



## International Health Regulations (IHR) and the Performance of Veterinary Services (PVS) National Bridging Workshop in Nepal

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**19-21 March 2024**

**Kathmandu – Nepal**



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization



World Organisation  
for Animal Health  
Founded as OIE



Participants attending the IHR-PVS National Bridging Workshop



**Guests at the opening session** - Honorable Upendra Yadav, Deputy Prime Minister and Minister, Ministry of Health and Population (MoHP); Honorable Jwala Kumari Shah, Minister, Ministry of Agriculture and Livestock Development (MOALD); Dr. Roshan Pokhrel, Secretary, MoHP; Dr. Rewati Raman Poudel, Secretary, MoALD; Dr Tanka Prasad Barakoti, Additional Secretary, MoHP, Dr Sangeeta Kaushal Mishra, Director General, Department of Health Services (DoHS); Dr Umesh Dahal, Director General, Department of Livestock Services (DLS); Dr Samjhana Kafle, Joint Secretary, MoALD; Mr. Ken Shimizu, FAO Country Representative for Nepal and Bhutan; Dr Allison Gocotano, Acting WHO Representative to Nepal.

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## ABBREVIATIONS & ACRONYMS

ADB	Asian Development Bank
AI	Avian Influenza
AITC	Agriculture Information and training Center
AMC	Anti-microbial Consumption
AMR	Anti-microbial Resistance
AMU	Anti-microbial Use
AST	Anti-microbial Sensitivity Test
CVL	Central Veterinary Laboratory
DFTQC	Department of Food Technology and Quality Control
DoENV	Department of Environment
DoHS	Department of Health Services
DLS	Department of Livestock Services
DG	Director General
DGHS	Director General of Health Services
DNPWC	Department of National Park and Wildlife Conservation
EDCD	Epidemiology and Disease Control Division
EMT	Epidemiology Mapping Tool
FAO	Food and Agriculture Organization of the United Nations
FETP	Field Epidemiology Training Programme
FP	Focal Point
HQ	Headquarters
IHR	International Health Regulations (2005)
JEE	Joint External Evaluation
LRP	Learning Resource Package
MEF	Monitoring and Evaluation Framework
MoALD	Ministry of Agriculture and Livestock Development
MoHP	Ministry of Health and Population
MoU	Memorandum of Understanding
MS	Microsoft
NAP AMR	National Action Plan for AMR
NARC	National Agriculture Research Centre
NBW	National Bridging Workshop
NPHL	National Public Health Laboratory
NHTC	National Health Training Centre
NHEICC	National Health Education, Information and Communication Centre
NID	National Investigation Department
NSP	National Strategic Plan
OH	One Health
OH SC	One Health Steering Committee
OH TCC	One Health Technical Coordination Committee
PH	Public Health
PHEIC	Public Health Emergency of International Concern
PPHL	Province Public Health Laboratory

PVS	Performance of Veterinary Services
RRT	Rapid Response Team
RT-PCR	Reverse Transcription Polymerase Chain Reaction
SOP	Standard Operating Procedures
SPAR	State Party Self-Assessment Annual Reporting
TOR	Terms of Reference
TOT	Training of Trainers
TAWG	Technical Area Working Group
TWG	Technical Working Group
VL	Veterinary Laboratory
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization
WOAH	World Organisation for Animal Health

# INTRODUCTION

## BACKGROUND

- The Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), and the World Organisation for Animal Health (WOAH) are the main international organizations responsible for proposing references and guidance for the public health and animal health sectors respectively. This Tripartite has been active promoters and implementers of an intersectoral collaborative approach between institutions and systems to prevent, detect, and control diseases among animals and humans.
- WHO Member States adopted a legally binding instrument, the International Health Regulations (IHR, 2005), for the prevention and control of events that may constitute a public health emergency of international concern (PHEIC). Various assessment and monitoring tools have been developed by WHO such as the IHR Monitoring and Evaluation Framework (MEF), which includes inter alia the State Party Self-Assessment Annual Reporting (SPAR) and the Joint External Evaluation (JEE) Tools.
- WOAH is the organisation responsible for developing standards, guidelines and recommendations for animal health including zoonoses and animal welfare; these are laid down in the WOAH Terrestrial and Aquatic Animal Health Codes and Manuals. WOAH has been recognized as a standard setting organization for animal health by the World Trade Organisation (WTO). WOAH has also developed the Performance of Veterinary Services (PVS) Pathway, which is composed of a range of tools to assist countries in the evaluation of the capacities of their veterinary services and in addressing their weaknesses.
- The FAO promotes One Health through works on food security, sustainable agriculture, food safety, antimicrobial resistance (AMR), nutrition, animal and plant health, fisheries, and livelihoods. The application of a One Health approach is critical for achieving the UN 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (SDGs).
- The WHO IHR-MEF and the WOAH PVS Pathway assessments allow countries to determine strengths and weaknesses in their respective functions and promote prioritization and pathways for improvement. Furthermore, they engage countries in a routine monitoring of their overall level of performance and help to determine their needs for compliance with internationally adopted standards.
- The joint use of WHO IHR-MEF and PVS Pathway tools can result in better alignment of capacity building approach and strategies between human and animal health services of a country. The IHR-PVS National Bridging Workshop (NBW) is a three-day workshop which brings together stakeholders from both sectors to work on the linkages between these frameworks and develop joint planning to improve their collaboration.
- The workshop follows a methodology developed by WHO and WOAH and tested in more than fifty-four countries. The method used is very dynamic and interactive, based on group exercises with a gamified approach and user-friendly materials which enables the identification of synergies, the review of gaps and the development of a joint roadmap between the two sectors.

In Nepal the following assessments were conducted:

- a PVS Follow up Evaluation was conducted in September 2023
- a Joint External Evaluation (JEE) was conducted in November-December 2022

## OBJECTIVES OF THE WORKSHOP AND EXPECTED OUTCOMES

The main objective of the IHR-PVS NBW was to provide an opportunity to human and animal health services primarily, and other relevant sectors of hosting countries to review their current collaboration gaps in key technical areas. It also enables them to develop a joint roadmap of corrective measures and strategic investments to improve the collaborative work at the animal-human interface in the prevention, detection and control of zoonotic diseases and other health threats. The opportunity was now extended to other sectors such as environment/wildlife, food safety, AMR applicable in the host country. The IHR-PVS NBW focuses on the following strategic objectives:

- **Increased awareness and understanding on the IHR-MEF and the WOA H PVS Pathway**, their differences and connections.
- **Understanding of the contribution of the veterinary services in the implementation of the IHR (2005)** and how the results of the PVS Pathway and IHR-MEF can be used to explore joint strategic planning.
- **Diagnosis of current strengths and weaknesses** in the collaboration between animal health, human health and environmental health services for 15 key technical areas.
- **Identification of practical next steps** and activities, and development of a joint national roadmap to strengthen collaboration and coordination between the two sectors, and environmental sector.

The agenda of the Workshop is available at [Annex 1](#).



The NBW road poster illustrates the process, with actors from relevant sectors coming together to work through the 7 sessions that lead to the development of a joint NBW Roadmap



## REPORT ON THE SESSIONS

Upon request from the Government of Nepal, the Food and Agriculture Organization (FAO), the World Health Organization (WHO), and the World Organisation for Animal Health (WOAH) provided technical and financial support to organize the National Bridging Workshop (NBW) for Nepal. The Workshop was held from 19-21 March 2024 at Gokarna Forest Resort in Kathmandu. On 18 March, the international facilitators provided an orientation training for the national facilitators and technical staff of WHO and FAO country offices.

The workshop was attended by around 134 national participants from key national institutions (Ministry of Health and Population-MoHP, Ministry of Agriculture and Livestock Development-MoALD, Ministry of Environment/Wildlife) and representatives from Food Safety, Agriculture, and Security sectors. The participants also comprised representations from national and provincial levels, and few from the district level. In addition, the workshop was attended by the officials of country offices of WHO, FAO, UNICEF (United Nations International Children's Emergency Fund) and USAID (United States Agency for International Development). The workshop used an interactive methodology and a structured approach with user-friendly material, scenario-based exercises, videos and facilitation tools. All the participants received a *Participant Handbook v6.1* which comprised all necessary information such as the objectives of the workshop, instructions for working group exercises, expected outcomes of each session etc. The workshop was structured in a step-by-step process comprising seven different sessions which are summarized below.

### OPENING SESSION

An extended opening ceremony was organized with Ministers, Secretaries, Joint Secretaries, Director Generals from the two key Ministries gracing the occasion and providing the opening remarks. The workshop opened with the traditional lighting of the oil lamp, followed by the national anthem of Nepal.

The opening session's Master of Ceremony was Dr Gokarna Dahal and chaired by the Hon'ble Deputy Prime Minister and Minister, Ministry of Health and Population (MoHP). Welcoming remarks was provided by Dr. Madan Kumar Upadhyaya, Member Secretary, Federal One Health Steering Committee, MoHP.

A joint country One Health presentation was provided by Dr Rudra Prasad Marasini, Director of Epidemiology and Disease Control Division (EDCD). He started with the adage that 'a threat anywhere is a threat everywhere' and 'When health is at risk, everything is at risk'. He explained how the health of humans is connected to the health of animals and the environment and 60% of existing human infectious pathogens are zoonotic and 75% of the emerging infectious diseases originated in animals. He stated that 87% of population keep some livestock at home in Nepal, which is one of the highest humans to livestock ratios (~ 5.8 livestock per household) in Asia. Also considering the increasing interaction between wildlife and human population due to encroachment of natural habitat of wildlife and the country falling on the Central Asian Flyway and winter habitat for migratory birds poses a greater risk for spillover and emergence of zoonotic diseases.

