this zone is 36. The private clinics in the zone are 251 and veterinary pharmacies are 69.

- *Dembecha District:* The public veterinary clinic coverage is 86.2% (25/29). The number of private clinics in the district are 32 and pharmacies are 9. The number of non-functional AHPs are three.
- *Jabitehnan District:* The public veterinary clinic coverage is  $30/38 = 78.9\%$ . In the district, there are 11 AHPs, which are without assigned animal health professionals. There are 22 private veterinary clinics in the district. One of the two kebeles visited in this district get animal health services by private practitioners.

*South Wollo:* The public veterinary service coverage is  $374/579 = 64.6\%$ . The private veterinary clinics are 13 and veterinary pharmacies are 35. In the zone, there are 85 AHPs, which are not currently functioning.

- *Woreillu District:* The public veterinary clinic coverage is  $9/20 = 45\%$ . There is no private veterinary clinic and pharmacy in this district. There are 9 AHPs without assigned animal health professionals.

- *Legehida District*: The public veterinary clinic coverage is  $11/15 = 73\%$ . There are 3 AHPs without assigned animal health professionals and there are no private veterinary clinics and pharmacies in the district.
- *Dessie District*: The public veterinary clinics are six. There are four private veterinary clinics and five veterinary pharmacies. There are three AHPs which are not functioning as the municipality did not assign animal health professionals.

The data showed that animal health coverage in the visited zones vary from 64.6% in South Wollo administrative zone to 90.6% in West Gojjam. District wise, it varies from 45% in Woreillu to 86.2% in Dembecha District. This revealed that animal health service is not yet accessible to all livestock producers. Thus, a great attention and effort is needed in increasing the animal health coverage in the region to fill the service gap.

#### 4.4.2. Non-functional AHPs and animal health services provision in the area

In the region, there are about 336 AHPs (10.6% of the region's public veterinary clinic and AHPs) which are not currently functioning. Among the many reasons for non-functional AHPs inability to assign animal health professionals to the site was the main one. Thirteen non-functional AHPs were visited during this feasibility study tour. Based on our observation, some of the AHPs were found unfit for animal health provision as their construction was not yet completed and poorly constructed. Two of the AHPs visited in Central Gondar zone are not fit for the purpose, they are below the required standard, however, AHPs in South Wollo are fine. In South Wollo zone, the building has four rooms, the front two rooms for clinical services and the back two rooms for residence. Some AHPs (for instance Maksegnit and Berkegn) in West Gojjam also has a separate building for residence at the back of the clinic building (Figure 2). The AHPs visited in the selected zones and districts with their functional status are indicated in Table 3 and Figures 1, 2, 3 and 4.

Almost all the livestock producers in the area where kebele AHPs are not functioning need the animal health services badly. Currently, some of the livestock producing communities are getting the service by private practitioners. They acknowledge the private animal health providers for rendering the service in the area where public veterinary services are not reaching. However, the community complained that the private practitioners are providing the service irregularly and with inflated cost due to this they are not satisfied by the service they get. In areas where there is no private and public animal health services nearby the owner themselves treat their animals and this lead to illegal practice in the area which will lead to inappropriate use of medicines and aggravating drug resistance problem in the future.

About 336 of AHPs are not functioning. This suggests there is a gap that could be filled by private clinicians. However, residents reported experiencing overcharging and unreliability from private veterinarians.

Table 3. AHPs visited and their status

S. No.	Zones	Districts	Kebeles	Clinic/health post name	Building type	Building status	Equipped/not equipped	Functional status	Rooms			Remark
									Office	Lab	Store	
1	Central Gondar	Gondar Zuria	Chehra	Chehra	Wood	Not completed	Not equipped	Not functional	Yes	No	Yes	Not ready for service
2	Central Gondar	West Denbiya	Abawra	Abawra	Wood	Not completed	Not equipped	Not functional				No partition and not ready for service
3	Central Gondar	West Denbiya	Chenkela	Chenkela	Wood plastered with mud	Completed	Semi equipped	Previously functional but now not	Yes	No	Yes	Not constructed for AHP
4	West Gojjam	Jabitehnan	Arbawash	Maksegn (Arbawash)	Bricks	Completed	Previously equipped	Previously functional but now not	Yes	No	Yes	Ready for service
5	West Gojjam	Jabitehnan	Berkegn Beryey	Berkegn	Wood plastered with mud	Completed	Previously equipped	Previously functional but now not	Yes	No	Yes	Ready for service
6	West Gojjam	Jabitehnan	Wengie	Wengie	Wood and partially plastered with mud	Not completed	Not equipped	Not functional	Yes	Yes	Yes	Not ready for service
7	West Gojjam	Dembecha	Kendamo	Kendamo	Stone with mud	Completed	Previously equipped	Previously functional but now not	Yes	No	Yes	Ready for service
8	South Wollo	Woreillu	02 Mariam Debirengist	Mariam Debirengist	Wood plastered with cement	Completed	Not equipped	Not functional	Yes	No	Yes	Ready for service
9	South Wollo	Woreillu	07	07	Wood plastered with cement	Completed	Not equipped	Not functional	Yes	No	Yes	Ready for service
10	South Wollo	Woreillu	04	Geshober	Wood plastered with cement	Completed	Not equipped	Not functional	Yes	No	Yes	Ready for service
11	South Wollo	Legehida	02	Awabel (02)	Wood plastered with cement	Completed	Not equipped	Not functional	Yes	No	Yes	Ready for service
12	South Wollo	Dessie	Tita	Tita	Wood plastered with cement	Completed	Not equipped	Not functional	Yes	No	Yes	Ready for service
13	South Wollo	Dessie	Gerado	Gerado	Wood plastered with cement	Completed	Not equipped	Not functional	Yes	No	Yes	Ready for service

