

Report of the pre-workshop veterinary workforce survey

March 2023

*The WOAHA Sub-Regional Awareness Raising Workshop on Veterinary
Workforce in Central Asia and Caucasus Countries*

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EAVE: European Association of Establishments for Veterinary Education	19
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NGO: Non-Governmental Organisations.....	15
TAHC: Terrestrial Animal Health Code.....	9
VEE: Veterinary Education Establishment.....	19
VPPs: Veterinary Paraprofessionals.....	4
VPTI: Veterinary Paraprofessional Training Institute.....	20
VSB: Veterinary Statutory Body.....	9
WAHIS: World Animal Health Information System.....	5
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The context

The World Organisation for Animal Health (WOAH) is developing a Veterinary Workforce Development Programme to produce tools and approaches to support Member Countries in veterinary workforce assessment and development. WOAH encourages Member Countries to assess their veterinary workforce needs systematically and to realistically address those needs within the limits of the financial, human, and educational resource constraints they may face. Many countries have different levels of cadres of trained personnel to fill the identified needs of veterinary services. The personnel in Veterinary Service delivery are often a mix of Veterinarians and Veterinary Paraprofessionals (VPPs). The workforce assessment, planning, and capacity building of these categories of personnel help countries achieve the goal of maximizing the performance of veterinary service delivery.

Unlike veterinarians, the position of VPPs is often not defined, with many different categories of VPPs existing and with varying levels of training, which very often may not deliver the skills and competencies required. Cognisant of the vital role that VPPs can play in support of robust National Veterinary Services, through its Sixth Strategic Plan (2016-2020), the WOAH committed to better defining the role of VPPs, including the requirements of their education and training. Through its Seventh Strategic Plan, WOAH commits to continue implementing the updated WOAH Performance for Veterinary Services (PVS) Pathway, ensuring member engagement through an enhanced set of options targeting specific areas of interest, including VPP activities through the Veterinary Workforce Development programme.

About the workshop

WOAH organised a Sub-Regional Awareness Raising Workshop on Veterinary Workforce in Central Asia and the Caucasus Countries in Almaty, Kazakhstan in March 2023. The workshop's objectives were primarily to raise awareness amongst participants about the WOAH-PVS Pathway, approaches to workforce development, the role of VPPs in Veterinary Services, and the content /use of tools like competency/curriculum guidelines developed for VPPs and legislation.

About this document

This document is divided into three parts to provide a comprehensive picture for the participants in the Sub-regional awareness raising workshop on veterinary workforce in Central Asia and Caucasus countries. Part 1 includes with pre-workshop survey and analysis which includes information for the overall picture of the veterinary workforce development situation by Member Countries in Central Asia. Part 2 includes generalised information for Central Asia at the regional level from WOAH PVS Pathway reports. Part 3 includes conclusions for all items in the report.

Part 1. Pre-workshop survey and analysis

The pre-workshop survey objective was to obtain an overall picture of the veterinary workforce development situation by Member Countries in the Sub-region of Central Asia and Caucasus countries, enabling environment and country responses focusing on VPPs in animal health and production, veterinary public health and the laboratory. The references to a few recent studies supported by WOAHA helped fix the scope of the investigation, essentially incorporating existing learning, to achieve the objective of obtaining a comprehensive picture. A consultative method was adopted involving several experts to develop the questionnaire. The objective and limitations of the workshop also guided the design, length, and administration of the survey instrument. Instead of collecting new quantitative data on numbers of personnel, WOAHA used the most recently available workforce data of participant countries from the WOAHA World Animal Health Information System (WAHIS). A total of 8 pre-workshop survey questions were provided to countries, with 7 countries providing responses. These questions be found in Annex A titled, “Questions from Pre-Meeting Survey for WOAHA Workshop on Veterinary Workforce Development in Central Asia and the Caucasus Countries” of this report.

A total of 8 invited Member Countries were invited to contribute to the survey.



Figure 1. Participating countries at a glance.

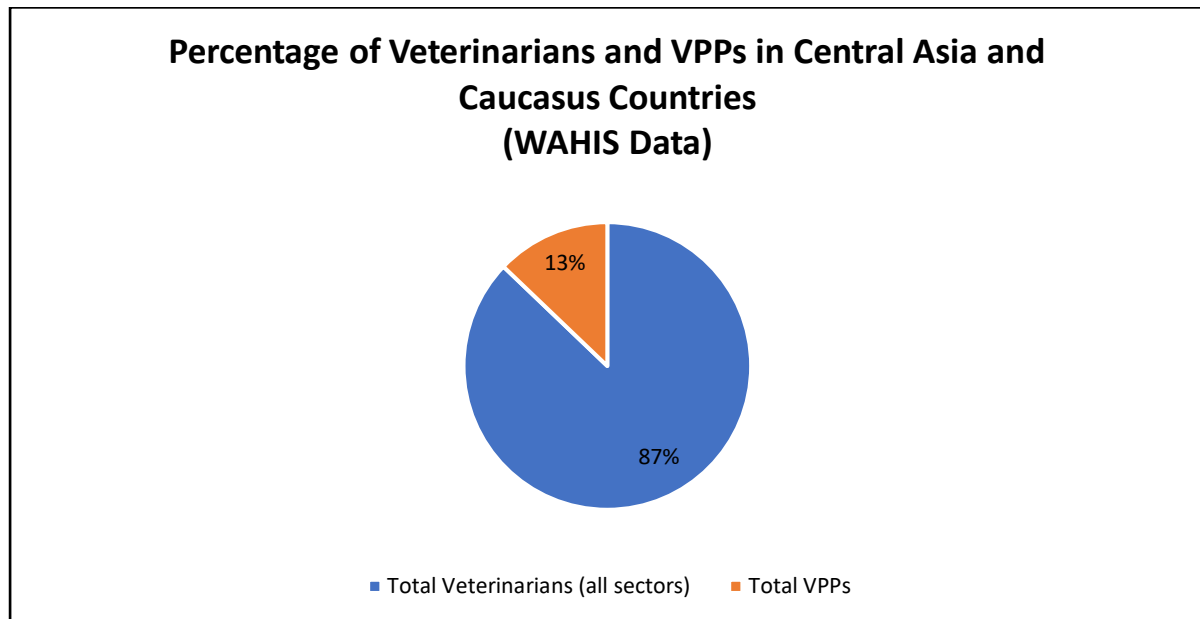
The survey was administered electronically during February 2023 and consisted of 26 questions. The analysis avoids referring to any specific member countries and all information presented is at the Sub-regional level.

1.1 WAHIS findings and discussion:

1.1.1 Workforce structure

The available WAHIS data of Members from the Sub-region for Central Asia and Caucasus countries was the basis of the analysis of workforce numbers. The workforce in animal health among the 8 members of the sub-region generally comprises of Veterinarians and VPPs. If we look into the workforce structure in Animal Health, 87% ($n=69,908$) of personnel are veterinarians and 13% ($n=10,165$) VPPs (Blue = Total Veterinarians (all sectors); Orange = Total Veterinary Paraprofessionals

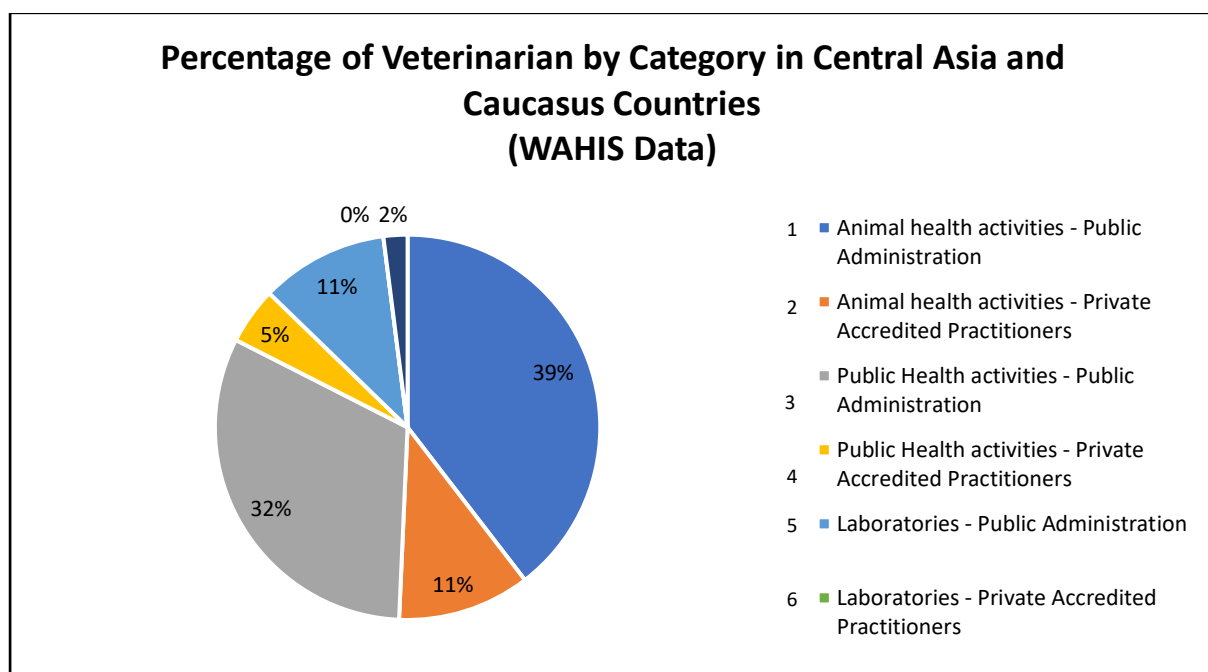
Figure 2). The sheer size of the workforce indicates the need to focus on better operationalisation of the veterinary workforce for enhanced performance of national veterinary services, ensuring service adequacy and regulations protecting public health and animal welfare interests.



Blue = Total Veterinarians (all sectors); Orange = Total Veterinary Paraprofessionals

Figure 2 Veterinary workforce structure as per WAHIS for sub-region of Central Asia and Caucasus countries.