Regarding the One Health initiatives in the country, he outlined that the 'One Health Strategy 2076' was endorsed by Government of Nepal in 2019 which incorporates Federal One Health Steering Committee (OH SC) and Federal One Health Technical Coordination Committee (OH TCC) establishment along with TORs. Since then, increasing level of collaboration between public health and animal health sectors in the control of main zoonotic diseases is taking place. Some examples of joint activities included joint outbreak investigation of rabies in outbreak sites, coordination, and collaboration for avian influenza (highly

pathogenic avian influenza) outbreak investigation and control, capacity building on diagnostics for Nipah virus and anthrax, and regular information sharing on AMR data. The last Federal OH SC Meeting was held in February 2024.

The presentation highlighted that a zoonotic disease prioritization was done in 2021 with involvement of public health, animal health, environment, food safety and wildlife sectors. A list of prioritized zoonotic disease included influenza, rabies, corona virus (SARS, MERS and SARS-COV-2), leptospirosis, brucellosis, salmonellosis, leishmaniasis, zoonotic tuberculosis, cysticercosis/hydatidosis, and toxoplasmosis.

His presentation also highlighted key actions being taken to address AMR in the country and to detect and respond to outbreaks of highly pathogenic avian influenza (HPAI). He also stated that the JEE assessment was done in November-December 2022 and various PVS pathway missions completed including the PVS follow-up mission in September 2023. Nepal has developed the National Action Plan for Antimicrobial Resistance (NAP AMR) which was approved on 2080 Falgun 14 (26 February 2024).

Referring to the recent COVID-19 pandemic, he emphasized the uncertainty of such events and the urgent need for vigilant preparedness in preventing, detecting, and responding to health emergencies. He noted that while COVID-19 was considered a Disease X, there is still the possibility of another Disease X emerging. Therefore, it is crucial to strengthen the collaboration among different sectors as it would be much cheaper and more effective if actions are taken jointly and collaboratively. He closed his presentation by stating that the NBW is an effective and tested tool being organized in Nepal to strengthen the collaboration between the two key sectors of MoHP and MoALD, along with other sectors of food, wildlife and environment.

Opening remarks were delivered by Mr Ken Shimizu, FAO Country Representative for Nepal and Bhutan; Dr Allison Gocotano, Acting WHO Representative to Nepal; and Dr Hirofumi Kugita, WOAHA Regional Representative through a recorded video. Dr Umesh Dahal, Director General, Department of Livestock Services (DLS); Dr Sangeeta Kaushal Mishra, Director General, Department of Health Services (DoHS); Dr Rewati Raman Poudel, Secretary, Ministry of Agriculture and Livestock Development (MoALD); Dr Roshan Pokhrel, Secretary, Ministry of Health and Population (MoHP) also provided their opening remarks. After Hon'ble Minister Jwala Kumari Sah, Ministry of Agriculture and Livestock Development (MoALD) provided her keynote address, the Honorable Upendra Yadav, Deputy Prime Minister and Minister of Ministry of Health and Population (MoHP) provided his keynote address. All the speakers expressed the significance of the One Health approach and the need for all sectors to collaborate and coordinate their efforts to address issues encompassing zoonoses, AMR, Food Safety and Environment.

A handing over ceremony of the Federal One Health Steering Committee and Federal One Health Technical Coordination Committee from the MoPH and Population to MoALD was conducted before the start of the technical sessions. The existing chair of the OH SC was Minister of the MoHP, which was handed over to the MoALD. Similarly, the Chair of the OH TCC was handed over from the Director General of DoHS to DG of DLS.

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## SESSION 1: THE ONE HEALTH CONCEPT AND NATIONAL PERSPECTIVES

The workshop approach and methodology were presented by Dr Sithar Dorjee (Consultant, WHO SEARO), and the participant handbook was presented. It was reiterated that the meeting was neither an evaluation nor a training, but a consultative workshop aimed at developing a national roadmap to improve the collaboration between the sectors. The international facilitators also included Dr Kinzang Dukpa, Dr Pasang

Tshering and Dr Yin Myo Aye who took turns to lead the conduct of the different sessions.

A documentary video introduced the One Health Concept, its history, rationale, and purpose and how it became an international paradigm. The video also introduced the workshop in the global and national context by providing high level background information on the collaboration between FAO, WHO, and WOA. H.

Following the sector presentations, a second documentary video provided participants with concrete worldwide examples of intersectoral collaboration in addressing health issues at the human-animal interface for various key technical areas such as surveillance, response, and communication among others. To make the session interesting, Mentimeter® sessions were held in which quizzes were administered for the participants to actively participate and results projected on the screen on a real time basis.

### Outcomes of Session 1:

At the end of the session, the audience agreed that:

- Intersectoral collaboration between animal and human health sectors happens, but mainly during outbreaks and on an ad hoc basis; with a better coordination mechanism and preparedness, much more could be done at the human-animal interface.
- The three sectors have common concerns and challenges and conduct similar activities. Competencies and resources exist and could be pooled or shared. This needs to be organized through a collaborative approach.
- FAO, WHO, and WOA. H. are active promoters of One Health and can provide technical assistance to countries to help enhance inter-sectoral collaboration at the central, local and technical levels.

## SESSION 2: NAVIGATING THE ROAD TO ONE HEALTH – COLLABORATION GAPS

Participants were divided into five working groups of mixed participants from the two key Ministries of MoHP and MoALD mainly, but also from other sectors such as environment/wildlife, food safety, AMR, and other regulatory bodies, and from different administrative levels (central, provincial, and district levels). Each group was provided with a case scenario (Table 1) based on the priority diseases relevant to the local context (Avian Influenza, Rabies, Brucellosis, Salmonellosis, Environmental contamination). The case scenarios were developed in collaboration with national representatives.

Table 1: Five scenarios used for the different case studies.

**Avian Influenza (Disclaimer: this case is entirely fictitious)**

Two persons were admitted at the Sukraraj Tropical and Infectious Disease Hospital, Teku-Kathmandu with acute onset of fever, cough, and chest pain. Laboratory testing by RT-PCR resulted positive for Avian Influenza H5N1 subtype. One of the patients is a semi-commercial broiler producer who sells his birds three times a week at the local live bird market. The other patient reported having visited the same market 7 days prior to disease onset and bought four chickens. There was a report of Avian Influenza A outbreaks in several chicken and duck farms around Kathmandu valley 2 weeks before by the Central Veterinary Laboratory which was confirmed to be H5N1 sub-type.

Based on this case scenario and experiences from the previous outbreaks of zoonotic influenza, discuss on how you would realistically manage this event particularly to prevent bird to human transmission and identify the existing gaps to manage this outbreak. Please use the 15 technical cards (provided by the facilitators) to rank the levels of collaboration and coordination between the sectors.

**Rabies (Disclaimer: this case is entirely fictitious)**

A case of rabies was confirmed in a dairy cow recently inseminated and regularly milked, which generated panic in the precinct of Musikot Municipality, Gulmi. A stray dog known to have bitten two cows and showing aggressive behavior towards people was reported to have bitten some children playing in the same area. The dog was killed by the community people two days ago. The dog's carcass was destroyed before the veterinary authorities could take the dog samples for confirmation of diagnosis. It is worth noting that 2 jackals were found dead in the forest near the locality in the previous week.

Based on this case scenario and experiences from the previous outbreaks of rabies, discuss on how you would realistically manage this event both in dogs and humans and to prevent further cases of human exposure to the rabies event in the locality and identify the gaps to manage this and future outbreaks. Please use the 15 technical cards (provided by the facilitators) to rank the levels of collaboration and coordination between the sectors.

**Brucellosis (Disclaimer: this case is entirely fictitious)**

During the last month, three goats all belonging to a small-holder farmer in the Godawari, Kailali aborted. At the time of the first two abortions, the farmer did not bother to report the problem to his local veterinary officer as his farm was too far away from a district veterinary office. However, the third abortion took place a day before market day, and he was in town, where he met a district veterinarian and mentioned that 3 of his goats had recently aborted. After investigation, the veterinary services realized that some goats from this farm had been smuggled from a neighbouring country. The herd was stamped out. Samples were taken from the 3 goats that had aborted and sent to the Central Veterinary Laboratory for confirmation of diagnosis. The three samples tested positive to brucellosis.

Based on this case scenario and experiences from the previous outbreaks of brucellosis, discuss on how you would realistically manage risk and this event, and identify the gaps to manage this outbreak. Please use the 15 technical cards (provided by the facilitators) to rank the levels of collaboration and coordination between the sectors.



**Salmonellosis (Disclaimer: this case is entirely fictitious)**

Ninety people in Mandandeupur, Kavrepalanchowk sought medical attention when they suffered high fever, nausea, diarrhea and severe abdominal pain, 12-72 hours after eating dinner at a marriage party in a prominent hotel. The large majority of the patients had eaten egg curry and chicken. Of these, 55 individuals (45 were children below 20 years old, 5 patients were between 21-70 years old, and 5 were seniors - 71 years and above) were hospitalized. All recovered within 10 days. The laboratory test result showed positive for Salmonella species. The General Manager of the hotel said that it sourced its eggs from a supplier operating an organic backyard farm, and that the hotel stored its eggs according to food safety standards.

Based on this case scenario and experiences from the previous outbreaks of zoonotic salmonellosis, discuss how you would realistically manage this event and identify the gaps to manage this outbreak. Please use the 15 technical cards (provided by the facilitators) to rank the levels of collaboration and coordination between the sectors.

**Environmental contamination (Disease X)**

**River ecosystem collapse (Disclaimer: this case is entirely fictitious)**

A major die-off event of fish, birds, and other freshwater species has been reported in Koshi River, Near Biratnagar Metropolitan City. In a stretch of a total of 15 km, the river ecosystem has collapsed entirely, and dead organisms and foam patches with a strong odor are continuing to float down the river, which will affect downstream villages and cities. This major die-off event has been covered by national and international media and has gone viral on the internet.

There are reports of livestock along the river showing botulism-like symptoms. Initial investigations have shown an increased level of salinity in the water, which might be connected to climate change, however, in the region there are untreated wastewater discharges of local communities and a few factories and reports of unsustainable land use practices in watershed that suggest possible water contamination.