Figure 1. Visited AHPs in Central Gondar zone (A. Chehra AHP in Gondar Zuria District; B. Abawra AHP; and C. Chenkela AHP in West Denbiya District).

Chehra AHP



Abawra AHP



Chenkela AHP



Figure 2. Visited AHPs in West Gojjam (A. Arbawash AHP; B. Berkegn AHP; C. Wengie AHPs in Jabitehnan District; and D, Kendamo in Dembecha District).



Arbawash AHP



Berkegn AHP





Wengie AHP



Kendamo AHP

Figure 3. Visited AHPs in South Wollo (A. 02 (Mariam Debirengist) AHP; B. 07 AHP; C. 04 (Geshober) AHP in Woreillu District; and D, 02 (Awabel) in Legehida District).

Mariam Debirengist (02) AHP



07 AHP



04 (Geshober) AHP



02 (Awabel) AHP



Figure 4. Visited AHPs in Dessie City (A. Tita AHP and B. Gerado AHP).

Tita AHP



## Gerado AHP



### 4.4.3. Need and benefit of animal health service delivery through PPP modality

The PPP modality is needed by the livestock producers as well as by the professionals. The need of PPP is well described in the region animal health strategy. The services expected to be provided by this modality include clinical, laboratory, pharmacy, vaccination and extension services. Generally, it is believed that the service provided by PPP VIII modality will be at medium clinic level.

Animal health services through PPP modality will help in improving animal health and productivity, increase the animal health service coverage, improve consumer's health and economic situation of producers. Good animal health services are very important to make the livestock sector more productive and sustainable. The animal health services provided by PPP VIII modality will benefit much the livestock producers in reducing the travelling and waiting time, getting better services at their convenient time including at weekends and at their vicinity. Besides, it helps in creating job opportunity not only for unemployed veterinarians but it also enhances self-employment rate in poultry raising and fattening enterprises as PPP modality will improve the health of animals and reduces loss of animals due to disease. Most stakeholders believed that PPP modality will improve the quality of the service as there will be competition with other private and public veterinary service providers. PPP modality also help the government to concentrate its effort on its main function like prevention and control of disease rather than treating individual sick animals.

The PPP modality is useful for producers (getting animal health services at their convenient time, good drug supply and quality animal health services), livestock investors (enhance fattening, dairy, poultry production), consumers (enough supply of quality and healthy animal products with reasonable price), unemployed graduates (get job opportunity) and livestock development and promotion agency (fill the gap, animal health coverage increment and allow the government to prioritize its resources usage).

There is a need for providing private animal health services, however, several key bottlenecks exist.

### 4.4.4. Enabling environment for providing animal health service in PPP modality

The regional animal health service directorate planned to enhance animal health services privatization in priority at the urban, peri-urban and economically potential areas. In those areas the public animal health services will exit leaving the service for private practitioners. The plan also indicated that in rural areas both private and public veterinary services will

run in parallel, however, at those areas where still the services is not familiar and the community economic status is not afford private service fee, the public service will continue as the best option. When this regional plan put in practice, it will lay a favourable ground for animal health privatization.

The region and most of the zones and districts' livestock development and promotion offices are committed to implementing animal health services provision through PPP modality. There is also a strong leadership and policy support to providing animal health by PPP VIII modality. The cost recovery system practiced for animal health services in the region is another good ground and enabler for animal health services delivery via PPP modality. Most of the communities are also voluntary to lease their kebele AHP to unemployed veterinary graduates for providing animal health services through PPP modality. However, few communities (for instance, Maksegnt and Berkegn communities in Jabitehnan, Geshober in Woreillu districts) disagreed to lease their AHP to unemployed veterinary graduates (private practitioners) and strongly complained on the government for not employing and assigning public animal health workers.

They need the government to assign animal health personnel for their AHPs. Their reason for not leasing their AHP to private practitioner is to get the service in subsidized cost and they fear that once private practitioner start services in the kebele AHP the government will not assign public animal health personnel to them in the future. Even in those communities that expressed their agreement to lease their AHPs, there are few individuals who expressed their concern on the ethicality of the animal health services provision and the fee that will be requested for the services by the PPP modality practitioner.

Most of the non-functional AHPs were not functioning on average for 2–3 years. On the other side, majority of the graduates are interested to lease the kebele AHP and provide animal health services to the needy community in private modality. The graduates believed that leasing the AHP is beneficial as the AHP site is selected based on the animal health service need and livestock population and assuming there may not be competitors in the area. They also believe that working at the public AHP will help them to get public acceptance and facilitate the process of getting a clinic service license. Furthermore, the graduates expect support such as experience sharing, monitoring and regulation, motivation and training support from the public veterinary service.