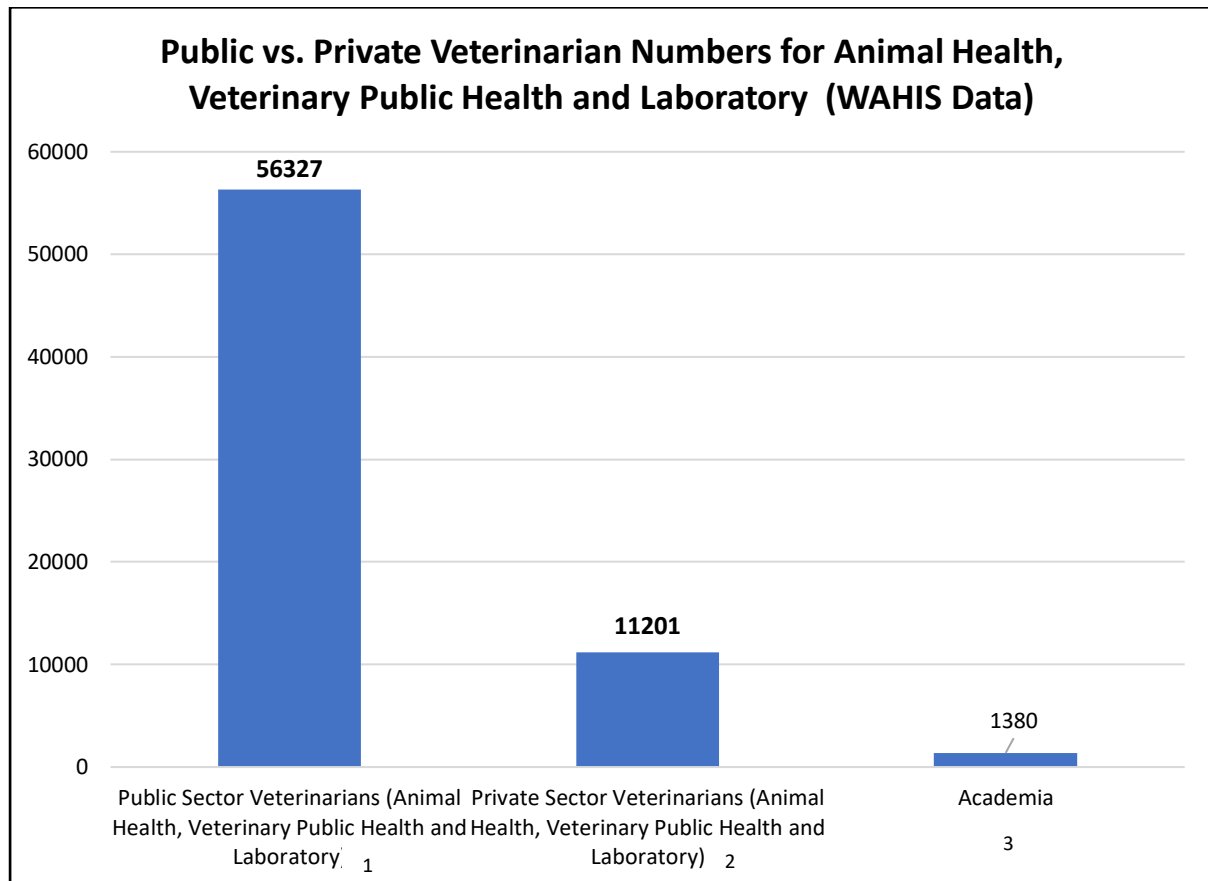
Further, the analysis indicated that 50% ($n=34,791$) of veterinarians work as public veterinarians in Animal Health. Fewer veterinarians 37% ($n=25,079$) are involved in public health either within the private or public service. A very limited number of veterinarians work in laboratories 11% (7,658). Further to the above, a total number of 2% ($n = 1,380$) veterinarians are involved in academia (Figure 3).



¹ = Animal health activities – Public Administration; ² = Animal health activities – Private Accredited Practitioners; ³ = Public Health activities – Public Administration; ⁴ = Public Health activities – Private Accredited Practitioners; ⁵ = Laboratories – Public Administration; ⁶ = Laboratories Private Accredited Practitioners; and ⁷ = Academic Training Institutions.

Figure 3 Percentage of veterinarians involved in the different fields.

The distribution of veterinarians between the public and private sectors seems to be mainly public sector with 82% (n= 56,237) in public service and 16% (n = 11,201) working in the private sector. In addition, 2% (n=1,380) of veterinarians are working in academic and/or training institution (Figure 4).



¹ = Public Sector Veterinarians (Animal Health, Veterinary Public Health and Laboratory); ² = Private Sector Veterinarians (Animal Health, Veterinary Public Health and Laboratory); and ³ = Academia

Figure 4 Public vs. private veterinarian in animal health, veterinary public health and laboratory activities.

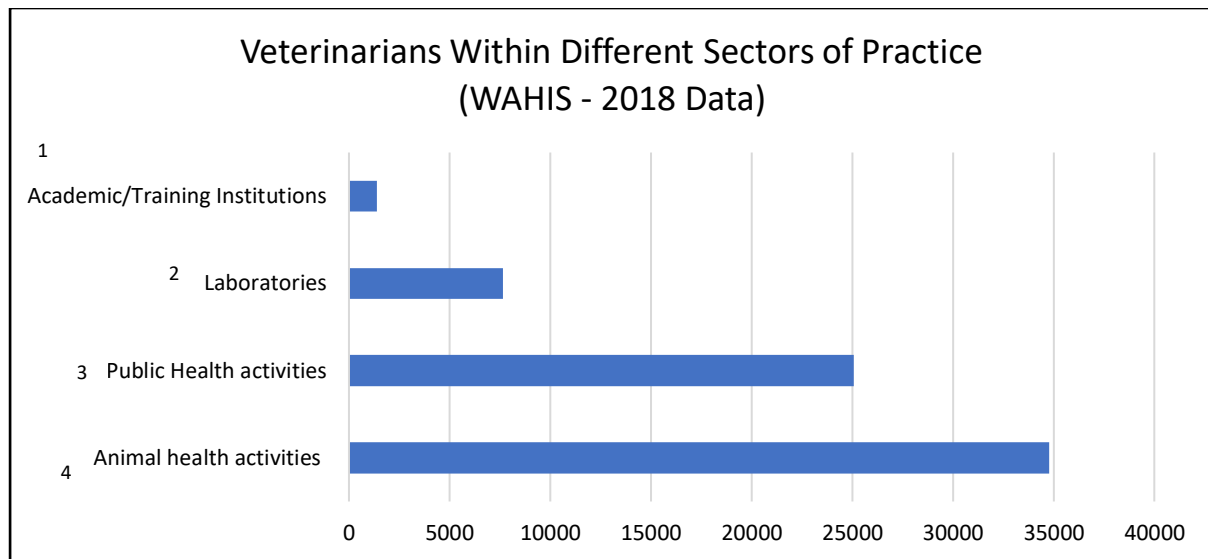
1.1.2 Work areas of veterinarians and VPPs

The distribution of veterinarians within the Sub-region of Central Asia and Caucasus countries according to WOA/WAHIS 2018 data are as follows:

Most of the veterinarians (n=34,791) are delivering services within the Animal Health sector with a substantial number of veterinarians (n=25,079) involved in public health activities. There are some veterinarians involved in veterinary laboratories (n= 7,568); however, there is a limited number of veterinarians involved in education and training of veterinary professionals within academia (n=1,380) for the region (Figure 5).

In the public service context, veterinarians' contribution is of paramount importance. They play a crucial role in preventive care, public health, and food safety regulation besides planned delivery of

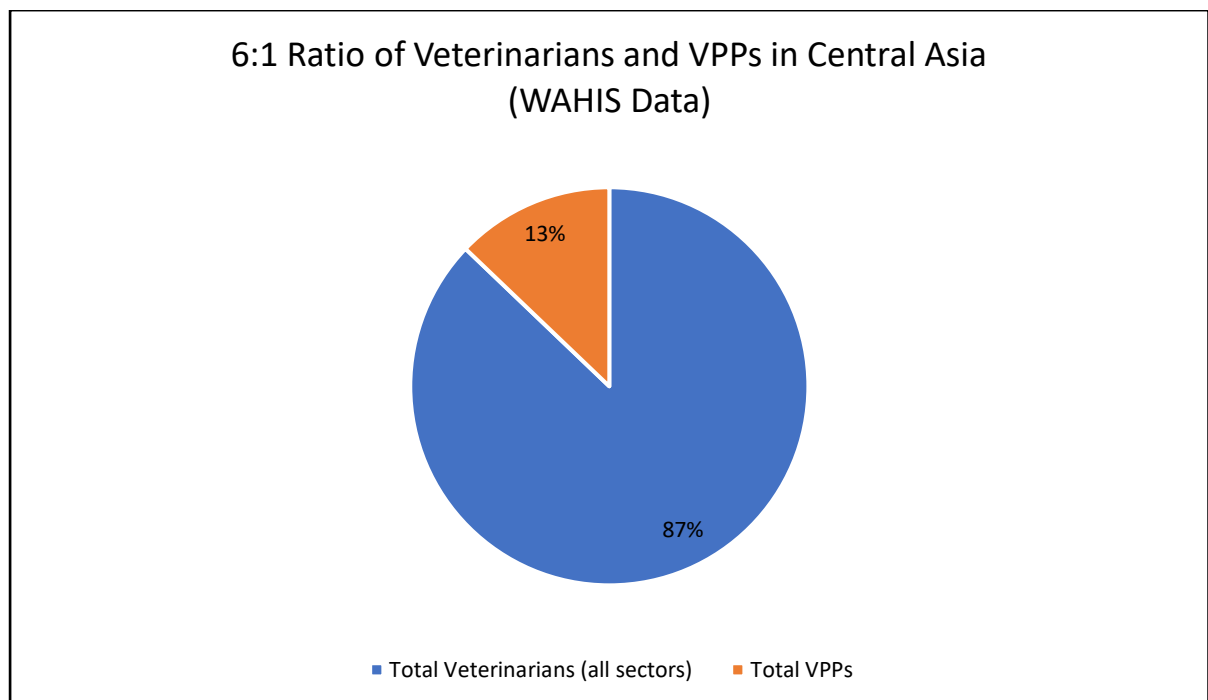
clinical care, essentially leading teams comprising VPPs and other veterinary staff. The VPPs play a complementary role as assistants, technicians, and veterinary nurses, amongst other categories, often with specific skills, and provide services in more rural and remote areas. Ensuring there are enough educators available to train the next generation of the veterinary workforce is crucial.



¹ = Academic/Training Institutions; ² = Laboratories; ³ = Public Health activities; and ⁴ = Animal health activities

Figure 5 Work area of veterinarians of participating countries using WAHIS data from 2018 year.

Data also indicated that the ratio of Veterinarians VPPs from participating countries is 87%:13% or 6:1 (Figure 6).



Blue = Total Veterinarians (all sectors); Orange = Total Veterinary paraprofessionals

Figure 6 Ratio between veterinarians and VPPs within the Sub-region for Central Asia and the Caucasus countries using WAHIS data.

1.1.3 Definition of a VPP

Veterinary paraprofessional (VPP) according to the WOAHA Terrestrial Animal Health Code (TAHC) means “a person who, for the Purposes of the Terrestrial Code, is authorised by the veterinary statutory body to carry out certain designated tasks (dependent upon the category of veterinary paraprofessionals) in a territory and delegated to them under the responsibility and direction of a veterinarian. The tasks for each category of veterinary paraprofessional should be defined by the veterinary statutory body depending on qualifications and training, and according to need.”