Based on this case scenario discuss how you would realistically manage this event and identify the gaps to manage the die-off in animals and possible impact on human health. Please use the 15 technical cards (provided by the facilitators) to rank the levels of collaboration and coordination between the sectors.

Using the experiences from the previous outbreaks of zoonotic diseases and a case of environment contamination in the country, the groups discussed how they would have realistically managed these events, and evaluated the level of collaboration between the veterinary, the public health services and other sectors for 15 key technical areas. These activities/ areas of collaboration were represented by color-coded *technical area cards*: green for “good collaboration”, orange for “moderate collaboration”, and red for “collaboration needing improvement” [Figure 1(a) – 1(c)].

### 15 Technical areas

Coordination at the High Level  
Coordination at the Local Level  
Coordination at the Technical Level  
Legislation and Regulations  
Finance  
Communication with Media  
Communication with Stakeholders  
Filed Investigation  
Surveillance  
Risk Assessment  
Laboratory  
Response  
Human resources  
Emergency funding  
Education and Training

Figure 1(a)



Figure 1(b)



Figure 1(c)

*Figure 1(b) & (c):* Participants working on Avian Influenza case scenario (left) are evaluating the level of collaboration between the sectors for 15 key technical areas and placing of the cards on the road arrow (Salmonellosis group) (right).

The exercise was followed by a plenary session where each group presented and justified the results of their findings. Overall, it was apparent that there were significant gaps as all the 15 technical areas cards were only red and orange and not a single green card was selected. [Output 1](#) provides the detailed results from each disease group.

### **Outcomes of Session 2:**

- Areas of collaboration were identified, and joint activities discussed.
- Level of collaboration between the two sectors for 15 key technical areas was assessed ([Output 1](#)).
- The main gaps in the collaboration were identified.

## SESSION 3: BRIDGES ALONG THE ROAD TO ONE HEALTH

Documentary videos introduced the international legal frameworks followed by human health (IHR 2005) and animal health (WOAH standards) as well as the tools available to assess the country's capacities: the annual reporting and JEE tools for public health services and PVS Pathway for veterinary services. The differences and connections between these tools were explained. A large matrix (IHR-PVS matrix), cross-connecting the indicators of the IHR MEF (in rows) and the indicators of the PVS Evaluation (in columns) was set-up and introduced to the participants (Figures 2 and 3).

Through an interactive approach, working groups were invited to plot their *technical area cards* onto the matrix by matching them to their corresponding indicators. A plenary analysis of the outcome showed clear gap clusters and illustrated that most gaps were not disease-specific but systemic.



**Figure 2:** Participants mapping the technical assessment of collaboration for each disease at the intersections/linkages between the JEE and PVS indicators.



**Figure 3:** Mapping of the strengths and gaps by positioning the technical assessment cards from all diseases/scenarios on the IHR-PVS matrix, providing an overview of collaboration at systemic level.

The main gaps (clusters) identified were discussed, this time on a systemic level (all diseases combined). Overall, we could see that there are significant gaps in the collaboration across all 15 technical areas as there were no green cards but only orange and red cards. Only the collaboration of Laboratory and Workforce Development technical areas were better, depicted by either all orange or one or two red cards and rest orange. Notably, some key areas such as coordination, communication, surveillance, outbreak investigation and response, legislation, finance or risk assessment were the areas showing significant systemic gaps as there was majority red or equal orange and red cards on the matrix.

For the second half of the workshop, new working groups called the Technical Area Working Groups (TAWG) were established. These groups were organized by the following technical area to ensure that all aspects of collaboration needing improvement were addressed:

- Group A: Coordination
- Group B: Communication
- Group C: Field Investigation and Response
- Group D: Surveillance and Laboratory
- Group E: Workforce Development

### Outcomes of Session 3:

- Improved the understanding that tools are available to explore operational capacities in each of the sectors.
- Improved the understanding of the contribution of the veterinary sector to the IHR.
- Improved the understanding of the bridges between the IHR MEF and the PVS Pathway. Enabled to identify synergies and optimize collaboration by reviewing together the results of capacities assessments.
- Ascertained the understanding that most gaps identified were not disease-specific but systemic.

## SESSION 4: CROSSROADS – PVS PATHWAY AND IHR MEF REPORTS

Each TAWG consisted of a diverse group of officials from various sectors and administrative levels. Participants with an interest in a specific technical area, based on their background and expertise, were encouraged to join a group voluntarily. However, to ensure balanced group sizes and representation from different sectors, some participants were reassigned to other groups as needed.

The matrix on an A1 size sheet was used to link the identified gaps to their relevant indicators in the IHR MEF and in the PVS Pathway. Each working group reviewed the assessment reports (JEE, PVS Evaluation) to extract the main gaps and recommendations pertinent to their technical area (Figure 4). Additionally, the results from the recent 2023 assessment using the FAO Epidemiology Mapping Tool (EMT) were reviewed for the workforce development technical area.





*Figure 4: Participants extracting the results from the PVS and JEE reports.*

#### **Outcomes of Session 4:**

- Participants got a good understanding of the assessment reports for both sectors, their purpose and their structure.
- The main gaps relevant to each technical area and related to coordination and collaboration between sectors were extracted.
- Similarly, the main recommendations from the others existing reports (e.g. FAO's EMT assessment), were extracted.

### **SESSION 5: ROAD PLANNING**

Participants, using the same working groups from the previous session, were tasked with identifying priority activities for each technical area that sectors should implement to enhance future collaboration. This brainstorming session drew on several information sources:

- The report sheets from Session 2, which highlighted key gaps in all technical areas and for different diseases/case studies.
- The key gaps and recommendations extracted from the JEE and PVS reports during Session 4.
- The technical activity cards, which provided examples of potential joint activities on their reverse sides.

- Most importantly, the experiences of participants who work daily in human health, veterinary and environmental health, and other sectors in Nepal.

An example of the identified activities is shown in Figure 5.



*Figure 5: After some deliberation the group working on “Communication” identified 3 joint objectives and 8 joint activities to improve the collaboration between the sectors in this technical area.*

#### **Outcome of Session 5:**

- Clear and achievable activities were identified to improve inter-sectoral collaboration between the sectors for all selected priority technical areas.

### **SESSION 6: FINE-TUNING THE ROAD-MAP**

After discussing and validating the brainstormed activities with international and national facilitators, participants were instructed to fill out Activity Cards for each proposed activity. They detailed the desired date of implementation, responsible lead focal points, and the specific process for carrying out the activity. The importance of identifying activities that were as operational as possible, with clear and precise actionable steps, was emphasized during this drafting process.

The difficulty of implementation and the expected impact of each activity were assessed using red and blue round stickers, respectively, on a semi-quantitative scale: 1 for less difficult to implement or less impact, and 3 for most difficult to implement or high impact.

Activity cards that were related by theme or process were then grouped under a single Objective card, with an objective defined to begin structuring the roadmap.

A World Café exercise was organized to allow participants to contribute to the outputs of all technical working groups (Figure 6). Each group had a rapporteur stationed by their group's flip chart, responsible for summarizing their group's work to others and attaching comments and feedback from other groups on post-it notes to the appropriate positions on the flip chart. The groups rotated among the different flip charts/stations, providing feedback on the roadmap objectives and activities identified by other groups. When amendments or clarifications were necessary, the rotating groups left their comments on post-it notes.

At the end of the World Café, each group returned to their original board, where the rapporteur summarized the feedback received. The groups had 20 minutes to address any changes or additional activities suggested by other participants, and they fine-tuned the objectives and activities accordingly.

In total, the five groups identified 14 key objectives and 40 activities. The detailed results are presented in [Output 2](#).



*Figure 6: The world café session allowed all participants to visit each station/group table in rotation to provide comments and inputs via post-it notes on the different roadmap sections drafted by other groups.*

### **Prioritization of Objectives**

To prioritize the objectives identified by the technical working groups, each participant was given five small white stickers. They were instructed to use these stickers to vote for the five objectives (and their associated activities) they considered the highest priority.



A total of 392 votes were cast, and the top five objectives prioritized by the participants were:

- To achieve effective and functional One Health communication mechanism (57 votes).
- To strengthen One Health workforce capacity and facilitate development of HR surge capacity/roster of expert plan (47 votes).
- To establish a harmonized One Health surveillance system to monitor and detect zoonotic pathogens at human-animal-environment interface (41 votes).
- To enhance operationalization of One Health governance in all three administrative levels (40 votes).
- To Enhance preparedness and capacity for coordinated field investigation and response (34 votes).

The number of votes for each objective is shown in the NBW Roadmap ([Output 2](#)) and examples of final roadmap activities are shown in Figure 7.



Figure 7: Example of the final Roadmap prepared for ‘Coordination’, ‘Surveillance and Laboratory’, and ‘Workforce Development’ technical areas.

### Outcomes of Session 6:

- Harmonized, concrete and achievable roadmap to improve the coordination and collaboration between the animal health, human health, food safety, wildlife and environmental sectors in the prevention, detection and response to zoonotic diseases and food safety outbreaks was developed.
- Buy-in and ownership of all participants who contributed to all areas of the roadmap was confirmed.
- Prioritization of the activities was conducted.