The PPP VIII modality will provide some comparative advantage for the private practitioners. The graduate will get working site (clinic), possibly seed money to start private veterinary business, capacity building short-term trainings and acceptance by the community. As the PPP model practitioners start the services in partnership with the community by using the public AHP, the community will develop ownership and support the practitioner, as a result the practitioner will attract more customers and benefited economically a lot from the services he/she would deliver. The community will get the service in their vicinity, animal health coverage will be increased, animal production and productivity will be enhanced. It encourages the community to fatten cattle and small ruminants and raise poultry in good way as they will get animal health services in their vicinity.

Though it is limited, there is credit services from ACSI to start providing animal health service through private as well as PPP modality. ACSI try to provide the credit system from the product of youth job creation revolving fund and HEARD revolving fund. In some extent ACSI also provide credit services for veterinary graduates from its regular credit system. However, most of the district Labour and Training offices and ACSI offices do not have enough information about HEARD project revolving fund and they do not provide sufficient support expected of them as a result unemployed veterinary graduates do not benefited much from the fund.

**Providing animal health service in PPP VIII modality is operationally feasible as there are reasonable enabling environments. The government, public and graduates accepting providing animal health service in PPP modality and they are committed to implement it, however, access to credit is still an important problem.**

#### 4.4.5. The possibility of leasing AHP to jobless veterinary graduates

Leasing kebele public health posts to jobless veterinary graduates is compatible to the government policy and strategy and it has acceptance and support from the regional, zonal and district livestock development and promotion offices. Most of the livestock raising communities are also interested to lease their kebele AHPs to competent unemployed veterinary graduates and they strongly expressed their willingness and capability to pay a rational fee for the animal health services they will get (Table 4).

According to the professionals, providing animal health services by PPP modality will be financially feasible if it is in an area where there are large livestock population, different kinds of disease problems with high prevalence, an economically capable community, enough community awareness about the importance of animal health services, high need of animal health services, absence of competitors, the AHP is conducive for providing animal health service and the practitioner is competent in his/her profession and customer handling. Generally, most of the zone and district livestock development and promotion offices expressed their belief that working as PPP practitioner will be financially feasible, if the practitioner is available in her/his working site regularly, has good communication skill, competent and satisfy the community in his/her services, however, the net profit of the practitioner will vary from area to area according to the factors mentioned earlier.

Though some of the visited AHPs are not properly built and not fulfil the minimum requirements to serve as an AHP, most of them are suitable for privatization as they are in an area where there is no other animal health providers, at the centre of the kebele and have road access. Besides, the district livestock development and promotion offices believe that moderate number of unvisited AHPs are also suitable for privatization.

Table 4. The communities around the AHP visited response to questions related to their need of animal health services, capability and willingness to pay and leasing their AHP to unemployed veterinary graduates

S. No.	Zone	District	Kebele	Clinic/ health post name	Number of participants in the FGD	Currently getting animal health services (nearby public clinic, private, No)	Need of animal health services (High, medium, low)	Capability and willingness to pay (yes or no)	Willingness to lease AHP (yes or no)	Remark
1	Central Gondar	Gondar Zuria	Chehra	Chehra	13	Nearby public clinic	High	Yes	Yes	
2	Central Gondar	West Denbiya	Abawra	Abawra	9	Private (irregular)	High	Yes	Yes	Provide the service irregularly
3	Central Gondar	West Denbiya	Chenkela	Chenkela	14	Private	High	Yes	Yes	One practitioner is not enough
4	West Gojjam	Jabitehnan Arbawash	Arbawash	Maksegt (Arbawash)	11	Private	High	Yes	No	They need government service as they used to get public services previously
5	West Gojjam	Jabitehnan Beryey	Berkegn Beryey	Berkegn	9	No	High	Yes	No	They claimed that the community is poor so unable to cover the private fee. Previously, they used to get public services
6	West Gojjam	Dembecha Enebusa	Kendamo Enebusa	Kendamo	10	No	High	Yes	Yes	
7	South Wollo	Woreilla Debirengist	02 Mariam Debirengist	Mariam Debirengist	12	No	High	Yes	Yes	
8	South Wollo	Woreilla Woreilla	07 07	07 07	16	Nearby AHP	High	Yes	Yes	Some of the participants were objecting leasing their AHPs
9	South Wollo	Woreilla Woreilla	04 04	Geshober	14	Nearby public clinic	High	Yes	No	
10	South Wollo	Legehida Wollo	02 02	Awabel (02)	15	Nearby public clinic	High	Yes	Yes	
11	South Wollo	Dessie Wollo	Gerado Gerado	Gerado	14	Mobile clinic and nearby private	High	Yes	Yes	