Figure 7 Definition of VPPs as per Terrestrial Animal Health Code, 2019

VPP – Veterinary paraprofessional
A person who is not a veterinarian but has received at least one year of formal training in animal health/production from a recognised /accredited institution resulting in a certificate, diploma or degree, and who is currently active. In practice this may include Animal health technicians, Animal health assistants, Meat inspectors, Laboratory technicians, Veterinary nurses and other similar job titles.

Figure 8 Unofficial definition of VPP for situations where there is an absence of VSB.

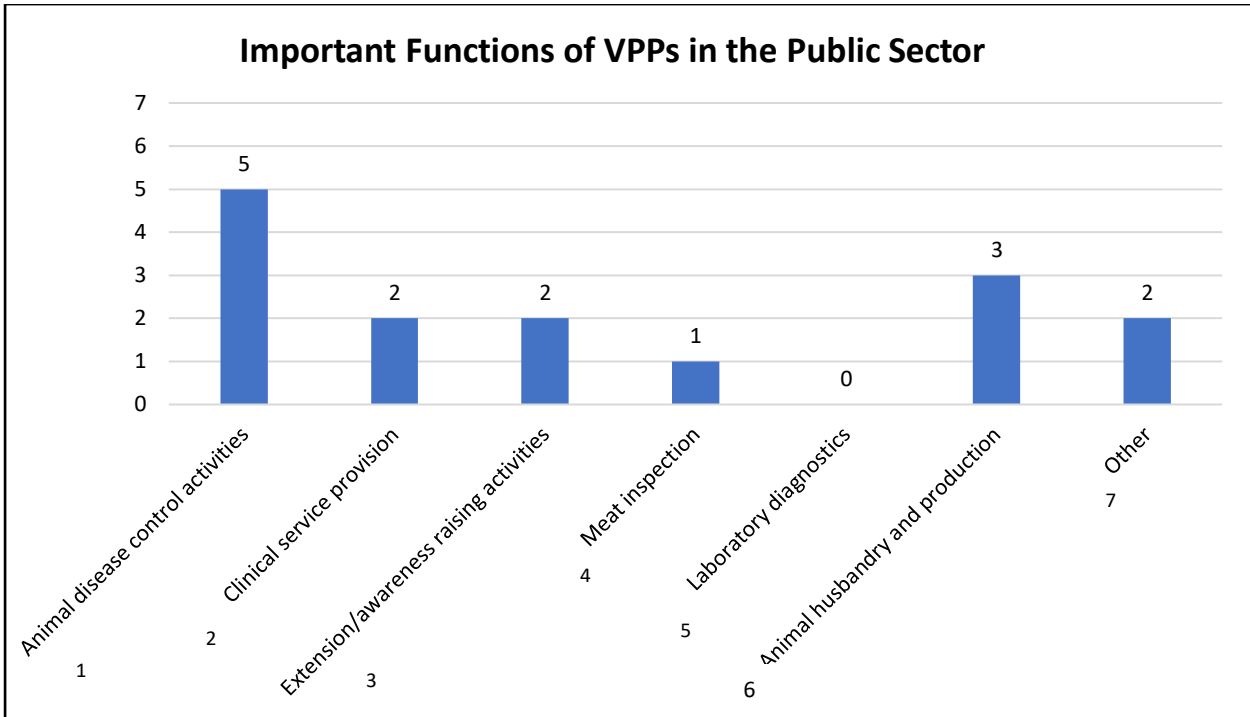
The official definition (Figure 7) indicates that a VPP receives training only for the designated tasks assigned to them by the country Veterinary Statutory Body (VSB). The work area assigned to VPPs can vary widely from country to country. As referred to the unofficial definition (Figure 8), a VPP typically receives training for at least one year.

1.2 Pre-workshop findings and discussion:

Seven countries responded to the pre-workshop survey.

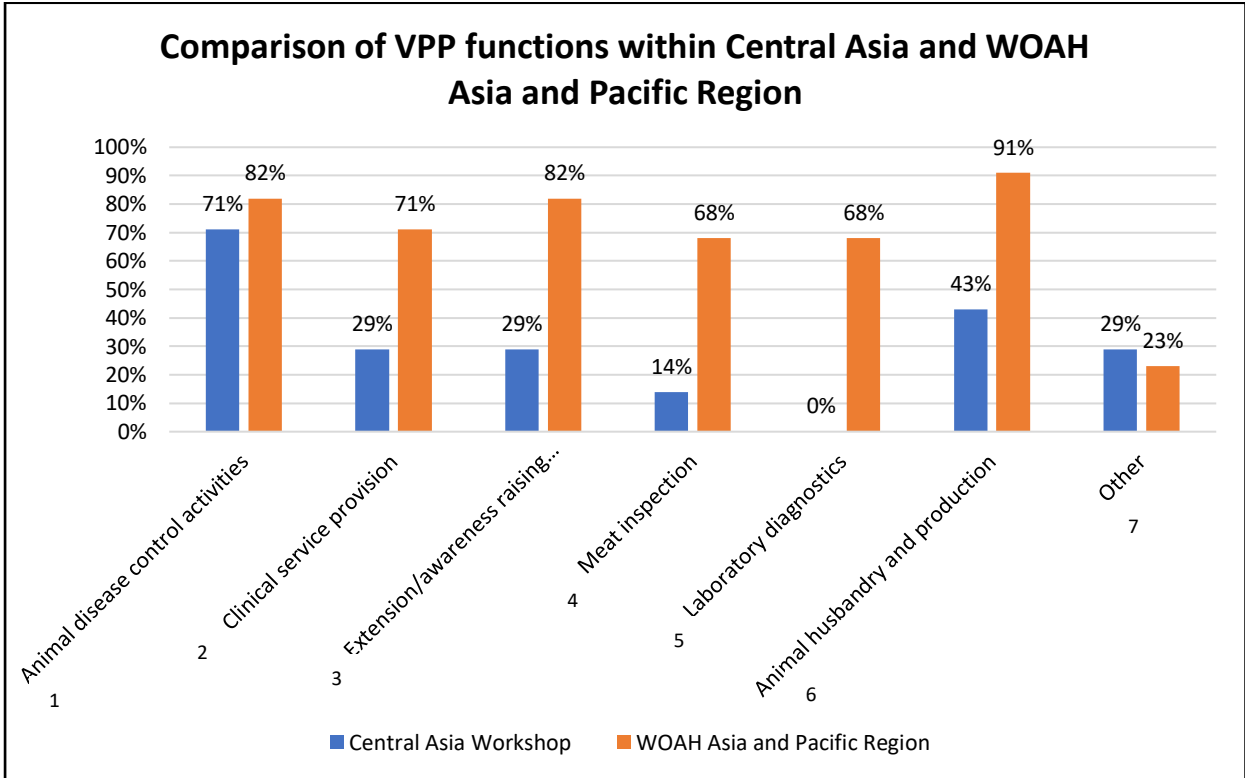
1.2.1 Pre-workshop workforce survey results

The pre-workshop workforce survey recorded various functions the VPPs perform (Figure 9), with a mix of animal health and public health functions. This is for public sector activities within state veterinary service. VPPs are also active in animal husbandry and breeding-related roles. They do not appear to be active in laboratory functions, with a minimal function in meat inspection. Functions performed by VPPs are also very diverse with animal disease control activities being the most selected (5 out of 7 responses) 71% followed by animal husbandry and production services at 43% (3 out of 7 responses). Extension activities and clinical services as well as other are at 29%. If compared to the Asia 2021 survey, a very similar pattern can be seen regarding VPP functions for animal disease control activities; however, is vastly changes compared to other Member Countries in the WOAHA Asia and Pacific Region for other categories (Figure 10). The analysis suggests that governments need to assess the gap in service provision and describe the appropriate role definition of VPPs.



¹ = Animal disease control activities; ² = Clinical service provision; ³ = Extension/awareness raising activities; ⁴ = Meat inspection; ⁵ = Laboratory diagnostics; ⁶ = Animal husbandry and production, and ⁷ = Other

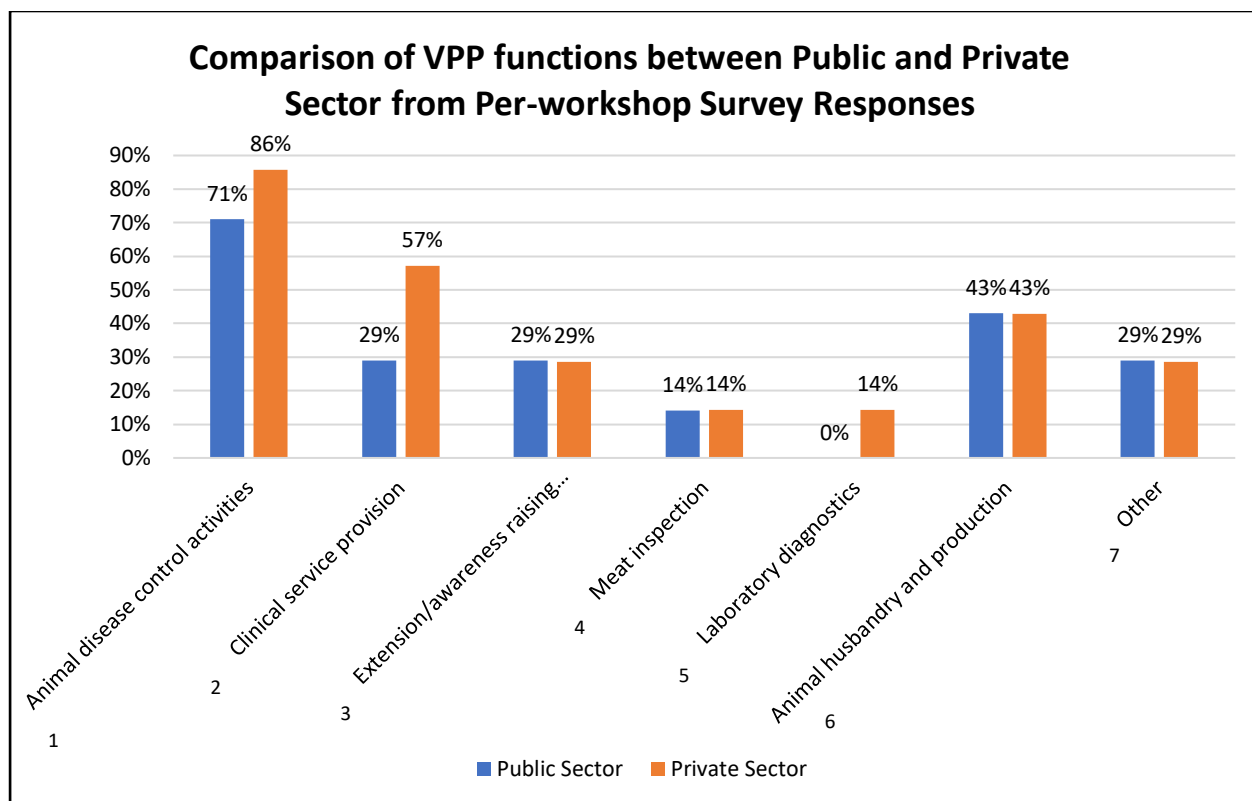
Figure 9 Functions performed by VPPs for the public sector.