## SESSION 7: WAY FORWARD & CLOSING SESSION

- National facilitators Dr. Hemant Chandra Ojha from the Department of Health Services and Dr. Mukul Upadhyaya from the Department of Livestock Services presented a brief overview of the workshop proceedings and the final prioritized roadmap. They emphasized that the participants identified the top five priority objectives by voting. The top five objectives were as follows:
- **Communication:** To achieve effective and functional One Health communication mechanism (57 votes)
- **Workforce Development:** To strengthen One Health workforce capacity and facilitate development of HR surge capacity/roster of expert plan (47 votes)
- **Surveillance and Laboratory:** To establish a harmonized One Health surveillance system to monitor and detect zoonotic pathogens at human-animal-environment interface (41 votes)
- **Coordination:** To enhance operationalization of One Health governance in all three administrative levels. (40 votes)
- **Field Investigation and Response:** To enhance preparedness and capacity for coordinated field investigation and response (34 votes)



*Figure 8: Dr Ojha presenting the workshop proceedings and the final prioritized objectives of the One Health roadmap.*

Discussions were held on how to implement the roadmap developed during the workshop, potentially by integrating it into existing projects supported by various development partners in the country, such as USAID, ADB, and WB. The revision of the One Health strategy will incorporate feedback and priority actions, including recommendations from the quadripartite agreement. The priority actions from this workshop, along with

recommendations from the JEE, will play a key role in developing the National Health Security Plan (NHSP). There is also potential for funding support from development partners and international organizations, and national authorities were encouraged to explore all available options.

#### **Outcomes of Session 7:**

- Way forward for the implementation of the roadmap was presented and discussed.
- Ownership of the workshop results by the country was confirmed.

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## **CLOSING SESSION**

A short video of the event, created using Canva, was shown, summarizing each step of the process that led participants to develop the joint NBW Roadmap. The video was also circulated to all participants and was well received.

The event concluded with remarks from Dr. Dipendra Raman Singh, Additional Secretary of the Ministry of Health and Population; Dr. Umesh Dahal, Director General of the Department of Livestock Services; and Dr. Gyanendra Gongal from WHO SEARO, representing the Quadripartite.

Key points from the closing remarks included:

- The workshop was timely, as Nepal is working to strengthen its multi-sectoral collaboration through the implementation of its One Health Strategy 2019.
- The NBW has helped build a network among professionals from different sectors, making future collaboration easier and more effective.
- All participants were encouraged to promote and advocate for the importance of One Health and the need for different sectors to work together to prevent and control zoonotic diseases, as well as other hazards like chemical contamination and food safety.

At the end of the closing session, an online workshop evaluation was conducted using MS Forms

### **Workshop Material & video**

All the material used during the workshop, including movies, presentations, documents of references, results from the working groups, photos, videos were provided online: [Regional QPT - Final Nepal Workshop Materials - All Documents \(sharepoint.com\)](#)

Or by scanning the below QR code:



# WORKSHOP OUTPUTS

## OUTPUT 1: ASSESSMENT OF LEVELS OF COLLABORATION FOR 15 KEY TECHNICAL AREAS

Technical area (cards)	H5N1	Rabies	Brucellosis	Salmonellosis	Disease X	Score
Coordination at local Level	2	2	2	2	1	9
Field investigation	2	2	1	2	2	9
Risk assessment	1	2	2	2	2	9
Joint surveillance	2	1	2	2	2	9
Emergency funding	2	2	2	2	1	9
Communication w/ media	1	2	2	1	2	8
Communication w/ stakeholders	2	2	1	1	2	8
Response	1	1	2	2	2	8
Coordination at technical Level	1	1	2	2	1	7
Finance	2	1	2	1	1	7
Laboratory	1	1	2	1	1	6
Human resources	2	1	1	1	1	6
Coordination at high Level	1	1	1	1	1	5
Legislation / Regulation	1	1	1	1	1	5
Education and training	1	1	1	1	1	5

1. For each disease, the performance of the collaboration between the human health and the animal health sectors is color-coded: **green** for “good collaboration”, **orange** for “some collaboration”, and **red** for “collaboration needing improvement”.
2. The score uses a semi-quantitative scale (0 points for a green card, 1 for an orange card and 2 for a red card).

## OUTPUT 2: NBW ROADMAP - OBJECTIVES AND ACTIONS IDENTIFIED PER TECHNICAL AREAS

Action	Timeline	Difficulty (1-3 scale)	Impact (1-3 scale)	Responsibility	Process
<b>1. COORDINATION MECHANISM</b>					
<b>Objective 1.1: To enhance operationalization of One Health governance in all three administrative levels. (40 votes)</b>					
<b>1.1.1 Establish OH coordination mechanism at all sub-national level</b>	March 2025	++	+++	All Provinces Technical Steering Committee (TSC) -	<ol style="list-style-type: none"> <li>1) Seek approval to issue executive order by the government to establish Provincial Technical Steering Committee (TSC) and Technical Coordination Committee (TCC) at all Provincial levels.</li> <li>2) Issue the executive orders to all local governments.</li> <li>3) Follow up to confirm that the TSC and TCC are established at subnational levels by verifying the order and list of members of TSC and TCC.</li> <li>4) Circulate the updated One Health Strategy and action plan to all subnational levels.</li> </ol>
<b>1.1.2. Assign OH coordination units/focal points at federal level</b>	September 2024	+	++	TSC and Relevant Departments	<ol style="list-style-type: none"> <li>1) Verify whether coordination units/focal points exist in all relevant departments.</li> <li>2) Issue executive order to establish focal points/units where it does not exist.</li> <li>3) Operationalize the One Health coordination units/focal points by developing TOR.</li> </ol>
<b>1.1.3. Establish OH coordination committees at local level</b>	December 2024	+++	++	- Metro and Sub-Metropolitan Cities and Provincial TCC	<ol style="list-style-type: none"> <li>1) Circulate the updated One Health Strategy and Action plan to the local levels.</li> <li>2) Organize the orientation training workshop for focal points at local levels on One Health coordination.</li> <li>3) Establish One Health Coordination Committee in metro and Sub-metropolitan cities in the initial phase.</li> </ol>
<b>Objective 1.2: To increase functional OH coordination mechanism by developing essential enabling instruments (24 votes)</b>					
<b>1.2.1. Review and update OH strategy and its governance structure</b>	December 2024	++	+++	- TCC at Federal level	<ol style="list-style-type: none"> <li>1) Conduct three-day workshop on Multi-sectoral Coordination Mechanisms Operational Tool (MCM OT) developed by the tripartite to review the existing structure and generate recommendations for enhancement of the existing coordination mechanism.</li> <li>2) Establish Technical Working Group (TWG) for each One Health thematic areas of AMR, Food Safety, Environment/wildlife and integrate them under the overall One Health governance structure.</li> <li>3) Obtain approval of recommendations of workshop from TSC</li> </ol>



<b>1.2.2 Review/update and endorse One Health Joint Plan of Action</b>	March 2025	++	+++	- TCC - One Health Steering Committee	1) Organize a stakeholder meeting to review the draft action plan. 2) Circulate the reviewed draft action plan with the concerned Ministries to incorporate feedback. 3) Forward the reviewed action plan to TSC for official approval.
<b>1.2.3 Develop a mechanism for enhancing coordination between federal and subnational level One Health committees (policy and technical committees)</b>	June 2027	++	+++	- TCC (Federal and Provincial) - OH Coordination Committee (local)	1) Convene a workshop (1-2 days) to develop a SOPs for coordination and communication between One Health governance federal and sub-national (provinces and districts) One Health bodies.
<b>2. COMMUNICATION</b>					
<b>Objective 2.1: To achieve an effective and functional One Health communication mechanism (57 votes)</b>					
<b>2.1.1. Establish and activate Communication TWG at provincial and local levels including the development of TOR for communication (routine &amp; health emergency) as provisioned in one health strategy 2019</b>	April 2025	++	++	- Federal One Health TCC - Lead of TCC	1) Establish Communication TWG at federal, provincial, and local levels. 2) Develop TOR and finalize routine communication mechanism. 3) Develop TOR and finalize communication mechanism for health emergencies.
<b>2.1.2. Develop a standard joint message bank and disseminate through web-based common platforms for prioritized diseases</b>	April 2026	++	+++	-NHEICC (National Health Education, Information and Communication Centre) - Agriculture Information and training Center (AITC)	1) Formation of working group with its TOR. 2) Create web based common platform. 3) Draft and finalize standard joint messages for prioritized diseases. 4) Conduct stakeholder consultation for finalization of messages. 5) Obtain approval of standard joint messages from TSC.
<b>2.1.3. Conduct stakeholder mapping and analysis for Risk Communication and Community Engagement (RCCE) for priority/ targeted diseases for each year</b>	April 2025	+	++	- NHEICC - AITC	1) Map the standing list of concerned stakeholders. 2) Make roster of targeted groups/personnel and get approved. 3) Develop community engagement strategies or action plan for priority diseases.
<b>Objective 2.2: To enhance awareness of community, media and relevant stakeholders on One Health approaches to address zoonosis, food safety and environmental health (6 votes)</b>					
<b>2.2.1. Develop a standard RCCE Learning Resource Package (LRP) focusing on public health, zoonosis, food safety, and environmental health within a year</b>	April 2025	+	+++	- NHEICC - AITC	1) Establish Technical Working Group (TWG) with experts on RCCE. 2) TOR development for TWG. 3) Drafting of LRP through organizing retreat workshops. 4) Stakeholder consultation and validation of LRP. 5) Obtain approval of LRP from OH Steering Committee.