#### 4.4.6. Financial feasibility of providing animal health services in PPP modality

The financial feasibility of working as PPP VIII modality practitioner was assessed. It was done by considering the number of cases, which will be handled by the practitioners and the net profit will gain from each case. The number of cases, which will be handled by a PPP modality practitioner is estimated in three scenarios high, medium and low by taking the annual performance reports of 18 public AHPs in the six visited districts as a base. In each visited district, three AHPs which represent the high, medium and low performing AHPs were selected and then the six high, six medium and six low performing AHPs annual reports from the six districts were categorically added together and averaged to get the number of cases that represent the high, medium and low performing scenarios (Table 5 and Annex 2). These average case performances were multiplied by average net profit of the service type and animal species (Annex 3). Accordingly, the higher, medium and low scenario performing PPP modality practitioners will earn annually ETB 1,992,123.42, ETB 864,838.67 and ETB 455,696.67, respectively (Table 5). This shows that even the low performing PPP modality practitioner will get many times higher than the public employed veterinarians. It is believed that the prevailing market value of animals encourage producers to seek a better animal health services and enhance their paying capacity, this create a fertile ground for private veterinary services development.

**PPP model VIII approach is financially feasible and economically advantageous to the community as well as the veterinary practitioners.**

Table 5. Financial feasibility of animal health services provision in PPP model VIII in three scenarios

S. No.	Services types and animal species	Average AHP performance by case type and number per year			Average net profit by species and services in ETB	Average net profit in ETB per year in three scenarios		
		High	Medium	Low		High	Medium	Low
1	Deworming							
	Cattle	17,778	11,058	2,150	7.33	130,372	81,092	15,766.67
	Sheep/goat	8,557	1,871	1,491	3.33	28,523.33	6,236.67	4,970
	Equine	3,792	302	370	11.67	44,240	3,523.33	4,316.67
	Others	80	130	100	2.5	200	325	250
2	External parasite							
	Cattle	7,339	5,980	2,306	18.33	134,548.33	109,633.33	42,276.67
	Sheep/goat	1,808	1,030	1,200	3.67	6,629.33	3,776.67	4,400
	Equine	410	207	141	16.67	6,833.33	3,450	2,350
	Others	11	20	0	1.75	19.25	35	0
3	Surgical							
	Cattle	1	16	0	433.3	433.33	6,933.33	0
	Sheep/goat	3	7	0	116.7	350	816.67	0
	Equine	0	15	0	333.3	0	5,000	0
4	Wound							
	Cattle	301	118	37	133.3	40,133.33	15,733.33	4,933.33
	Sheep/goat	253	72	8	56.67	14,336.67	4,080	453.33
	Equine	132	46	29	166.7	22,000	7,666.67	4,833.33
	Dog/cat	0	0	24	30	0	0	720

S. No.	Services types and animal species	Average AHP performance by case type and number per year			Average net profit by species and services in ETB	Average net profit in ETB per year in three scenarios		
5	Trypanosomiasis							
	Cattle	9,266	2,791	1,542	100	926,600	279,100	154,200
	Sheep/goat	0	63	0		0	0	0
	Equine	605	54	500		0	0	0
6	Infectious disease							
	Cattle	9,097	4,768	3,066	50	454,850	238,400	153,300
	Sheep/goat	4,440	3,491	2,231	16.67	74,000	58,183.33	37,183.33
	Equine	1,574	641	376	61.67	97,063.33	39,528.33	23,186.67
	Others	613	30	240	6.5	3,984.5	195	1,560
7	Castration							
	Cattle	181	22	12	23.33	4,223.33	513.33	280
	Sheep/goat	167	37	43	16.67	2,783.33	616.67	716.67
	Equine	17	4	0		0	0	0
	Others	0	0	0	60	0	0	0
Total income	1,992,123.42	864,838.67	455,696.67					

#### 4.4.7. Graduate's attitude towards private veterinary business

Though most of the graduates have positive attitude to private veterinary business, they are reluctant to start their own business due to lack of entrepreneur skill. They afraid to start private veterinary business due to fear of loss and lack of practical technical skills. Most of the graduates explained that the main bottle neck to start a private animal health clinic are lack of seed money, unavailability of appropriate working site (clinic) and lack of confidence on the business. Majority of the graduates approached are willing to work on remote areas, but few of them described that they are willing to work in distant site if there is a road access and other facilities. Some of the veterinary graduates are already serving the community in small-scale for the purpose of getting money for their living but they do not have enough materials and drugs to provide good services and few of them temporarily working in a drug shop or clinic owned by businessmen in a very low wage.

Majority of the unemployed veterinary graduates are interested to lease the kebele AHP provided that if it is suitable for private animal health service provision. They believe that leasing the kebele AHP is beneficial in getting working clinic (site), to get acceptance by the community, on job training and public support. Working in line with the profession ethics, requesting a reasonable fee and handling customers properly make the PPP modality practitioner acceptable by the community and financially feasible. Some district animal health personnel indicated that even in areas where there is not that much case the practitioner can make a beginner (base line) *Doctor of Veterinary Medicine* (DVM) graduate salary (about ETB 7,000) per month.

Currently, though the regional government is not employing animal health professionals, when it employs it prefer to employ animal health professionals at diploma and BSC level rather than DVM graduates. On the other side, most of the graduates prefer to be employed by the government rather than working as private practitioner. Some of the reason for this paradox is most of the graduates do not have enough capital and other inputs to start their own private clinic or pharmacy.