¹ = Animal disease control activities; ² = Clinical service provision; ³ = Extension/awareness raising activities; ⁴ = Meat inspection; ⁵ = Laboratory diagnostics; ⁶ = Animal husbandry and production, and ⁷ = Other

Figure 10 A comparison between the Sub-regional Central Asia and Caucuses country workshop and the WOAHA Asia and the Pacific Region of the most important functions performed by VPPs

In comparing responses for the private sector, VPPs are also active in animal husbandry and breeding-related roles. The results are close to the same when compared to the public sector (Figure 11).



¹ = Animal disease control activities; ² = Clinical service provision; ³ = Extension/awareness raising activities; ⁴ = Meat inspection; ⁵ = Laboratory diagnostics; ⁶ = Animal husbandry and production, and ⁷ = Other

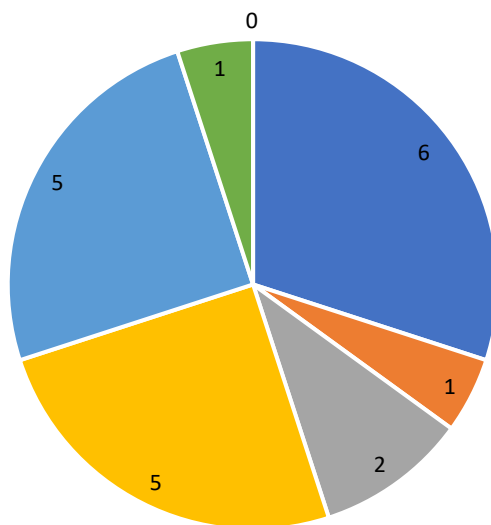
Figure 11 Comparison of most important functions performed by VPPs for the public and private Sector from survey participants.

1.2.2 The workforce situation

The survey wanted to record participants' views concerning the national workforce situation. Notably, 86% (6/7) of participants indicated a general shortage of personnel in the veterinary workforce for their country. However, only 14% (1/7) participants indicated a definite shortage of personnel within specific areas. A high retirement rate was indicated by 71% (5/7) participants with fewer new recruitments to replace the retired is a matter of national concern. In addition, 71% (5/7) of participants indicated personnel leaving the workforce for other countries as a challenge.

The analysis indicated that situations vary from country to country, and governments must regularly keep reviewing factors that can influence a country's workforce availability.

Current Workforce Challenges Faced by Members



- 1 ■ There is a general shortage of personnel.
- 2 ■ There is a shortage of personnel concerning specific areas only, e.g., large/farm animal practice.
- 3 ■ Many personnel are not involved in veterinary service delivery as they do other nonveterinary jobs.
- 4 ■ Many personnel leave to work for other countries.
- 5 ■ There is high retirement of personnel and young people are not interested to study any of the veterinary professions.
- 6 ■ There is high retirement of personnel and there are inadequate training institutions to meet the demand of personnel.
- 7 ■ Other

¹ = There is a general shortage of personnel; ² = There is a shortage of personnel concerning specific areas only, e.g., large/farm animal practice; ³ = Many personnel are not involved in veterinary service delivery as they do other nonveterinary jobs; ⁴ = Many personnel leave to work for other countries; ⁵ = There is high retirement of personnel and young people are not interested to study any veterinary professions; ⁶ = there is high retirement of personnel and there are inadequate training institutions to meet the demand of personnel; and ⁷ = other.

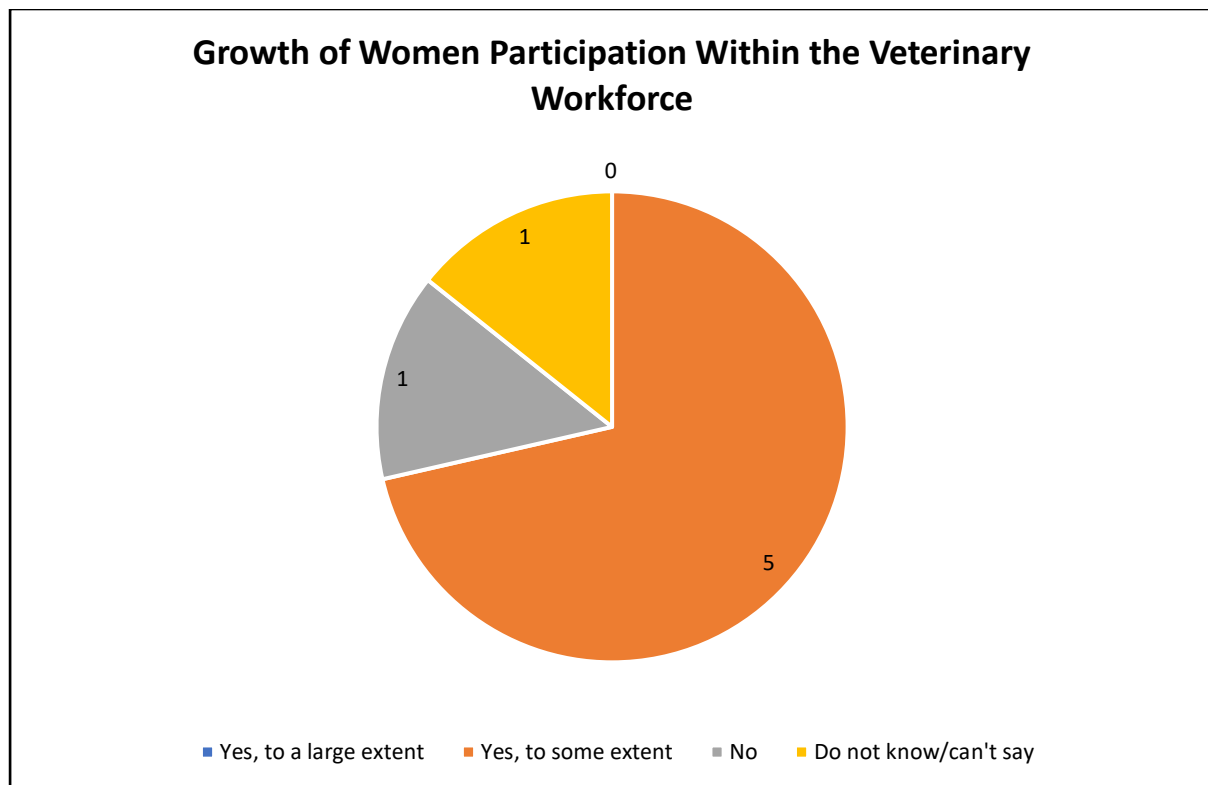
Figure 12 The workforce situation challenges within WOA Member Countries for Sub-regional Central Asia and Caucasus Countries Workshop

An ideal workforce is balanced (representative of all skill categories) and has a gender mix. The pre-workshop survey aimed to describe women's participation in the workforce and access to decision-making roles. The survey explored the status of women in the veterinary workforce. Some positive increase in women's participation can be seen as indicated by 5/7 (71%) of participants (Figure 13).

According to the participants, various corrective matters have been put in place to address the imbalance of women in the workforce including affirmative action policies, the promotion of women

to leadership positions within veterinary services as well the inclusion of women in workshops and veterinary studies.

However, the involvement of women in the workforce is likely to differ significantly amongst the countries. Each country needs to explore ways to address various factors specific to its country to ensure the appropriate participation of women in the workforce.



Blue = Yes, to a large extent; Orange = Yes, to some extent; Grey = No; and Yellow = Do not know/can't say

Figure 13 Growth of women participation within the veterinary workforce

1.2.3 The enabling environment for VPPs

The pre-workshop survey explored if the legal enabling environment exists for VPPs to expand and sustain their participation in veterinary services. 14% of participants indicated recognition of VPPs within the public sector while 57% indicated recognition within the private sector. Scope of practice seems to be also important as indicated by 3/7 (43%) (Figure 14). In addition, 86% (6/7) of the participants stated their country does have the intention to create VSB. Within the region, 57% (4/7) of VPPs can work privately and independent from a veterinary supervisor, while 43% are unable to work independently from a veterinary supervisor.

The findings indicated that member countries should focus on a more systematic analysis of their respective countries' situations to understand better how to create the needed environment for the growth of VPP services when permitted. Clear role definitions, appropriate supervision framework, formal recognition, and regulation of VPPs through registration under a statutory body can be critical action areas depending on the country's context.