<b>2.2.2 Develop SOPs for information sharing between focal points and targeted stakeholders and conduct regular coordination meetings</b>	April 2026	++	++	- NHEICC - AITC	1) Establish a working group. 2) Develop TOR and get it approved. 3) Draft SOPs for information sharing. 4) Conduct stakeholder consultation and seek its endorsement. 5) Conduct regular coordination meetings as per the SOP.
<b>Objective 2.3: To strengthen Human Resource capacity on RCCE at all tiers of administration (8 votes)</b>					
<b>2.3.1 Develop a joint strategic plan for communication within 6 months of formation of One Health TWG at respective level</b>	October 2025	++	+++	- Federal One Health TCC	1) Draft a joint strategic plan with involvement of all sectors through organizing a retreat workshop. 2) Conduct a stakeholder consultation with larger groups. 3) Obtain approval of the joint strategic plan.
<b>2.3.2 Conduct training on RCCE to all relevant staffs of key sectors providing services on One Health areas</b>	April 2028	+	++	- NHEICC - AITC	1) Assess types and number of joint trainings to be conducted for RCCE for different professionals. 2) Develop joint training packages. 3) Estimate costing for training and seek budget approval. 4) Conduct trainings (one each at the national and 7 provincial levels) accordingly.
<b>2.3.3 Develop guidelines for evidence-based infodemic management within 2 years</b>	April 2026	+	++	- NHEICC - AITC	1) Form the working group for the development of the guideline. 2) Develop TOR of the working group and get it approved. 3) Draft the guidelines on infodemic management. 4) Conduct stakeholder consultation and seek their endorsement. 5) Conduct orientation and roll-out trainings and activation the infodemic management team.
<b>3. WORKFORCE DEVELOPMENT</b>					
<b>Objective 3.1: To strengthen One Health workforce capacity and facilitate development of HR surge capacity/roster of expert plan (47 votes)</b>					
<b>3.1.1 Develop One Health workforce development strategy</b>	January 2025	+++	+++	- MoFE, - DLS, MoALD - DFTQC - DoEnv - DoHS, MoHP	1) Form Committee to draft the workforce development strategy. 2) Conduct consultative meeting to validate and finalize the strategy. 3) Obtain approval of the strategy from the relevant authority. 4) Disseminate the document to all concerned for collaboration.
<b>3.1.2 Develop a national database of one Health workforce</b>	Ember 2025	++	+++	- Federal One Health TCC	1) Design tool/platform with specification for collection of information, including areas of One Health expertise. 2) Carryout validation of data collected. 3) Announce or notify for registration online with key guideline and Q&A. 4) Make the database accessible for mobilization for prevention, preparedness and response (surge capacity) and targeted training to build capacity.

Objective 3.2: To enhance core OH technical capacity for the workforce (23 votes)					
<b>3.2.1 Conduct 9 cohorts of Joint FETP for one health workforce</b>	December 2026	+	+++	- National Health Training Centre (NHTC) - AITC	1) Adapt the existing FETP module from One Health perspective. 2) Select 25 participants from the workforce roster in each cohort. 3) Module to include joint surveillance, joint outbreak investigation and data analysis.
<b>3.2.2. Conduct 10 cohorts of 7 days RRT ToT for One Health workforce at national and provincial level</b>	June 2025	+	+++	- NHTC - AITC	1) Develop learning resource package (LRP) for Rapid Response Team (RRT) ToT 2) Test the same by piloting it. 3) Select 10 participants from national and provincial levels. 4) Organize the ToT.
<b>3.2.3 Conduct skill enhancement trainings for lab staffs on lab techniques, biosafety and biosecurity/bioinformatics for 3 days</b>	December 2027	+	++	- DLS - DFTBC - DoEnv - DoHS	1) Develop LRP for training. 2) Test/pilot. 3) Select 20 laboratory staff from national and provincial levels. 4) Organize the training.
<b>3.2.4 Organize 2 national level simulation exercises for one health workforce on Disease X</b>	December 2024	++	+++	- Federal OH TCC	1) Develop LRP for simulation exercise. 2) Test/piloting. 3) Select 30 provincial participants for each event. 4) Organize the ToT.
Objective 3.3: To enhance sustainable One Health education programs at undergraduate and continued professional development across all disciplines (9 votes)					
<b>3.3.1 Develop One Health curricula for undergraduate medical, veterinary, environment, food technology academic programs</b>	December 2026	+++	+++	- Min of Education in coordination with line Ministries	1) Organize a consultative workshop for curricula development with One Health stakeholders on One Health approach. 2) Obtain approval of the curricula from the Curriculum Development Committee of MoE.
<b>3.3.2 Develop and implement self-paced online training on continued education for One Health work force for assistant level and above</b>	December 2025	+	+	- Federal OH TCC	3) Develop LRP for online training. 4) Test/Pilot the online education. 5) Publish it on online portal. 6) Record the roster of online trainees.

#### 4. SURVEILLANCE AND LABORATORY

**Objective 4.1: To establish a harmonized One Health surveillance system to detect, monitor and share information on zoonotic pathogens at human-animal-environment interface (41 votes)**

<b>4.1.1 Establish laboratory surveillance focal points in each laboratory of all sectors for One Health at national and provincial levels</b>	September 2024	+	++	- NPHL, PPHL - DNPWC - CVL, VL, TADs Lab, NAL, - DFTQC	1) Develop criteria for focal point selection. 2) Identify focal points in each sector. 3) Prepare roster of all focal points with contact details and update regularly. 4) Designate focal points at provincial and local levels through issuance of executive orders.
<b>4.1.2 Establish web-based platform for data and information exchange purpose at all levels (national and subnational levels)</b>	April 2026	+++	+++	- NPHL, PPHL - CVL, VL - University labs - Private labs	1) Organize stakeholder meeting regarding specification requirement of platform. 2) Contract out building the data sharing platform/portal (data security). 3) Carry out validation and testing of the platform by organizing workshops. 4) Train the staff on use of the platform. 5) Operationalize and conduct regular monitoring of the functioning and use of the platform.
<b>4.1.3 Sign MOU between laboratories of within and different sectors for the exchange of sample and laboratory resources under the One Health umbrella</b>	March 2025	+	+++	- MoHP, DoHS, NHPL, PPHL - MOALD, DLS, CVL, VL - Env Lab, - DFTQC	1) Draft MOU documents (workshops). 2) Conduct stakeholder meeting to endorse and obtain approval of the MOU document. 3) Prepare inventory of laboratory resources of each laboratory. 4) Appoint focal persons from each laboratory of all sectors.
<b>4.1.4 Develop a joint/coordinated surveillance strategy and plan for 10 priority zoonotic diseases at all three tiers of the government.</b>	March 2026	+	++	- DoHS - DLS - DFTQC - DoEnv	4) Organize joint meetings of stakeholders. 5) Form a technical working group with defined TOR. 6) Draft joint surveillance strategy and obtain approval from TSC. 7) Validate surveillance strategy/plan through a joint workshop. 8) Implement the surveillance plan for 10 priority disease. 9) Evaluate the surveillance system regularly.

**Objective 4.2: To establish safe, efficient, accurate and sustainable sample shipment mechanism adhering to existing national or international regulatory standards (21 votes)**

<b>4.2.1 Develop guidelines on proper laboratory sample collection, storage, and transport mechanisms for sectors at all three government levels</b>	March 2025	+	++	- MoHP - MoALD - Provincial MoHP & MoA - Local Government MoH & MoA - NPHL, PPHL, CVL, VL, TADs Lab, NAL	1) Hire a consultant or expert. 2) Draft the guidelines. 3) Conduct stakeholder consultation workshop to review and endorse the guidelines. 4) Obtain the approval for implementing the guideline. 5) Circulate the guideline. 6) Train laboratory professionals.
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<b>4.2.2 Establish formal laboratory sample transport mechanism along with training for lab and courier personnel</b>	June 2026	++	++	- MoHP -DoHS, NPHL, PPHL - MOALD-DLS, CVL, VL, TADs Lab	1) Identify common transport mechanisms/ courier or postal service agencies. 2) Sign agreement with courier service providers for sample transportation. 3) Train the courier personnel on handling, storage and shipment of preserved samples to ensure compliance with biosafety and bio-security requirements.
<b>Objective 4.3: To enhance laboratory capacity and interoperability across human and animal health sectors to ensure rapid and accurate diagnosis of zoonotic diseases (26 votes)</b>					
<b>4.3.1 Develop testing capacity for 10 priority zoonotic diseases up to provincial level laboratories</b>	August 2026	+++	+++	- NPHL - CVL - DFTQC - Environment Lab	1) Perform capacity assessment of the labs as per the existing requirements. NEIDL/ priority pathogen list for diagnoses of emerging re-emerging diseases (10 priority diseases). 2) Procure needed logistics, e.g., infrastructure, equipment/reagents/kits supply along with consumables. 3) Prepare joint SOPs for diagnosis of priority zoonotic diseases.
<b>4.3.2 Develop guidelines and standards for licensing of private labs</b>	July 2026	+	++	- NPHL, PPHL - CVL, VL - Private labs	1) Hire consultant or expert. 2) Conduct consultation workshop to review and endorsement of the of the guidelines. 3) Endorse guidelines and standards. 4) Conduct training for relevant lab staff. 5) Prepare efficient cadre for licensing activities. 6) Carry out inspection and audit for licensing of the private labs.
<b>4.3.3 Develop plan and implement accreditation of priority laboratories (national and subnational levels) against ISO 9001 and 17025.</b>	February 2029	++	+++	- NPHL, PPHL - Relevant Ministries	1) Identify laboratories to be accredited in a phase wise manner. 2) Hire consultant to preparatory accreditation plan. 3) Conduct stakeholder workshop for finalization of plan. 4) Training of staff in identified labs according to plan. 5) Apply for accreditation to certifying body. 6) Implement accreditation program.
<b>4.3.4 Prepare joint and harmonized protocols and SOPs for lab diagnosis of 10 priority zoonotic pathogens</b>	May 2025	+	+++	- MoHP, NPHL, - MOAL – DLS, CVL	1) Drafting of harmonized protocols and SOPs for lab confirmation of each of 10 priority zoonotic pathogens through organizing meetings, workshops. 2) Carryout validation of the protocols and SOPs. 3) Obtain approval from One Health authorities.
<b>5. FIELD INVESTIGATION AND RESPONSE</b>					
<b>Objective 5.1: Enhance coordinated mechanism for field investigation and response (28 votes)</b>					
<b>5.1.1 Develop a multi sectoral coordinated field investigation and response plan for zoonotic diseases and food safety events</b>	March 2025	+	+++	- DoHS - DFTQC - DLS	1) Organize meeting of Federal One Health TCC to identify focal points to draft the plan. 2) Identify focal points to draft the plan. 3) Share the draft plan with relevant stakeholders for comments/feedback. 4) Organize meeting of Federal One Health TCC to finalize the draft plan,