## 4.5. The credit needs assessment, availability and constraints for unemployed veterinarians' businesses

There are various problems that hinder developing small businesses such as providing private veterinary service, among others lack of starting capital and working space are the main challenges for private veterinary services launching. At the launching stage, there should be an integrated support (financial, training, advices, experience sharing etc.) that enables new business to solve the challenges they face.

*Credit needs:* For PPP model to succeed private practitioners must have access to sufficient financial credit to allow them to set up a private clinic, including loading the premises. All the graduates contacted during the field visit expressed their high need to credit services and wish to get loan and start their private veterinary service. The credit need is extremely high not only for private clinic but also to other livestock related business such as fattening, poultry production etc.

*Credit availability:* In the process of launching a small business like private veterinary services provision enterprise, it is necessary to assess credit availability and the procedures to get the service as it is the main input to start-up and expand business. Cognizant of this the 2011 Ethiopia's Micro and Small Enterprises Development Strategy, provision framework and methods of implementation document stated that Microfinance Institutes (MFIs) would facilitate service system that helps to provide credit for start-up micro and small enterprises on actors saving and families guarantee basis. Accordingly, credit guarantee fund was established by Amhara regional state, ACSI and other MFIs are sharing responsibilities in delivering credit guarantee and system which are accomplished with great care.

In Amhara region, there is credit service for establishing private veterinary services enterprise. The credit services are mainly offered by ACSI. ACSI offers the credit service through regular loan scheme and revolving fund loan scheme. It is recalled that the government of Ethiopia allocated ETB 2.6 billion in 2010 EC to Amhara regional state and the region channelled the money to ACSI to make it available for small business developer in revolving fund loan scheme for the purpose of job creation. In addition to this HEARD project allocated and transferred ETB 6.7 million in 2013 EC to ACSI to make it available for developing private veterinary services in revolving loan scheme in Amhara region.

In regular loan scheme, if an individual fulfils the loan requirements can get a maximum of ETB 75,000. However, from a HEARD revolving fund loan, a veterinary practitioner can get a maximum of ETB 200,000 including the 10% from the individual saving. The beneficiaries to get the credit in the first hand should be confidential in the business they are going to engaged in. Enterprises therefore should set a business plan that could be implemented and effective, should have bookkeeping system and be audited and good money management and saving culture. Even though ACSI claimed that the veterinary graduates have a possibility to take loan from its regular loan scheme, we did not get a graduate who had taken loan for private veterinary services.

In the region, except HEARD no other NGOs are involved in providing seed money for veterinary graduates to start their private business in veterinary clinic or veterinary pharmacy. Hence, the graduates have limited opportunity and access to credit services. Up to now only about 25 graduates took loan from HEARD revolving fund to establish a private clinic and pharmacy.

*Challenges:* There are some challenges related to the credit services. The most important problems related to credit services are poor loan repayment and collecting saving culture; failures in creating awareness that help to identify competent clients before supplying credit and capacity limitation to provide training, produce business plan and facilitate production and sales sites; violating principles and systems of saving and credit that let actors for dependency; ineffective and inefficient service in delivering and collecting loan due to capacity limitation of MFIs in delivering and collecting

credit/loan; lack of financial support on the basis of their business nature, credit amount and time as they have no access to collateral; and mismatch between credit demand and supply due to less capacity of most MFIs to deliver.

The most common problems encountered by the unemployed veterinary graduates is limited access to credit services to get seed money to start their own business. Most of the districts loan returning rate is below 97%, this became a bottleneck for graduates in getting credit as ACSI does not provide a new loan when the district's returning rate is below 97%. In addition, the credit services process is so lengthy and has stiff requirements which is difficult to fulfil. Getting appropriate collateral is another problem raised by many of the graduates. Most of the Labour and Training offices at the district and higher level have no record of unemployed veterinary graduates, this also hinders the credit service process as ACSI request unemployed certificate issued by Labour and Training offices as a requirement to process the loan.

The district Labour and Training offices and ACSI are not well acquainted about the HEARD project so that they are not helping the young veterinary graduates that much in getting credit services. The veterinary graduates themselves also do not have enough information about HEARD project. Generally, most of the concerned stakeholders do not have enough information about HEARD and they do not exchange information among each other. The responsible offices were not informing the concerned stakeholders adequately. Besides, few graduates after securing the fund from HEARD projects, they used the money for another unintended purpose, for instance for purchasing motorbike, Bajaj etc.

*Possible solutions for the challenges:* The financial institution should develop their human and financial capacity. They shall build their employees capacity by training in a way that enable them to deliver and collect credit/loan properly on time and identify competent clients before supplying credit. This help to alleviate the poor loan repayment problem and enable them to assist their client in producing viable business plan and bookkeeping. The regional government shall seek financial resource from donor community, NGOs, private companies and entrepreneurs to channel reasonable amount of seed money to financial institutions for animal health related job creation. However, the money should not be channelled only to ACSI but also to other financial institutions such as private and public banks. Direct loan from financial institutions: MFIs, banks, insurance companies, etc., should also be allowed and encouraged.