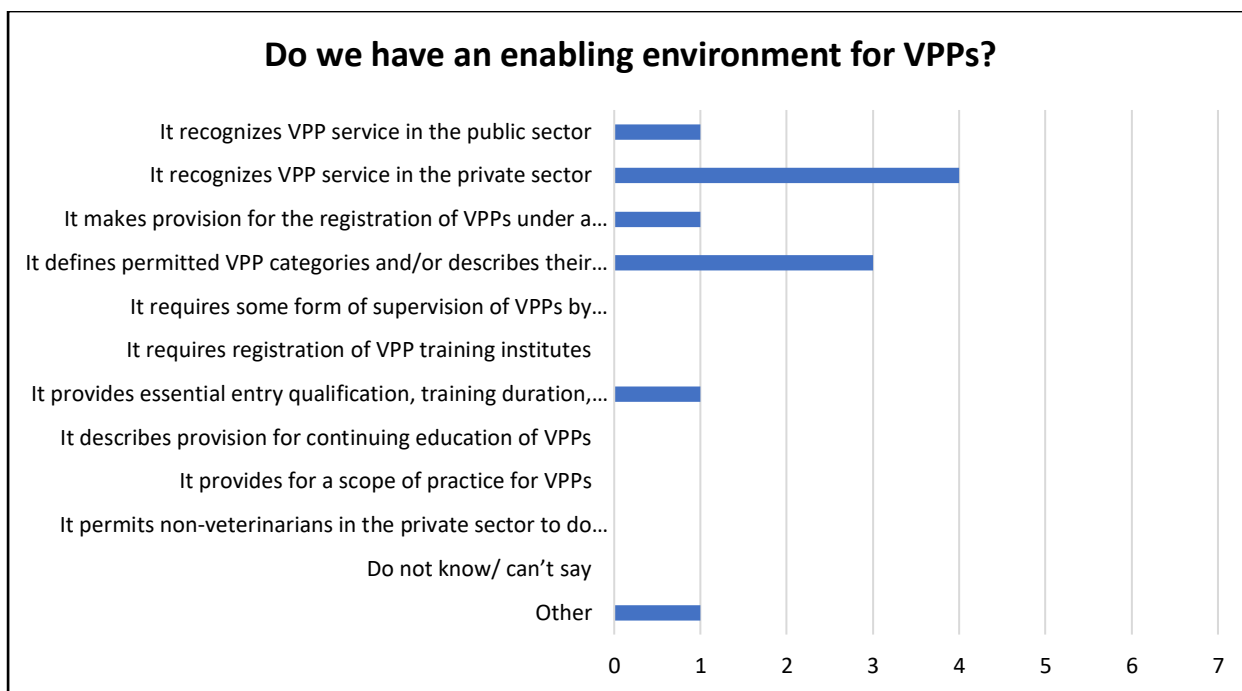


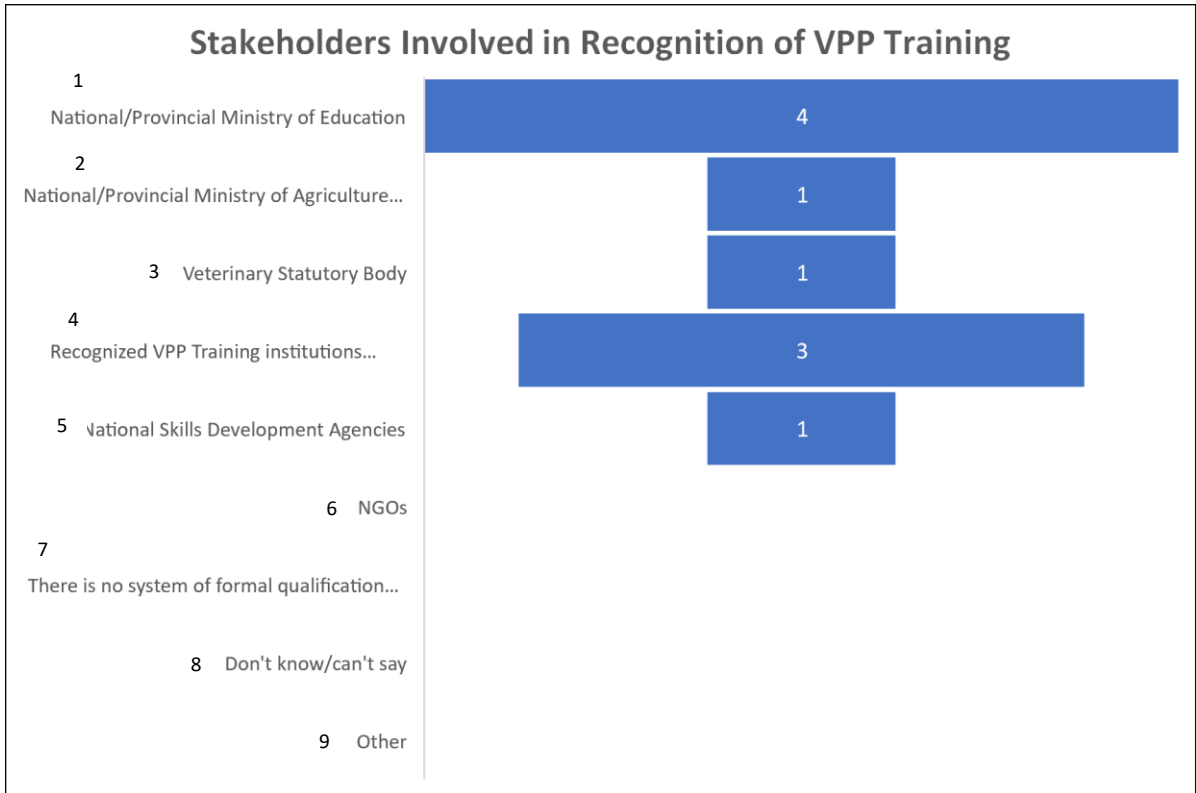
Figure 14 Do we have an enabling environment of VPPs within the veterinary workforce?

Table 1: Do we have an enabling environment of VPPs within the veterinary workforce?

Other	1
Do not know/ can't say	0
It permits non-veterinarians in the private sector to do certain practices even though there is no mention of any specific VPP category	0
It provides for a scope of practice for VPPs	0
It describes provision for continuing education of VPPs	0
It provides essential entry qualification, training duration, and other mandatory education regulations	1
It requires registration of VPP training institutes	0
It requires some form of supervision of VPPs by veterinarians	0
It defines permitted VPP categories and/or describes their scope of practice	3
It makes provision for the registration of VPPs under a statutory body	1
It recognizes VPP service in the private sector	4
It recognizes VPP service in the public sector	1

As mentioned above, the least managed enabling environment factor relates to VPP training. The finding related to institutions recognising VPP training within the region indicates that various stakeholders are involved. Agencies linked to the skill / vocational sector are also engaged in VPP training. A significant finding is that the role of VSB in VPP training is still limited.

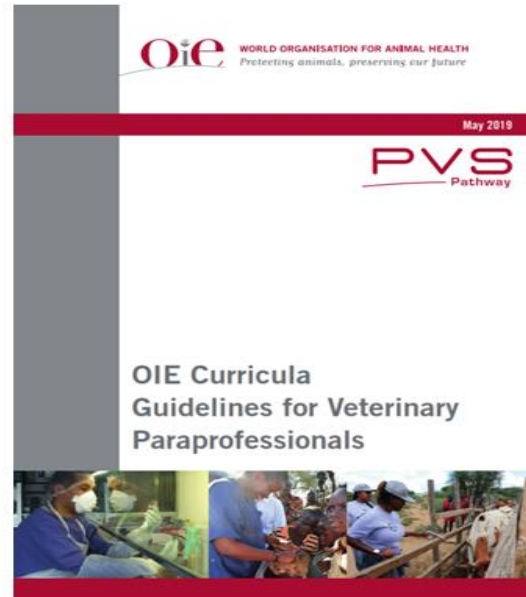
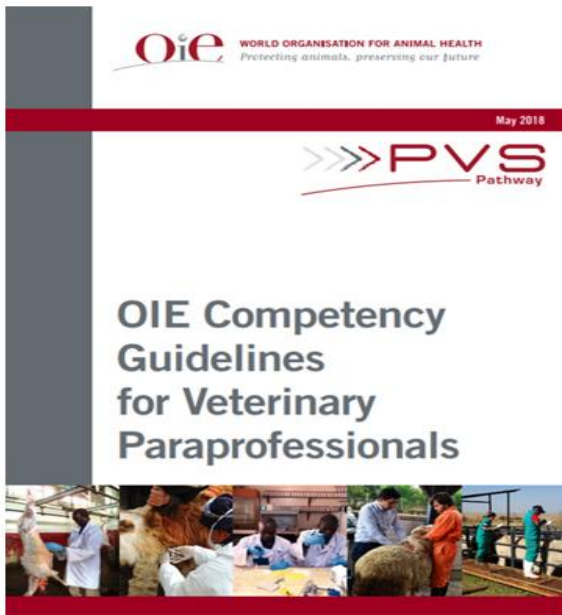
Although 4/7 participants indicated the Ministry to be the organisation accrediting formal qualifications, it is obvious that a wide range of other stakeholders are also involved with the accreditation process. (Figure 15)



¹ = National/Provincial Ministry of Education or Livestock; ² = National/Provincial Ministry of Agriculture; ³ = Veterinary Statutory Body; ⁴ = Recognised VPP Training Institutions or Veterinary Establishments; ⁵ = National Skills Development Agency; ⁶ = Non-governmental organisations (NGOs), ⁷ = There is no system of formal qualifications for VPP training; ⁸ = Don't know/can't say; ⁹ = Other

Figure 15 Stakeholders involved in recognition of VPP training.

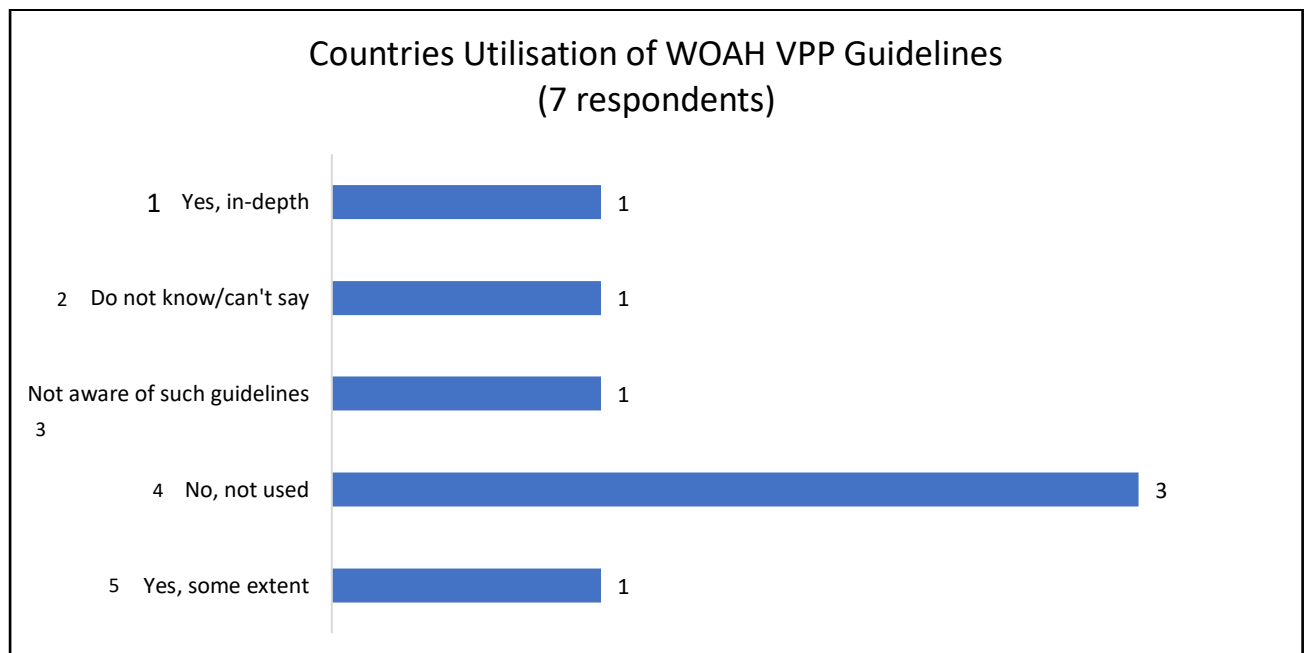
Appropriate training and transparent certification at par with the country's education or skilling framework are important elements for improving service delivery, enhanced recognition at the service place, career growth, and mobility of VPPs. It is also important to attract talented youth to contribute as VPPs. Certified training also enhances the organised development of the job market. Recognising the importance of quality training of VPPs, WOAHA published both competency and curriculum guidelines for VPPs in 2018 and 2019, respectively.



Have the WOAHP Competency and /or Curriculum Guidelines for VPPs been reviewed or used by the Veterinary Services or stakeholders responsible for VPP training?

Notably, only 2/7 (29%) of participants indicated the use of the 2 VPP guidelines while only 57% (4/7) participants indicated no use and/or no awareness of the guidelines (Figure 16).