<b>5.1.2 Develop SOP for investigation and response for food borne illness</b>	March 2026	+	++	- DFTQC - DoHS - DLS	1) Organize meeting of Federal OH TCC with all relevant stakeholders. 2) Prepare a draft SOP with clear roles and responsibilities of joint RRT. 3) Share the draft for comments/feedback and finalize the SOP.
<b>5.1.3 Develop SOP for investigation and response for zoonotic disease outbreaks in wildlife</b>	March 2026	+	++	- Dept of National Park & Wildlife Conservation - DoHS - DLS	1) Organize meeting of Federal OH TCC with all relevant stakeholders. 2) Prepare a draft SOP with clear roles and responsibilities of joint RRT. 3) Share the draft for comments/feedback and finalize the SOP.
<b>5.1.4 Develop SOP for investigation and response for zoonotic illness in humans</b>	March 2026	+	++	- DLS - DoHS	1) Organize meeting of Federal OH TCC with all relevant stakeholders. 2) Prepare a draft SOP with clear roles and responsibilities of joint RRT. 3) Share the draft for comments/feedback and finalize the SOP.
<b>5.1.5 Develop a mechanism to ensure stockpile, logistics mobilization and sharing at national and sub-national levels</b>	December 2026	+	+++	- DLS - DoHS	1) Organize meeting of Federal OH TCC to assess the existing capacity of stockpile. 2) Preparation of plan for stockpile, logistics mobilization and sharing. 3) Designate relevant section with clear roles and responsibilities.
<b>Objective 5.2: Enhance preparedness and capacity for coordinated field investigation and response (34 votes)</b>					
<b>5.2.1 Conduct at least 2 tabletop joint simulation exercises on zoonotic disease outbreak investigation and response</b>	2026 onwards	+	++	- Epidemiology & Disease Control Division (EDCD), DoHS - Animal Disease Investigation & Control Div, DLS	1) Organize meeting of Federal OH TCC to identify focal points for the preparation of simulation exercise. 2) Prepare draft simulation exercise plan focusing on key areas. 3) Share draft simulation exercise plan with relevant stakeholders for review and feedback. 4) Finalize the plan and implement/conduct the tabletop exercises.
<b>5.2.2 Conduct at least one field joint simulation exercise for outbreak investigations and response for zoonotic diseases</b>	2026 onwards	+++	+++	- EDCD - DLS	1) Organize meeting of Federal OH TCC to identify focal points for the preparation of simulation exercise. 2) Prepare draft simulation exercise plan focusing on key areas. 3) Share draft simulation exercise plan with relevant stakeholders for review and feedback. 4) Finalize the plan and implement/conduct the tabletop exercises.
<b>Objective 5.3: Improve data management and sharing for zoonoses and food safety events (28 votes)</b>					
<b>5.3.1 Develop and implement web-based integrated data and information management system for outbreak investigation of food borne illness and zoonoses</b>	December 2029	+++	+++	- DLS - DoHS -	- Organize meeting of Federal OH TCC with all relevant stakeholders to deliberate on developing the Information Management platform software. - Identify potential IT consultant for the development of the software. - Test/Pilot the software for security and operability. - Process Government approval for launching of the software.

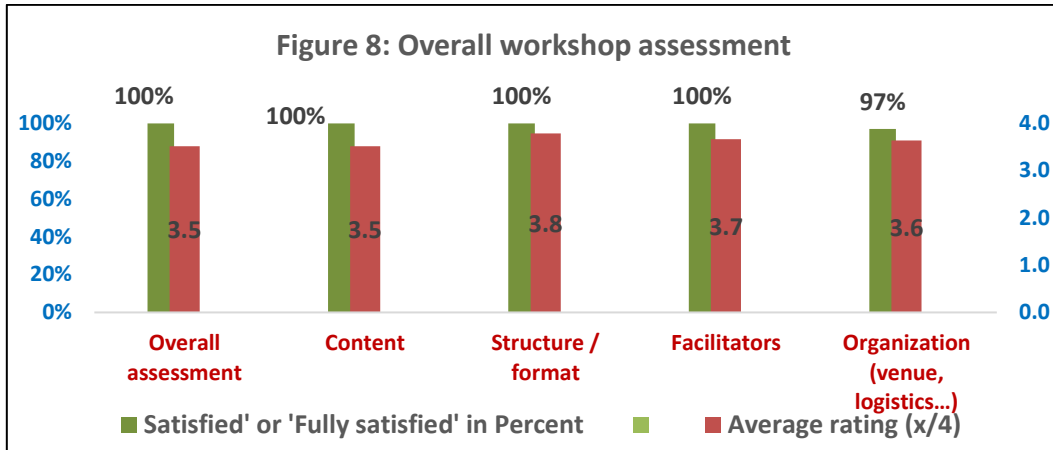
\*Timelines indicated are the completion month.

\*\* *Difficulty of implementation: Low +, Moderate ++, Very difficult +++*

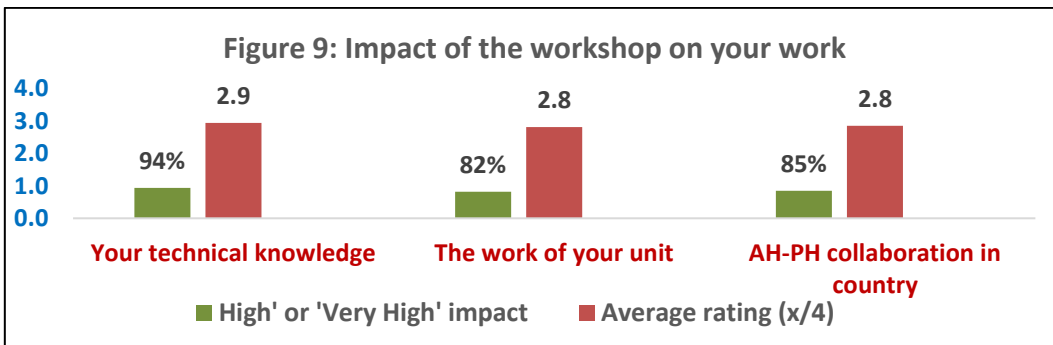
*Impact: Low impact +, Moderate impact ++, High impact +++*

## WORKSHOP EVALUATION RESULTS

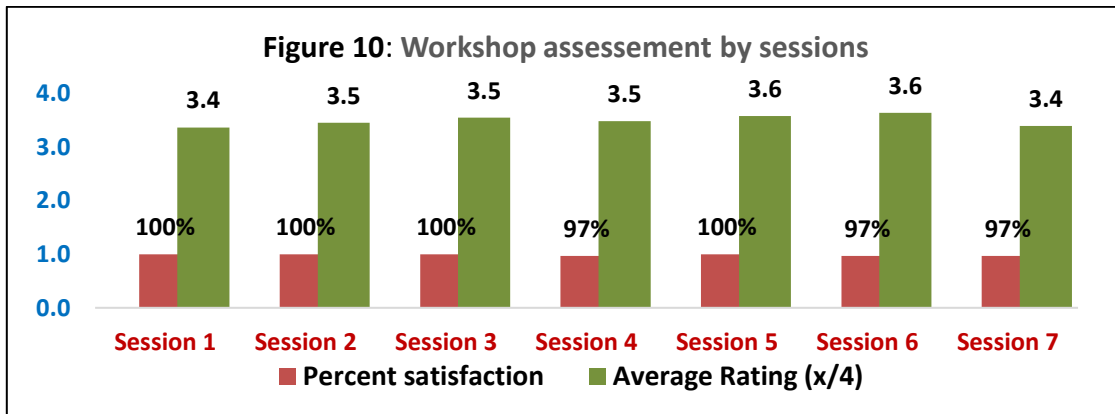
A workshop evaluation questionnaire was completed by 34 participants to collect feedback on the relevance and utility of the workshop.



Participants had to choose between 1=Highly unsatisfied – 2=Unsatisfied – 3=Satisfied – 4=Highly satisfied



Participants had to choose between 1=No impact at all – 2=Minor impact – 3=Significant impact – 4=Major impact



## APPENDIX

### ANNEX 1: WORKSHOP AGENDA

## Agenda **IHR-PVS NATIONAL BRIDGING WORKSHOP IN NEPAL** **19-21 March 2024** **Kathmandu - Nepal**

DAY 1, Tuesday 19 March 2024	
08:30 – 09.00	<b>Registration of participants</b>
09.00 – 11.00	<p><b><u>Opening Ceremony (MC: Gokarna Dahal)</u></b></p> <ul style="list-style-type: none"> <li>• Chair: Hon'ble Upendra Yadav, Deputy Prime Minister and Minister, Ministry of Health and Population (MoHP)</li> <li>• National Anthem</li> <li>• Panas lighting</li> <li>• Welcome remarks by Dr Madan Kumar Upadhyaya, Member Secretary, Federal One Health Steering Committee, Ministry of Health and Population (MoHP)</li> <li>• Country presentation: Dr Rudra Prasad Marasini, Director of Epidemiology and Disease Control (EDCD)</li> </ul> <p><b>Opening Remarks by:</b></p> <ul style="list-style-type: none"> <li>• Mr. Ken Shimizu, FAO Country Representative for Nepal and Bhutan</li> <li>• Dr Allison Gocotano, Actg. WHO Representative to Nepal</li> <li>• Dr Hirofumi Kugita, WOA Regional Representative for Asia and the Pacific (recorded video)</li> <li>• Dr Umesh Dahal, Director General, Department of Livestock Services (DLS)</li> <li>• Dr Sangeeta Kausal Mishra Director General, Department of Health Services (DoHS)</li> <li>• Dr Rewati Raman Poudel, Secretary, Ministry of Agriculture and Livestock Development (MoALD)</li> <li>• Dr Roshan Pokhrel, Secretary, Ministry of Health and Population (MoHP)</li> <li>• Hon. Jwala Kumari Sah, Honorable Minister, Ministry of Agriculture and Livestock Development (MoALD)</li> <li>• Hon. Upendra Yadav, Honorable Deputy Prime Minister, Ministry of Health and Population (MoHP)</li> <li>• Handover ceremony: <ul style="list-style-type: none"> <li>○ Federal One Health Steering Committee</li> <li>○ Federal One Health Technical Coordination Committee</li> </ul> </li> </ul> <p><b><u>Group Picture &amp; Coffee Break</u></b></p>
11.00 – 12.00	<p><b><u>Session 1: Workshop Objectives and National Perspectives</u></b></p> <p>The first session sets the scene by providing background information on the One Health concept and the subsequent tripartite WOA-FAO-WHO collaboration. It is followed by comprehensive presentations from both Ministries on the national public and animal health services. A second documentary provides concrete worldwide examples of fruitful intersectoral collaboration, showing how the two sectors share a lot in terms of approaches, references and strategic views.</p>
	<ul style="list-style-type: none"> <li>• Introduction of the participants</li> <li>• Workshop approach and methodology – PPT (10')</li> <li>• MOVIE 1: Tripartite One Health collaboration and vision (15')</li> </ul>