The concerned bodies, in addition to allocating money, they shall regulate the disbursement and monitor the effective use of the allocated money. The graduates shall be aware about the existing job and funding opportunities. Every stakeholder participating in youth job creation program should be aware and informed about the procedures, requirements and systems of loan approval. The clients (graduates) shall get enough credit based on their business nature and it should be released in time. However, before they took the loan the graduates should take entrepreneurship and other supportive trainings to be successful in their business. Furthermore, system shall be designed to expand collateral instruments through introducing different mechanisms: including family collateral, group collateral, third party collateral, education certificates and asset collateral.

Generally, loans are not readily available to young graduates due to poor repayment rates. Also new graduates were generally unaware of HEARD funding for establishing clinics.

## 4.6 Concerns of stakeholders regarding rendering animal health services in PPP modality

The main stakeholders such as livestock development and promotion offices, unemployed veterinary graduates and livestock producers were expressed some of their concern on providing animal health services in PPP VIII modality. The main concern of them are indicated as follows:

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- The livestock producing communities are strongly concerned that the private practitioner will request them high fee for the service and may work as a trader not as a professional.
  - The farmers are suspicious of the genuineness of the drugs and the service provided by the PPP modality practitioners. Most of the farmers expressed their concern that the practitioner may work unethically and sell them expired drugs.
  - The community expressed their concern that once the AHP is leased for private practitioner it will remain under the private practitioner. They are afraid that they will not get deworming and vaccination services as the private practitioner is not allowed to provide these services.
  - In some of the AHP sites there is not enough animal holding space, accessing road and foot path.
  - Some of the graduates may lack the required professional skills, knowledge and attitude in relation to case handling and managing.
  - Some livestock development and promotion offices' personnel expressed their fear that the PPP VIII model practitioner may not be available in her/his working site regularly and serve the public rationally.
  - Most of the graduates do not have seed money and may not get collateral for taking credit from MFIs.
  - The graduate expressed some of the problems they will face at the first few months there will not be enough cases, theft of drugs and materials, the community may cancel the leasing contract before the end of the contract period, interference of the government body in determining service charges and the public servant who have private clinic may make the working environment unsuitable for PPP practitioners, for instance he/she may interfere in the licence process. Besides, illegal practitioner, drug handlers and the community affiliation to subsidized public veterinary services may make the business environment unsuitable for free and fair competition.
  - At some sites there may not be road access so that there will be a problem in transporting inputs such as materials, drugs etc. to the AHP.
  - Illegal practitioners and drug dealers will be a threat for PPP modality animal health providers.
  - It is unusual for a DVM graduate to work at AHP level, this may create some psychosocial problems on unemployed graduates.

## 5. Conclusion and recommendations

Providing animal health through PPP modality is needed by both the livestock producers as well as professionals. There are supportive legal, policy and regulatory frameworks and strategies for PPP for providing and developing animal health. Lack of starting capital and working space are the main challenges for launching private veterinary services enterprise. Most of the districts loan returning rate is below 97% due to this ACSI provide very few loans to veterinary graduates. In Amhara region, there are about 3,166 public veterinary clinics and AHPs of which about 336 AHPs are not functioning currently. Some of these AHPs are not fit for the purpose, they are below the required standard.

There are strong need and enabling environment for providing animal health service in PPP VIII modality. The communities are interested to lease their kebele AHPs to competent unemployed veterinary graduates and on the other side the graduates are also willing to lease and work at the AHPs. Leasing AHPs to jobless veterinary graduates is compatible to the government policy and strategy and it has acceptance and support from the regional, zonal and district livestock development and promotion offices. Currently, there are about 158 unemployed veterinary graduates in the region. Generally, the proposed PPP Model VIII is feasible to be executed in Amhara region with the following recommendations:

- Some of the AHPs visited are not built properly and they are not suitable for animal health provision. Hence, in the future AHPs should be constructed based on a standard plan that meet at least a minimum requirement and shall be completed and be ready for service in time.
- There are large number of unemployed veterinary graduates in the region and new graduates will come at the end of this year and the coming years. Cognizant of this problem, the government and other concerned bodies shall design a system that create job opportunity for veterinary graduates. One of the means can be enhancing the implementation of Veterinary Services Rationalization Road map.
- There should be a memorandum of understanding between the practitioner, the community and the woreda livestock office. The agreement shall clearly indicate the right and duty of the practitioner as well as the service user and the PPP VIII modality practitioners shall be introduced to the community by the district public veterinary professionals.
- There should be a strong regulation and monitoring on services and fee. The district animal health team shall support, monitor and regulate the practitioner regularly and make sure that he/she works as stipulated in the contractual agreement.
- The PPP VIII modality practitioners should allow to purchase drugs and materials from public drug stores. If it is possible, it is wise to have a public drug store at region and zone level that can serve as a source of supplies for private as well as the public veterinary clinics.
- It needs to fix the service price rationally, notify it to the user and post every services and drugs fee. Receipts should be issued for every payment.
- The practitioners should allow to provide vaccination, strategic deworming and external parasite control services.
- The regional government shall design a strategy that allow unlimited access to credit services for unemployed graduates to establish private veterinary clinic or pharmacy.