Many participating countries have responded to the need to ensure a better training system for VPPs as an integral step towards developing the VPP workforce and improving veterinary service delivery to smallholders thereof. It is important to note that the WOAHP recognises the diversity of the VPP situation in various member countries, and the developed documents are, therefore, only guidelines.

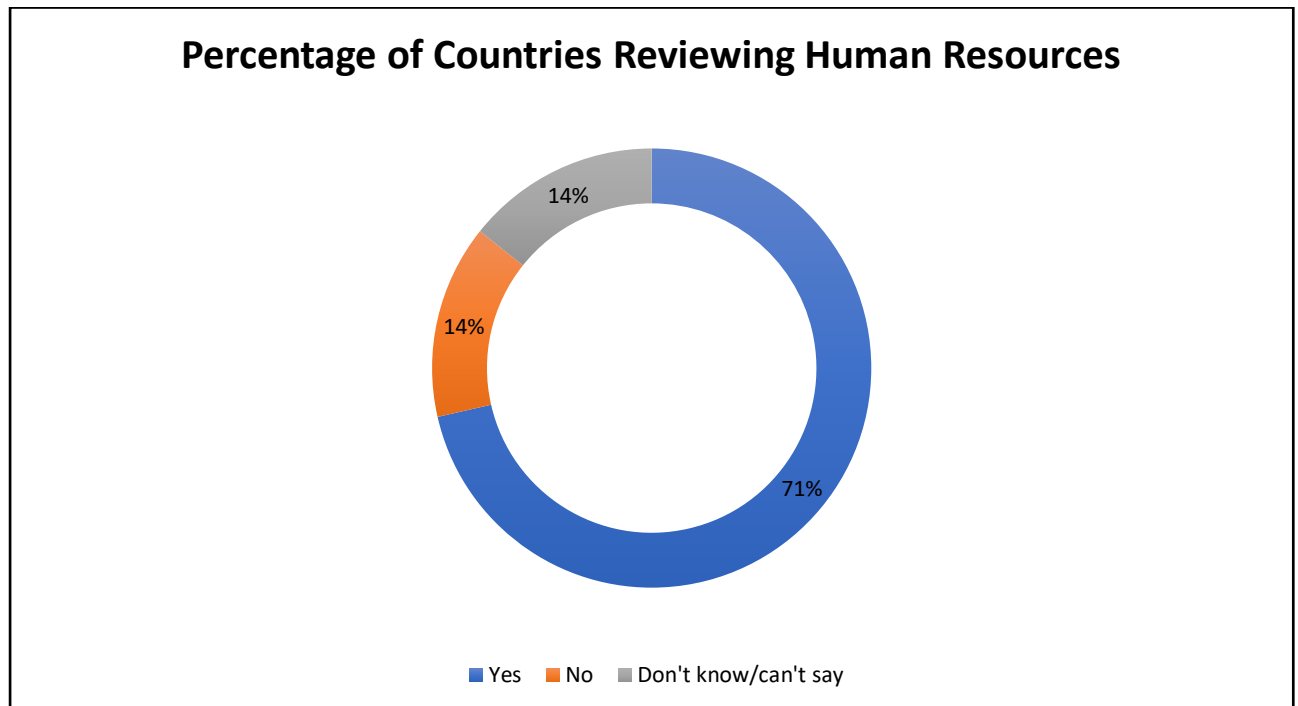


¹ = Yes, in-depth; ² = Do not know/can't say; ³ = Now aware of such guidelines; ⁴ = no, not used; ⁵ = Yes, some extent

Figure 16 Countries' utilisation of the WOAHP competency and curriculum guidelines.

1.2.4 The country responses

The survey finding indicated that 71% of countries regularly review their human resource need within the veterinary workforce, such as the number of veterinarians or VPPs needed to prepare against any shortage (Figure 17). Among the participants 57% of countries review this every 2-years. It is important to note that besides workforce numbers, the distribution, the composition of the workforce, etc. are also essential aspects. The WOAHA encourages countries to regularly review their human resource needs and intends to provide access to necessary tools to review requirements more systematically.

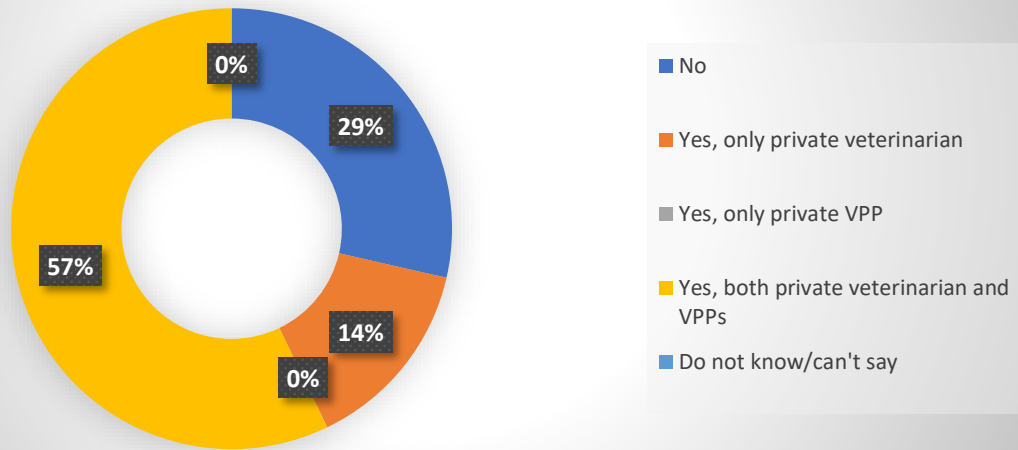


Blue = Yes; Orange = No; Grey = Don't know/cant'say

Figure 17 Countries reviewing human resources.

As a response strategy to address a possible shortage of personnel in public service, the survey explored if governments are opting for contracting private veterinarians and VPPs to carry out work that is usually the responsibility of government veterinarians and VPPs. 5/7 respondents (71%) are considering this option to meet the workforce needs in the public sector while 2/7 (29%) participants indicated no need for such (Figure 18).

Countries Opting to Contract Private Veterinarians and VPPs



Blue = No; Orange = Yes, only private veterinarian; Grey = Yes, only private VPP; Yellow = Yes, both private veterinarians and VPPs; Teal = Do not know/can't say

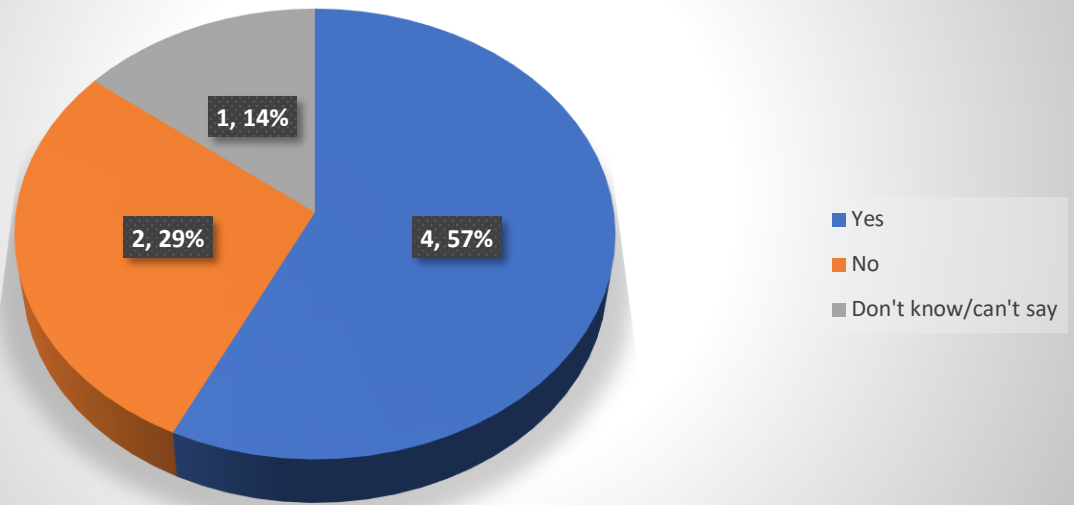
Figure 18 Countries opting to contract private veterinarians and VPPs.

A way to ensure availability and access to services to smallholders in remote areas can be the increase of sustainable self-employment amongst service providers. The promotion of self-employment assumes significant importance in many developing nations where public services face severe resource constraints. It was beyond the scope of the survey to understand the trend of observed self-employment amongst VPPs. However, various revenue models of private services are fast emerging, including Public-Private partnerships (OIE PPP Handbook¹, 2019). Member countries can explore if self-employment of VPPs is a solution for workforce needs at the last mile of service delivery, and what the pros and cons are of promoting self-employment amongst VPPs within the respective country context. Countries also need to explore necessary measures to make private services accountable to national veterinary services, e.g., mandatory reporting of diseases and regulations to safeguard against public health, food safety, and animal welfare-related threats.

The survey showed that Members are using different strategies to empower women in veterinary services. 46% of respondents informed that their government makes formal efforts to promote women in the veterinary workforce towards decision-making roles (Figure 19). The 2015 gender study mentioned earlier has indicated that women can equally contribute to the veterinary profession. Countries need to give value to a mixed workforce, help women achieve work-life balance, ensure equal opportunity, and create an environment conducive to working in remote areas.

¹ <https://www.oie.int/app/uploads/2021/03/oie-ppp-handbook-20190419-enint-bd.pdf>

Formal Effort by Veterinary Authority to Promote Women to Decision-making Roles

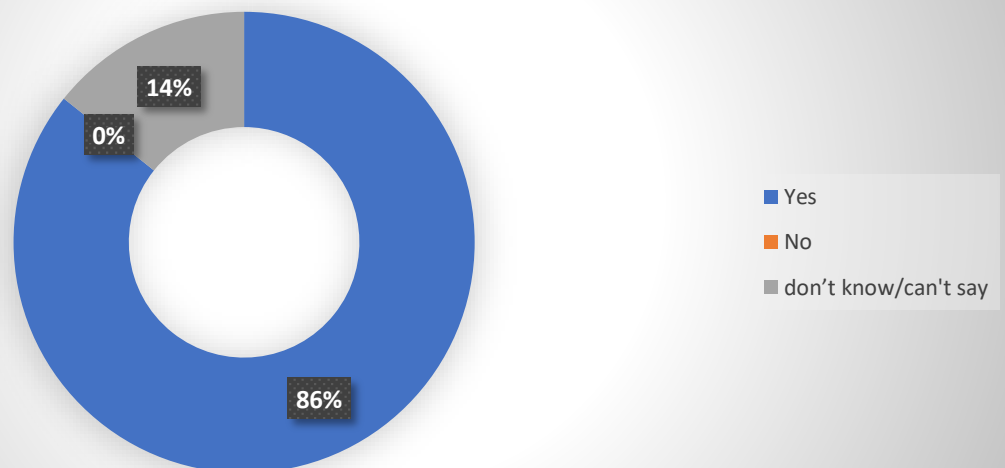


Blue = Yes; Orange = No; Grey = Don't know/can't say

Figure 19 Formal effort by Veterinary authority to promote women toward decision-making roles.