	<ul style="list-style-type: none"> <li>• MOVIE 2: Driving successful interactions - Movie (25')</li> </ul>
<b>Lunch (12:00-13:30)</b>	
13.30 – 17.00	<p><b><u>Session 2: Navigating the road to One Health</u></b></p> <p>Session 2 divides participants in working groups and provides an opportunity to work on the presented concepts. Each group will have central and provincial representatives from both sectors and will focus on a fictitious emergency scenario.</p> <p>Using diagrammatic arrows to represent the progression of the situation, groups will identify joint activities and areas of collaboration and assess their current functionality using one of three color-coded cards (green, orange, red).</p>
	<ul style="list-style-type: none"> <li>• Presentation and organization of the working group exercise – PPT (15')</li> <li>• Case study - Working groups by disease (120')</li> <li>• Restitution (75')</li> </ul>
<p><b>Expected outcomes of Sessions 1 and 2:</b></p> <ul style="list-style-type: none"> <li>• <i>Understanding of the concept of One Health, its history, its frameworks and its benefits.</i></li> <li>• <i>Understanding that a lot of areas for discussion and possible improvements do exist and can be operational - not only conceptual.</i></li> <li>• <i>Level of collaboration between the two sectors for 16 key technical areas is assessed.</i></li> <li>• <i>Collaboration gaps identified for each disease.</i></li> </ul>	
<b>17.00 – 18.30</b>	<p><b>Facilitators and moderators only:</b> Briefing Session 3-4-5 and compilation of results from Session 2</p>

DAY 2, Wednesday 20 March 2024	
08.30 –11.20	<p><b><u>Session 3: Bridges along the road to One Health</u></b></p> <p>Session 3 presents the tools from both sectors (IHR MEF, JEE, PVS) and uses an interactive approach to map activities identified earlier onto a giant IHR-PVS matrix.</p> <p>This process will enable to visualize the main gaps, to distinguish disease-specific vs systemic gaps and to identify which technical areas the following sessions will focus on.</p> <ul style="list-style-type: none"> <li>• MOVIE 3: IHR Monitoring and Evaluation Framework (25')</li> <li>• MOVIE 4: PVS Pathway (25')</li> <li>• MOVIE 5: IHR-PVS Bridging (10')</li> <li>• Mapping gaps on the IHR/PVS matrix (50') + Coffee break (20')</li> <li>• Discussion – Plenary (30')</li> </ul>
<p><b>Expected outcomes of Session 3:</b></p> <ul style="list-style-type: none"> <li>• <i>Understanding that tools are available to explore capacities in each of the sectors.</i></li> <li>• <i>Understanding of the contribution of the veterinary sector to the IHR.</i></li> <li>• <i>Understanding of the bridges between the IHR MEF and the PVS Pathway.</i></li> <li>• <i>Identification of the technical areas to focus on during the next sessions.</i></li> </ul>	
11:20 - 12:40	<p><b><u>Session 4: Crossroads - IHR MEF, JEE and PVS Pathway reports</u></b></p> <p>Participants will be divided into working groups by technical topic (surveillance, communication, coordination, etc) and will explore the improvement plans already proposed in the respective assessments (IHR annual reporting, JEE, PVS Evaluation, Epidemiology Mapping Tool EMT, etc.), extract relevant sections and identify what can be synergized or improved jointly.</p> <ul style="list-style-type: none"> <li>• Presentation and organization of the working group exercise (20')</li> <li>• Extract main gaps and recommendations from the PVS, IHR (including the JEE) and EMT reports, in relation to gaps identified on the matrix (60')</li> </ul>
<p><b>Lunch (13:00-14:00)</b></p>	
14:00 - 14:30	<p><b><u>Session 4 (continued)</u></b></p> <ul style="list-style-type: none"> <li>• Extract main gaps and recommendations from the PVS, IHR (including the JEE) and EMT reports, in relation to gaps identified on the matrix (continued, 30')</li> </ul>
<p><b>Expected outcomes of Session 4:</b></p> <ul style="list-style-type: none"> <li>• <i>Good understanding of the assessment reports, their purpose and their structure.</i></li> <li>• <i>Main gaps and recommendations from existing reports have been extracted.</i></li> <li>• <i>A common understanding of the effort needed starts to emerge.</i></li> </ul>	
14:30–17:15	<p><b><u>Session 5: Road planning</u></b></p> <p>Participants will use the results obtained from the case studies and from the assessment reports to develop a realistic and achievable roadmap to improve the collaboration between the sectors.</p> <ul style="list-style-type: none"> <li>• Presentation and organization of the working group exercise (15')</li> <li>• Identification of Activities (Working groups by technical topic) (150')</li> </ul>
<p><b>Expected outcomes of Session 5:</b></p> <ul style="list-style-type: none"> <li>• <i>Clear and achievable activities are identified to improve inter-sectoral collaboration between the two sectors for all technical areas selected.</i></li> </ul>	
17.15 – 19.00	<p><b>Facilitators only:</b> Compilation of results from Session 5 (drafting of the road-map) and preparation of Session 6</p>

DAY 3, Thursday 21 March 2024	
9:00 - 12:30	<p><b><u>Session 6: Fine-tuning the roadmap</u></b></p> <p>The objective of Session 6 is to have all participants contribute to all technical areas and to consolidate the joint-road map by making sure it is harmonized, concrete and achievable.</p>
	<p>Fine-tuning of the roadmap: Objectives and filling out of Activity cards (90')</p> <p>Coffee break (15')</p> <ul style="list-style-type: none"> <li>• World Café (90')</li> <li>• Presentation of the prioritization vote (10')</li> <li>• Prioritization vote (during lunchtime)</li> </ul>
<p><b>Expected outcomes of Session 6:</b></p> <ul style="list-style-type: none"> <li>• <i>Harmonized, concrete and achievable roadmap.</i></li> <li>• <i>Timeline, focal points, needed support and indicators have been identified for each activity.</i></li> <li>• <i>The impact and the difficulty of implementation of proposed activities have been estimated.</i></li> <li>• <i>Buy-in and ownership of all participants who contributed to all areas of the roadmap.</i></li> <li>• <i>Prioritization of the activities.</i></li> </ul>	
Lunch (12:15-13:30)	
13:30 - 15:30	<p><b><u>Presentation:</u></b></p> <p>Asia Pacific Quadripartite One Health Initiatives and One Health Tools – Dr Gyanendra Gongal, Senior Public Health Officer, WHO SEARO</p> <p><b><u>Session 7: Way forward</u></b></p> <p>In the last session, representatives from the key Ministries take over the leadership and facilitation of the workshop to discuss with participants about the next steps and how the established roadmap will be implemented.</p> <p>Linkages with other mandated plans such as the Action Plan on One Health are discussed. This is also where any need from the country can be addressed. This will depend greatly on the status of the country in terms of IHR-MEF and on the level of One Health capacity.</p>
	<ul style="list-style-type: none"> <li>• Results of the prioritization vote (15')</li> <li>• Integrating the action points into the IHR-MEF process (30')</li> <li>• Next steps (75') (lead by Ministry representatives)</li> </ul>
<p><b>Expected outcomes of Session 7:</b></p> <ul style="list-style-type: none"> <li>• <i>Linkages with NAPHS one health action plan</i></li> <li>• <i>Identification of immediate and practical next steps.</i></li> <li>• <i>Identification of opportunities for other components of the IHR-MEF.</i></li> <li>• <i>Identification of opportunities to operationalise the One Health mechanism Nepal has been trying to establish.</i></li> </ul>	
15:30 - 16:30	<p><b><u>Closing Session</u></b></p> <ul style="list-style-type: none"> <li>• Evaluation of the workshop (20')</li> <li>• Closing ceremony (40')</li> <li>• Closing remarks by: <ul style="list-style-type: none"> <li>- Dr Dipendra Raman Singh, Additional Secretary of Ministry of Health &amp; Population</li> <li>- Dr Umesh Dahal, Director General of Department of Livestock Services</li> <li>- Dr Gyanendra Gongal, WHO SEARO</li> </ul> </li> </ul>
16.30 – 17.00	Departure