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- The HEARD revolving fund should be transferred not only to ACSI but also to the bank system. Additional fund shall be made available to enable enough graduates to start their own clinic and pharmacy enterprises.
  - It is better to provide the start-up capital to young graduates in kind (materials, drugs etc.) instead of cash.
  - It may be good to pilot leasing of AHPs to veterinary graduates at least at three AHPs (Kendamo AHP in Dembecha district, 02 Mariam Debirengist AHP in Woreillu district and Gerado AHP in Dessie town) before implementing the leasing in large scale.

# Annexes

## Annex 1. Guiding questions for a PPP model VIII (Leasing kebele public health posts to jobless veterinary graduates) baseline and feasibility study

- A. Guiding questions for veterinary authority (region, zone and district)
  1. What is the animal health service coverage in the region/zone/district?
  2. What looks the contribution of public and private veterinary services for the coverage?
  3. Is PPP for animal health delivery needed?
  4. What animal health services will be run by PPP modality and what output do you expect from the service?
  5. What outcomes, benefits and impacts are expected of PPP?
  6. Who will be benefitted directly or indirectly from PPP initiatives?
  7. What are the opinions of the end users of the service or outcome that the PPP provides?
  8. Is there a clear comparative advantage for a PPP?
  9. Is your organization committed for implementing the identified PPP?
  10. Is there a strong leadership support from all partners, committed to championing and supporting the identified PPP?
  11. Do the laws of the country permit the PPP for animal health delivery?
  12. Is there a supportive government policy for PPP?

13. What will be the feasibility of leasing kebele public health posts to jobless veterinary graduates with respect to?

13.1. Aligning to government policy/strategy and acceptance

13.2. The proposed business model for the PPP

13.3. Financial feasibility of the private veterinary business (considering the highly subsidized services provided by the public sector in nearby kebeles)

13.4. Suitability of identified AHPs for privatization

14. What will be the potential problems in implementing this PPP modality?

15. What other opportunities and constraints of credit services for unemployed veterinarians are existing?

16. Could you suggest/propose an alternative PPP arrangement that will be more feasible?

17. For what type of animal health services (vaccinating, clinical services, farmer advisory services, drug sales...) you suggest the private service provider would be delegated by the regional livestock agency?

B. Guiding questions for government offices (credit and saving offices, micro-small job creation offices, Amhara Credit and Saving Association and other credit service providers/NGOs)

1. Is there a credit service opportunity for unemployed veterinary graduates? If so for what type of business? What about for private veterinary practice?

2. Could you provide credit service for small businesses (unemployed veterinarians for animal health service through PPP)?

3. What amount of money is allocated for such type of project?

4. What are the requirements to get a credit for such type of business?

5. How many veterinarians have so far applied for credit (if any)? And how many secured the loan? What were the reasons for rejecting applicants (if any)?

6. What are the main opportunities and constraints of credit services for unemployed veterinarians?

7. What do you suggest to make the credit service straight forward and successful?

8. Is there any other mechanism/way to get start-up/seed money?

C. Guiding questions for farmers/livestock producers

1. Do you get veterinary services for your livestock?
  - 1.1. If yes, from whom public or private practitioner?
  - 1.2. Are you satisfied by the service? If yes, at what level: least satisfied, satisfied or very satisfied. Could you tell us the reason for your satisfaction, for instance, quality of the services, opening hours (including weekends), drug availability and staffing of the AHP, attitude and capacity of animal health personnel. If not, why?
2. If your answer is No for Q1, what is the reason?
3. How badly you need animal health service for your animals?
4. Are you capable and willing to pay for the service if you get the opportunity?
5. What do you think about leasing kebele public health posts to veterinary graduates for providing animal health services for business?
6. Would this arrangement (PPP) beneficial for livestock producers/farmers?
7. What is the need for PPP, likely support and deliverability?
8. Do you think animal health service delivery will improve by this modality?
9. What will be the likely opportunity and constraints for this PPP modality?
10. Do you think an alternative PPP arrangement that will be more feasible?

D. Guiding questions for veterinary practitioners/graduates

1. When are you graduated as a veterinarian?
2. What are the reasons for not starting your own work to date?
3. Do you have interest to work as private practitioners? If not, why?
4. If yes, what are the reasons for not starting your private veterinary clinic yet?
5. Are you willing to work on a remote area?
6. What do you need to start a private veterinary practice?
7. Are you interested to lease the kebele clinic and run your service?



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8. Is this PPP modality beneficial for private practitioners?
  9. Is there a clear comparative advantage for this PPP modality?
  10. Who will be benefitted directly or indirectly from this PPP initiatives?
  11. What are your opinions on the service or outcome that the PPP provides?
  12. What types of veterinary services you would like to provide? And for whom?
  13. What types of other support do you need to run the service?
  14. What do you think the acceptance of the proposed PPP business model by the community and government bodies?
  15. What will be the financial feasibility of the private veterinary business?
  16. What do you think about the suitability of identified AHPs for privatization?
  17. What will be the potential problems in implementing this PPP modality?
  18. What opportunities and constraints of credit services for unemployed veterinarians are existing?
    - 18.1. Why do you think the reason behind that so many unemployed veterinarians are reluctant to use the credit opportunity from HEARD Amhara project?
  19. Do you have/propose an alternative PPP arrangement that will be more feasible?