As a response strategy to address accreditation (e.g., form European Association of Establishments for Veterinary Education – EAEVE), 86% of the participants responded that there is either a plan or interest by their country to obtain international accreditation.

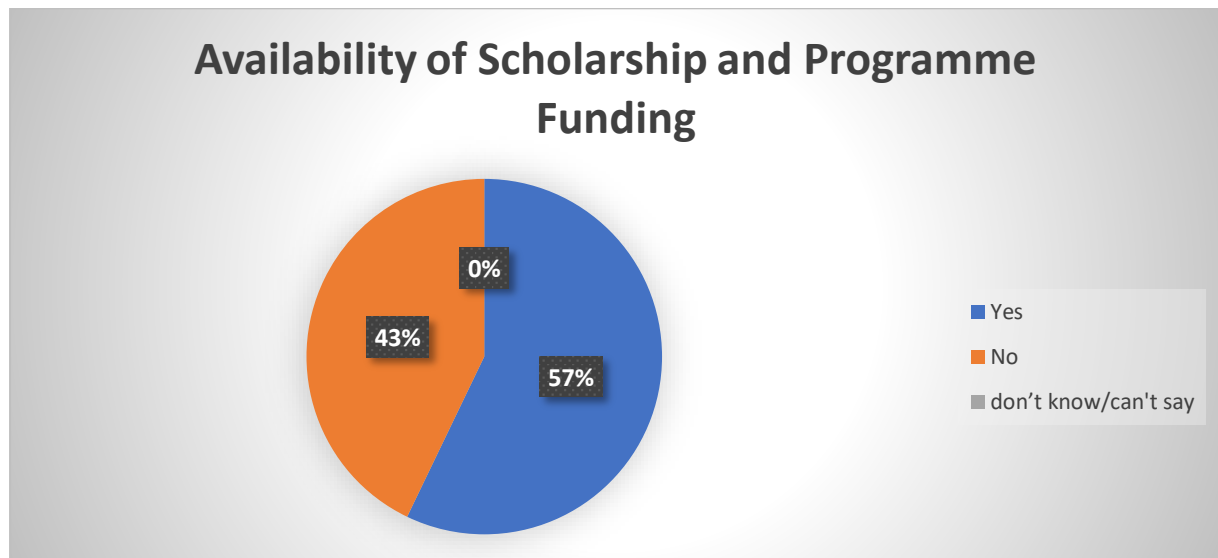
Interest of VEE to For International Accreditation



Blue = Yes; Orange = No; Grey = Don't know/can't say

Figure 20 Formal plans or interest by Veterinary Education Establishment (VEE) for International Accreditation.

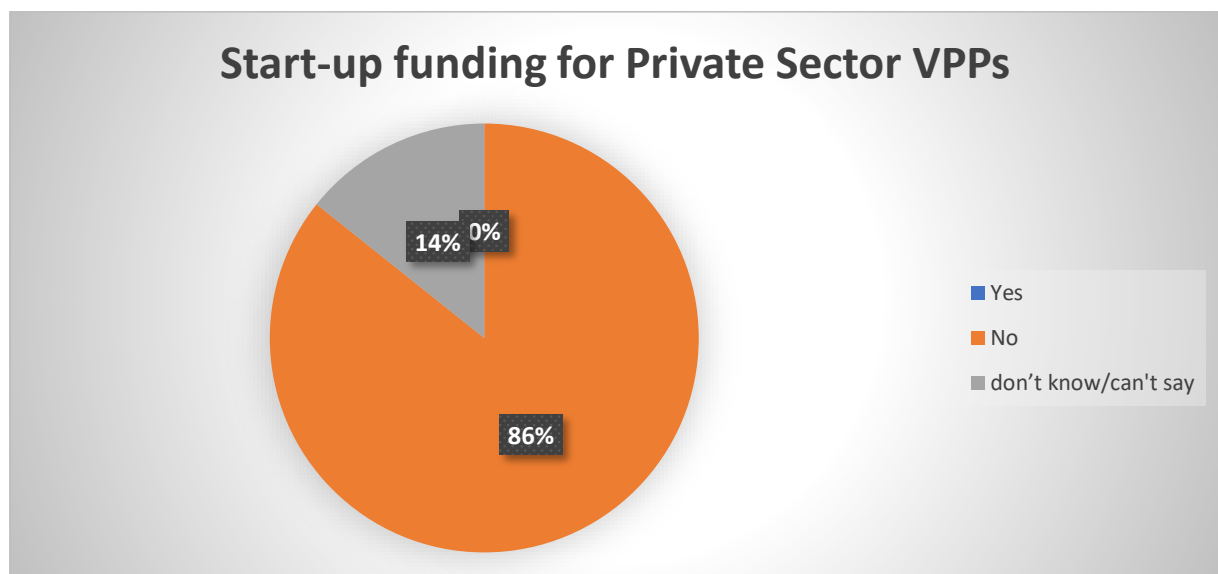
Regarding government-supported programmes to encourage young people to study to become veterinarians or VPPs, participants stated that 57% (4/7) of countries include scholarships or subsidies to study; whilst 43% (3/7) do not. May of the countries have fully funded programmes and paid for the Ministry or veterinary education is free of charge. Certain educational areas do have a fee-contract basis, depending on the educational area taught. Programmes can either be for VEEs or Veterinary Paraprofessional Training Institutions (VPTIs).



Blue = Yes; Orange = No; Grey = Don't know/can't say

Figure 21 Availability of scholarship and programme funding for student in VEEs or VPTIs

However, there does not appear to be any government, donor, micro-finance, NGO or other programmes that support the set-up or running costs for private sector VPPs, such as loans or grants to help them begin their self-employment. In addition, 71% (5/7) participants stated that private veterinarians employ/or work in collaboration with VPPs.



Blue = Yes; Orange = No; Grey = Don't know/can't say

Figure 22 Availability of scholarship and programme funding for start-up funding of private sector VPPs

Part 2. Regional Workforce Information from WOAHP PVS Reports

2.1 PVS findings Central Asia

PVS reports were reviewed from 10 Member Countries in the Central Asia Region over 5 categories. The categories were related to the following enabling environment factors: (i) human resources; (ii) VSB or other regulating mechanisms; (iii) legislation; (iv) education; and (v) field and operational levels. A total of 31 questions across all factors were assessed and can be found in Annex B titled, “PVS Questions by Category” of this report upon review of PVS pathway reports.

The subsequent section provides regional findings from PVS Pathway report reviews for the Central Asia region.

2.1.1 Human resources

For human resources, five indicators were reviewed and their findings at the regional level can be reviewed in Table 2.

Table 2. Findings from PVS Pathway Reports for Central Asia Region Related to human resources

Indicator	Findings (Regional Level)
1. System for monitoring and evaluating HR needs for the VS	<ul style="list-style-type: none"> No information located in PVS report at the regional level.
2. Veterinarians	<ul style="list-style-type: none"> 20% of countries stated in rural areas there are extreme shortages to no veterinarians. Reports range from unknown number of working veterinarians to up to 7500 veterinarians within public or private sector workforce for a country.
3. VPPs	<ul style="list-style-type: none"> Reports range from unknown number of working VPPs to up to approximately 5500 VPPs for a country. 20% of countries do not keep registration of VPPs.
4. VPP categories recognised	<ul style="list-style-type: none"> Only one out of 10 reports categorised VPPs into multiple categories (e.g., veterinary technician, veterinary nurses, and laboratory). 40% of the countries categorise VPPs as a veterinary technician, mainly working in vaccination and surveillance activities. 6 of 10 countries provided no information on categories of VPPs.
5. Job descriptions with qualifications	<ul style="list-style-type: none"> 70% of countries concur that there are either no job descriptions for VPPs with clear qualifications or that there is not a clear delineation between VPPs and veterinarian roles.

2.2.2 VSB or other regulating mechanism

For the category of VSB or other regulating mechanism, seven indicators were reviewed and their findings at the regional level can be reviewed in Table 3.

Table 3. Findings from PVS pathway reports for Central Asia region related to VSB or other regulating mechanism.

Indicator	Findings (Regional Level)
1. VSB regulation	<ul style="list-style-type: none"> 8 out of 10 countries did not have a formalised VSB for the profession.
2. Personnel categories regulated	<ul style="list-style-type: none"> Draft VSB legislation seems to grant VSB authority to regulate VPPs and vets in 2 of the 10 countries. 80% of the PVS reports did not state which categories of the workforce were regulated (e.g., veterinarians or VPPs).

3. Code of conduct	<ul style="list-style-type: none"> ▪ Draft VSB legislation which includes code of conduct was reported in 20% of the PVS reports. ▪ 80% of the PVS reports did not have a code of conduct included.
4. Corrective measures	<ul style="list-style-type: none"> ▪ None of the reports included information on the countries VSB ability to take corrective actions.
5. Education, training, curriculum development and accreditation	<ul style="list-style-type: none"> ▪ 90% of the PVS reports did not include whether a VSB was involved in the standards of education and training curriculum. ▪ Only 1 PVS report included information that the VSB is not involved in developing of education, curriculum or continuing education.
6. Licensing	<ul style="list-style-type: none"> ▪ There appears to be no licensing or regulation of VPPs in all PVS reports reviewed.
7. Accreditation implementation	<ul style="list-style-type: none"> ▪ 60% of the countries have a continuing education system; however, many of these are not fully functional due to lack of fiscal resources to operate the continuing education platform for the country.

2.2.3 Legislation

For the category of legislation, five indicators were reviewed and their findings at the regional level can be reviewed in Table 4.

Table 4. Findings from PVS pathway reports for Central Asia region related to legislation.

Indicator	Findings (Regional Level)
1. Legislation of Veterinarians and VPPs	<ul style="list-style-type: none"> ▪ 80% of the countries have laws regulating the profession; however, most are at regulation of veterinarians with only one stating VPPs are regulated.
2. Supervision of VPPs	<ul style="list-style-type: none"> ▪ 6 of 10 countries reported that there is no law in their country for the supervision of VPPs. ▪ Only 1 in 10 countries stated that VPPs can work independently of a veterinarian and not be supervised. ▪ 3 of 10 countries require supervision of VPPs.
3. Writing prescriptions for VPPs	<ul style="list-style-type: none"> ▪ 8 out of 10 countries stated there are no laws prohibiting the writing or sale of prescriptions by VPPs.
4. Private practice	<ul style="list-style-type: none"> ▪ 90% of the countries reported that VPPs can work in private practice to do clinical work independent of a veterinarian.
5. Delegation of authority	<ul style="list-style-type: none"> ▪ All countries stated there was a law for delegation of authority (e.g., sanitary mandate contracts).

2.2.4 Education

For the category of education, seven indicators were reviewed and their findings at the regional level can be reviewed in Table 5.