## ANNEX 2: LIST OF PARTICIPANTS

S.N	Name	Organization	Designation
<b>Opening session guests</b>			
1	Hon. Upendra Yadav	MoHP	DPM & Minister
2	Hon. Jwala Kumari Shah	MoALD	Minister
3	Dr Roshan Pokhrel	MoHP	Secretary
4	Dr Rewati Raman Poudel	MOALD	Secretary
5	Dr Dipendra Raman Singh	MoHP	Addl. Secretary
6	Dr Tanka Prasad Barakoti	MoHP	Addl. Secretary
7	Dr Sangeeta Kausal Mishra	DoHS	DG
8	Dr Umesh Dahal	DLS	DG
9	Dr Rudra Pd. Marasini	EDCD/DoHS	Director
10	Dr Madan Kumar Upadhyaya	MoHP	Chief, QSRD
11	Dr Samjhana Kafle	MOALD	Joint Secretary
12	Mr Ken Shimizu	FAO Nepal	FAO Representative
13	Dr Allison Gocotano	WHO	WHE-TL
<b>Environment/Wildlife/Agriculture/water supply</b>			
13	D.R. Khanal	NARC	Director
14	Sadikshya Wosti	Dept. of Environment	Environment Inspector
15	Arati Shrestha	DOENV	Environment Inspector
16	Ram Kumar Shrestha	Dept. of Water Supply	DDG
17	Dr Avash Shrestha	SHNP, Janakpur	Vet. Officer
18	Dr Sujan Rai	Chitwan National Park	Vet. Officer
<b>Food Safety</b>			
19	Padam Raj Bhusal	DFTQC	TA
20	Navraj Acharya	DFTQC	TA
21	Raj Kumari Sah	DFTQC	Food Research Officer
22	Huma Bokkhim	DFTQC	SFRO
23	Praksha Neupane	DFTQC	FRO
<b>Ministry of Health and Population</b>			
24	Dr Anup Bastola	CSD, DoHS	Director
25	Dr Pomawati Thapa	EDCD/DOHS	Senior Consultant
26	Dr Prashna Napit	EDCD/DOHS	Section Chief
27	Bihari Mahato	EDCD/DOHS	Vet. Officer
28	Dr Mukesh Poudel	EDCD/DOHS	Consultant
29	Bishnu Marasini	EDCD/DOHS	Na. Su
30	Koshal Chandra Subedee	EDCD/DOHS	PHI
31	Sagar Dahal	EDCD/DOHS	Sr. PHA
32	Bhawana Kandel	EDCD/DOHS	PHO
33	Sushmita Pandey	EDCD/DOHS	PHO
34	Sanju Ghimire	EDCD/DOHS	Nurse

35	Maya K. Phuyal	EDCD/DOHS	ELMIS Supervisor
36	Dr Gokarna Dahal	EDCD/DOHS	Sr. Health Administrator
37	Dr Hemant Chandra Ojha	EDCD/DOHS	Senior Medical Superintendent
38	Shreta Dangol	EDCD/DOHS	Nursing Officer
39	Dr Ayashree Karki	EDCD/GTA	Support Public Health officer
40	Dr Roshan Dhakal	H.D Gandaki	Health Administrator
41	Dr Gyan B Basnet	H.D. Koshi province Dhankuta	Director
42	Dipak P. Tiwari	Health Directorate Bagmati	Director
43	Dr Prakash Budhathoky	HEOC/MoHP	Spokesperson/Chief of HEOC
44	Dr Shyam Lal Acharya	HSD Karnali	Vet. Control Officer
45	Dr Bikash Gauchan	ICDH Pokhara	Executive Director
46	Dr Shrawan K. Thapa	Management Div. DoHS	Director
47	Dr Anu Shakya	Management Div. DoHS	Senior Health Administrator
48	Ganesh Khatiwada	NCCS	Researcher
49	Keshav Pandit	NHEICC	Director
50	Sheela Shrestha	NHEICC	Sr. Health Administrator
51	Dr Kamana Sharma	NPHL	Consultant Pathologist
52	Dr Ranjan Raj Bhatta	NPHL	Director
53	Lilee Shrestha	NPHL	Chief Medical Lab Technologist
54	Hira Kumari Niraula	NSSD, DoHS	Director
55	Shravan Kumar Nayak	PHD, Madhesh Province	Senior PHA
56	Hem Raj Joshi	PHD, Sudurpashchim, Doti	Vet. Officer
57	Dr Shravan K. Mishra	PPHL, Madhesh	Director
58	Krishna Gautam	PPHL, Sudurpaschim	Lab, Tech Inspector
59	Nilesh Kr. Thakur	PPHL Koshi	Med. Lab Technologist
60	Shivendra Singh Chaudhary	PPHL Lumbini Pradesh	Med. Lab Technologist
61	Narayan Bdr Karki	PPHL, Bagmati	Director
62	Dr Bishwa Raj Baral	PPHL, Gandaki	Pathologist
63	Kamal Kumar Thapa	PPHL, Karnali	Laboratory Technical Officer
64	Usha Tandukar	QSRD, MoHP	Sr. Drug Administrator
65	Dr Bimal Sharma Chalise	STIDH, Teku	Chief Consultant Physician

#### Ministry of Agriculture and Livestock Development

66	Dr Hareram Yadav	Animal Quarantine office, BRG	Sr.vet. Officer
67	Dr Dinesh Pant	Bhimdatta Municipality	Vet. Officer
68	Dr Umesh Giri	Birendranagar Municipality	Vet. Officer
69	Dr Suraj Subedi	CVL	Vet. Officer
70	Dr Barun K. Sharma	CVL	Chief
71	Dr Bikash Raj Rai	Dharan Sub Metropolitan City	Livestock Dev. Officer
72	Dr Sulochana Shrestha	DLS	DDG



73	Krishna Pd. Acharya	DLS	Vet. Officer
74	Sikesh Manandhar	DLS	Vet. Officer
75	Dr Barsha Thapa Magar	DLS	Vet. Officer
76	Dr Binod Sanjel	DLS	VO
77	Sitaram Oli	DLS	LDO
78	Dr Mukul Upadhyaya	DLS	SVO
79	Dr Nabaraj Shrestha	DLS	VO
80	Hemraj Bohara	DLS	Livestock Dev. Officer
81	Dr Krishna Prasad Pangeni	DLS, Surkhet	A. Director
82	Dr Sujan rana	DLS/VSDRL	SVO
83	Lok Raj Bhusal	DOLFD Lumbini	Vet. Officer
84	Shiv Narayan Yadav	DOLFD MP, Janakpurdham	Vet. Officer
85	Purushottam Pandey	DOLFD, Biratnagar, Koshi	Vet. Officer
86	Dr Gauriman Shrestha	DOLFD, Heutauda	Director
87	Dr Arjun Aryal	DRVH, Tripureshwor	SVO
88	Dr Krishna Raj Pandey	FMD & TADS Investigation Lab, Kathmandu	Senior Vet. Officer
89	Khagendra Aurit	HRDSC	Agri Economist
90	Dr Manish Mandal	Kalaiya Sub-Metro Pol. Office	Vet. Officer
91	Dr Rabin Bastakoti	Madi Municipality	Livestock Dev. Officer
92	Dr Tapendra Prasad Bohara	MOALD	Senior Vet. Officer
93	Dr Hem Raj Awasthi	MolMAC, Dhangadhi	SLDO
94	Dr Anisha Gautam	Musikot Municipality	Vet Doctor
95	Dr Nabin Ghimire	NAFLQHL	Chief
96	Dr Bikash Shrestha	National Vaccine Production Laboratory	Senior Vet. Officer
97	Dr Prabesh Sharma	Nepal Livestock Sector Innovation Project	O. Project Director
98	Dr Roshan Raj Gyawali	NLRMPO- DLS	Senior livestock Dev. Officer
99	Dr Anil Gautam	Putalibazar Mun. Syangja	Vet. Officer
100	Dr Vinay Kr. Karna	SAARC-RSU	Sub- Acting Chief
101	Dr Rajesh Kumar Chaudhary	VHLSEC, Tanahon	VO
102	Dr Naresh Prasad Joshi	VL, Dhangadhi	SVO
103	Dr Sabina Lamsal	VO/DLS	VO
104	Dr Salima Manandhar	VSDRL	CVO
<b>Police/APF/Army/Investigation department</b>			
105	Dr Ram chandra Satyal	Nepal Police Canine	Superintendent of Police
106	Dr Ishwor Dhakal	Nepali Army	Major
107	DSP. Dr Roshan Parajuli	APF	DSP Consultant
108	Ramesh Pokharel	APF	SIL

109	Lt Col. Dr Lee Budhathoki	Nepali Army	Lt. Col Associate Prof
110	Dr Rupak Maharjan	Nepal APF Hospital	Director
111	Dr Shatrughan Baharadar	Nepal Police Hospital	Technical Police Officer (Medical Officer)
112	Bishnu Prasad Subedi	NID	
113	Riben Kumar Gachhadhar	NID	JID
114	Om Prakash Joshi	National Investigation Dept	ACFD
<b>WHO Country office</b>			
115	Dr Ashok Basnet	WHO	FMO
116	Dr Avinash K Sunny	WHO	HEIO
117	Sudhan Gnawali	WHO	Comm. Liaison Officer
118	Dr Subash Neupane	WHO	NPO
119	Dr Saugat Shrestha	WHO	NPO-IHM
120	Dr Prakash Shakya	WHO	NPO
121	Dr Arunkumar Govindakarnavar	WHO	TO (PHL)
122	Dr Dipendra Gautam	WHO	NPO-IHR
123	Dr Palpasa Kansakar	WHO	NPO
124	Chhiring Sherpa	WHO	Program and Operation
<b>FAO country office</b>			
125	Surendra Karki	FAO, Nepal	Team Leader
126	Suman Giri	FAO, Nepal	Media & Comms
127	Nabin Paudel	FAO, Nepal	National Consultant
128	Sanjeev Parajuli	FAO, Nepal	AOS
129	Pallavi Adhikari	FAO, Nepal	Project Support Officer
<b>Others/observers</b>			
130	Abhilasha Gurung	UNICEF	Health Specialist
131	Dr Saroj Dhakal	USAID	Inf. Disease Advisor
132	Nur Pant	USAID	SHA
<b>International facilitators</b>			
133	Dr Sithar Dorjee	WHO	Consultant
134	Dr Pasang Tshering	WOAH	Consultant
135	Dr Kinzang Dukpa	WOAH	Regional Project Officer
136	Dr Yin Myo Aye	FAO	Regional One Health Specialist
137	Dr Gyanendra N Gongal	WHO SEARO	Senior Public Health Officer