## Annex 2. The annual number of cases treated at representative high, medium and low performing AHPs in the six visited districts and their average case performance

S. No.	Service types and animal species	West Denbiya district AHP performance			Woreilla district AHP performance (6 months)			Dembecha district AHP performance			Jabtehan district AHP performance			Legehida district AHP performance			Gondar Zuria district AHP performance			Average		
		High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low
1	Deworming	2,325	110	119	3,120	333	35	5,240	2,110	541	8,078	3,000	1,500	1,617	87	41	2,450	7,240	1,368	9,512	10,770	3,063
	Cattle	1,396	70	66	457	152	33	821	730	428	5,390	1,800	700	921	26	21	1,686	6,900	789	17,778	11,058	2,150
	Sheep/goat	852	33	51	66	126	33	584	118	49	502	600	600	696	42	12	732	340	367	8,557	1,871	1,491
	Equine	77	7		2,597	55	9				80	100	100	22		32		212		3,792	302	370
	Others		30									100	100							80	130	100
2	External parasite	540	121		398	438	47				1,541	3,446	2,000	194	201	41	1,871	804	485	4,544	5,010	2,573
	Cattle	284	69		114	309	27	4,732	1,740	482	928	3,145	1,500	101	176	40	1,180	541	257	7,339	5,980	2,306
	Sheep/goat	184	35		260	81	14	612	455	550	26	197	500	93	25	1	633	237	135	1,808	1,030	1,200
	Equine	34	17		24	48	6	294	110	42		6					58	26	93	410	207	141
	Others	11	20																	11	20	0
3	Surgical					38	1							4						4	38	1
	Cattle					16								1						1	16	0
	Sheep/goat					7								3						3	7	0
	Equine					15														0	15	0
4	Wound	218	20		75	90	35				40	38	17	298	32					71	55	22
	Cattle	73	15		34	40	12				26	23	10	128	10					40	30	15
	Sheep/goat	96	3		19	19	1				14	15	7	98	10					26	25	7
	Equine	33	2		22	32	22							72	12					5	5	7
	Dog/cat																					24
5	Trypanosomiasis	110	36								4,000	1,287	2,000								25	25
	Cattle	110	36					5,256	1,524	42	3,900	1,206	1,500								25	25
	Sheep/goat							14				49										
	Equine							505	22		100	32	500									
6	Infectious disease	1,479	369	185	2,533	322	448				3,000	3,500	2,700	1,309	664	58	1,155	1,043	214	9,476	5,898	3,605
	Cattle	782	227	89	612	111	267	4,934	2,017	628	1,200	1,400	1,600	723	311	359	846	702	123	9,097	4,768	3,066
	Sheep/goat	514	77	79	1,475	139	187	749	730	512	1,000	2,000	700	439	260	693	263	285	60	4,440	3,491	2,231
	Equine	167	44	17	496	67	3	492	285	42	200	100	200	173	89	83	46	56	31	1,574	641	376
	Others	11	21	40		5					600			2	4						613	30
7	Castration	46			85	31	10				50	69	25	145						82	32	20
	Cattle	46			20	2								65						50	20	12
	Sheep/goat				65	19	10							25	6					32	12	8
	Equine													17	4					17	4	0
	Others																			0	0	0

## Annex 3. Net profit gain per animal by species and service type

S. No.	Service types and animal species	Private practitioners net profit per animal in ETB by species and service types in three areas			
		Dessie	West Denbiya	North Achefer	Average
1	Deworming				
	Cattle	10	2	10	7.33
	Sheep/goat	5	2	3	3.33
	Equine	15	5	15	11.67
	Others	2	5	0.5	2.5
2	External parasite				
	Cattle	10	30	15	18.33
	Sheep/goat	4	4	3	3.67
	Equine	20	20	10	16.67
	Others	1		2.5	1.75
3	Surgical				
	Cattle	200	500	600	433.33
	Sheep/goat	50	100	200	116.67
	Equine	200	400	400	333.33
4	Wound				
	Cattle	50	150	200	133.33
	Sheep/goat	30	40	100	56.67
	Equine	50	150	300	166.67
	Dog/cat	30			30
5	Trypanosomiasis				
	Cattle		100		100
	Sheep/goat				
	Equine				
6	Infectious disease				
	Cattle	60	60	30	50
	Sheep/goat	15	15	20	16.67
	Equine	60	100	25	61.67
	Others	10		3	6.5
7	Castration				
	Cattle	20	30	20	23.33
	Sheep/goat	15	25	10	16.67
	Equine				
	Others		60		60

# Annex 4. Focus group discussion (FGD) pictures

Chenkela FGD



Arbawash FGD



Geshober FGD



02 (Awabel) FGD



Geshober FGD



02 (Awabel) FGD