Table 5. Findings from PVS pathway reports for Central Asia region related to education.

Indicator	Findings (Regional Level)
1. Existing training for VPPs	<ul style="list-style-type: none"> ▪ All countries have existing training for VPPs.
2. Type of VPTI ¹	<ul style="list-style-type: none"> ▪ There is a wide range of VPTIs within all countries and most VPPs are either taught within veterinary colleges or a separate VPP training institution with the average training time between 2 – 3 years. ▪ Only one country reported using NGOs for training VPPs.

3. VPP qualifications	<ul style="list-style-type: none"> 20% of the countries reported qualifications at a diploma level and the remaining countries did not have a level of qualifications in their report for VPPs.
4. Training accessibility	<ul style="list-style-type: none"> None of the reports provided information as to whether trainees from all areas of the country have the opportunity of access to training.
5. Curricula standards	<ul style="list-style-type: none"> 5 out of 10 countries reported that curricula is standardised and set by the Ministry of Education. Only one country included joint review of the curriculum by the Ministry of Education and Sciences and Ministry of Agriculture. One country included standards through a skills agency. All other countries reported veterinary faculty developed curricula without review by a Ministry or authority.
6. Graduates	<ul style="list-style-type: none"> Country ranges of VPP graduates were from “not reported” to 18,000 annually.
7. Tracking graduates	<ul style="list-style-type: none"> Either countries did not report on the metric or of those that did, all stated the current system for tracking graduates is unreliable.

¹ = VPTI (Veterinary Paraprofessional Training Institution)

2.2.5 Development/Operational Field Level

For the category of development/operational field level, six indicators were reviewed and their findings at the regional level can be reviewed in Table 6.

Table 6. Findings from PVS pathway reports for Central Asia region related to development/operational field level.

Indicator	Findings (Regional Level)
1. Regional accessibility to services	<ul style="list-style-type: none"> 30% of the countries responded that there is accessibility for VPPs in rural areas; however, many are contracted out. 70% of the reports did not contain information from this indicator.
2. Skills	<ul style="list-style-type: none"> Due to this being remote work, most countries had limited access for VPPs or veterinarians to work in rural areas due to low pay.
3. Clinical services by NGOs	<ul style="list-style-type: none"> 2 out of 10 countries utilise NGOs for clinical services within their countries.
4. Incentive programming	<ul style="list-style-type: none"> Only 1 out of 10 countries discussed government incentive programmes for personnel to work in under-served areas.
5. Animal healthcare service model	<ul style="list-style-type: none"> There was no information obtained in any of the PVS reports for which a country a support animal healthcare services to provide clinical service delivery in under-served areas on a fee-for-service basis.

Part 3: Conclusions

Part 1: Pre-workshop survey

The findings from the pre-workshop survey, together with data from WAHIS and from previous regional surveys, show that veterinarians and VPPs play an important role in the veterinary services in

the regions, both in terms of their proportion of the workforce, and in terms of their tasks and duties. The majority of VPPs work in animal-health-related functions in the public sector.

Most countries see a growth in women's participation in veterinary studies and in the veterinary workforce, but do not necessarily have strategies to support women's career pathways.

Legislative frameworks that recognise VPPs vary between countries, and there is potential for further development and refinement of legislative and regulatory terms and scope of work for VPPs, including with regulation of the professions through VSBs.

Awareness of the WOAAH Competency and Curricula Guidelines for VPPs can be developed through further efforts related to VPP education.

Materials related to the WOAAH Virtual Regional Awareness Raising Workshop on Veterinary Workforce and VPPs are available here:

<https://rr-asia.oie.int/en/events/oie-virtual-regional-awareness-raising-workshop-on-veterinary-workforce-and-vpps/>

Part 2: PVS report regional review

The findings from the PVS review, show that the establishment of regulating organisations or VSBs are pivotal for an enabling environment in the veterinary workforce. Additions to the laws over the standards of conduct for VPPs should be added to legislation. Better defined development of job descriptions and categories of VPPs compared to veterinarians will help to more clearly define the line between veterinarians and VPPs.

References

Technical item for WOAAH Tunisia regional commission, 2019 [technical20item201-veterinary20paraprofessionals20their20governance20and20role20in20improving20animal20health20and20welfare20in20africa-final.pdf \(woah.org\)](#)

WAHIS Data

Survey template online:

[Pre-meeting survey for OIE Workshop on Veterinary Workforce and VPPs \(Copie\) \(office.com\)](#)

WOAH Asia Pacific Workforce survey report 2021: [workforcesurveyreport_09082021-oie-review.pdf \(woah.org\)](#)

WOAH Asia Pacific Workforce survey presentation 2021: [PowerPoint Presentation \(woah.org\)](#)

Annexes

Annex A: Questions from Pre-Meeting Survey for WOAH Workshop on Veterinary Workforce Development in Central Asia and the Caucasus Countries

Number	Question and Category Description
1	Which WOAH Member do you represent?
2	Your name
3	Designation/job title
4	E-mail
5	In your country's current veterinary workforce, are you facing any of the following or similar situation? Please tick all that apply and also suggest more as appropriate.
6	Does your country regularly review the human resource needs within the veterinary workforce, such as numbers of veterinarians or VPPs needed?
7	If yes to question 6, how often?
8	Are there any government-supported programmes to encourage young people to study to become veterinarians or VPPs, such as scholarships or subsidies to study, school awareness programmes, etc.?
9	If yes in question 8, please indicate the name of such programmes.
10	Does the government contract/hire private veterinarians or VPPs to carry out work that is usually the responsibility of public sector veterinarians or VPPs?
11	If yes in Question 10, please provide examples of such.
12	Are there any government/donor/micro-finance/NGO or other programmes that support the set-up or running costs for private VPPs, such as loans or grants to be self-employed and/or to set up in rural areas?
13	If yes in question 12, please provide names if possible.
14	Do you see growth in women's participation in the veterinary workforce, e.g., veterinarians or VPPs?
15	Are there formal efforts by the Veterinary Authority to promote women in the veterinary workforce towards decision-making roles?
16	If yes in question 15, please indicate the names of such efforts.
17	Do any private veterinarians employ or work win collaborations with any VPPs?
18	Are VPP's allowed to work privately and independently of a veterinary supervisor?
19	Does your country have an intention to create a Veterinary Statutory Body (VSB) regulating the veterinary and para-veterinary profession?
20.	What kind of functions/tasks do VPPs undertake in your country in PUBLIC sector (State Veterinary Service)? Select all that apply.
21	What kind of functions/tasks do VPPs undertake in your country in PRIVATE sector (private veterinary service, industry)? Select all that apply.
22	To what extent does your country's veterinary legislation (e.g., Veterinary Practice Act and/or associated regulations) enable VPPs to participate in the veterinary workforce? Select all that apply?
23	Who accredits (officially approves) the formal qualification (Degree/Diploma/Certificate) of VPPs in your country? Select all that apply.
24	Does your Veterinary Education Establishment (VEE) have a plan/interest to get and international accreditation (e.g., from European Association of Establishments for Veterinary Education – EAEVE, etc)?
25	Have the WOAH Competency and/or Curricula Guidelines for VPPs been reviewed or used by Veterinary Services or the stakeholders responsible for VPP training?
26	Please feel free to add any comments which may be relevant.

Annex B: PVS Questions by Category

Category	Indicator	Question
Human Resources	System for monitoring and evaluating HR needs for the VS	1. Do you have a system for monitoring and evaluating human resource needs for the VS? Is there any kind of sectoral workforce review e.g., By training institutions, veterinary associations or VSB evaluating workforce needs? If so, are the results available?
	Veterinarians	2. # veterinarians (public service, private practice)
	VPPs	3. # VPPs – if available, in which track (VPH, animal health, laboratory). What are they called?
	VPP categories recognised	4. Are there different recognised categories of VPP? If so, what are they called, e.g., Animal Health Technician, Livestock Assistant, etc.). How are categories defined (e.g., based on different levels of training)?
	Job descriptions with qualifications	5. Are there clear job descriptions with clear qualifications? If so, how? Is there a way for linking jobs with specific qualifications and regulation around these?
VSB or Other Regulating Mechanism	VSB regulation	6. Is there any regulation of the veterinary professions? If so, is it by a VSB or other mechanism?
	Personnel categories regulated	7. What categories of personnel does it regulate – Vets, VPPs, or others?
	Code of conduct	8. Is there a code of conduct? If so, for which categories?
	Corrective measures	9. Can the VSB take disciplinary actions?
	Education, training, curriculum development and accreditation	10. Does the VSB play a role in education, in the planning of training/curricula? in accrediting faculties/curricula/facilities? If not, what body is responsible?
	Licensing	11. If they license, how long is the license valid for? for vets? for VPPs? How is it renewed? Is there a Continuing Education (CE) requirement linked to license renewal?

	Accreditation implementation	12. Who is responsible for organising, delivering and accrediting CE? Does the VSB set the requirements for CE and who delivers it?
Legislation	Legislation of Veterinarians and VPPs	13. Do they have law for regulating professions? If so, does it reference VPPs?
	Supervision of VPPs	14. Does it discuss for VPPs: a) Requirement for supervision defined?
	Writing prescriptions for VPPs	15. Does it discuss for VPPs: b) Allowed or prohibited to write prescriptions?
	Private practice	16. Does it discuss VPPs: c) Are VPPs allowed to work in private practice? Specifically, to do clinical work, diagnose and treat animals, work independent of veterinarian?
	Delegation of authority	17. Is there law for delegation of authority e.g., Sanitary mandate contracts (e.g., TB testing)
Education	Existing training for VPPs	18. Is there existing training for VPPs?
	Type of VPTI ¹	19. If so, how many training institutions? What is their nature? (University, vocational school, high school, NGO training centre, other)
	VPP qualifications	20. What qualifications are issued for VPPs? (Certificate, diploma, degree, other)
	Training accessibility	21. Do trainees from all areas of the country have the opportunity of access to training?
	Curricula standards	22. Who is responsible for setting curricula standards?
	Graduates	23. How many graduates are there annually?
	Tracking graduates	24. Are graduates tracked and how? (e.g., what jobs do they do, # employed, # unemployed)
Development/ Operational Field Level	Regional accessibility to services	25. Are there under-served regions which have less access to veterinary/para-veterinary services?
	Skills	26. What kind of personnel work in rural and remote areas?
	Clinical services by NGOs	27. Do NGOs or non-government agencies play a role in providing clinical veterinary services?

	Incentive programming	28. Are there incentive programmes for personnel to work in under-served areas?
	Animal healthcare service model	29. Would your country support animal healthcare services to provide clinical service delivery in under-served areas on a fee-for-service basis?

¹ = VPTI (Veterinary Paraprofessional Training Institution)

Note: current annex only includes questions pertaining to veterinarians and VPPs from the PVS analysis. Any information on community animal health workers (CAHWs) has been excluded for this region.