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IHR-PVS National Bridging Workshop – Viet Nam



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ABBREVIATIONS & ACRONYMS

AI	Avian Influenza
AMR	Antimicrobial Resistance
CDC	Centre for Disease Control
DAH	Department of Animal Health
ECTAD	Emergency Centre for Transboundary Animal Diseases
FAO	Food and Agriculture Organization of the United Nations
GDPM	General Department of Preventive Medicine
HQ	Headquarters
IHR	International Health Regulations (2005)
JEE	Joint External Evaluation
MARD	Ministry of Agriculture and Rural Development
MEF	Monitoring and Evaluation Framework
MIC	Ministry of Information and Communications
MOH	Ministry of Health
MONRE	Ministry of Natural Resources and Environment
MoU	Memorandum of Understanding
NAPHS	National Action Plan for Health Security
NBW	National Bridging Workshop
OHP	One Health Partnership
PHEIC	Public Health Event of International Concern
PHEOC	Public health emergency operations center
PVS	Performance of Veterinary Services
SDAHL	Sub-Department of Animal Health and Livestock
SET	Surveillance Evaluation Tool
SOP	Standard Operating Procedures
SPAR	State Party Self-Assessment and Annual Reporting
TOR	Terms of Reference
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
USCDC	United States Centers for Disease Control and Prevention
VAHIS	Viet Nam Animal Health Information System
WHO	World Health Organization
WOAH	World Organisation for Animal Health

INTRODUCTION

BACKGROUND

- The World Health Organization (WHO), the World Organisation for Animal Health (WOAH), the Food and Agriculture Organization (FAO) and the United Nations Environment Programme (UNEP) together known as the Quadripartite, are the main international organizations responsible for proposing references and guidance for the public health, animal health and environment sectors respectively. This Quadripartite 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. 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-Evaluation and Annual Reporting (SPAR) and the Joint External Evaluation (JEE) Tool.
- WOAH is the international organisation responsible for developing standards, guidelines and recommendations for animal health and zoonoses; these are laid down in the WOAH Terrestrial and Aquatic Animals Codes and Manuals. 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 the main gaps.
- FAO is committed to support member countries in strengthening the capacity of their animal health systems to reduce the risk and impact of animal health threats. FAO also promotes a One Health approach as part of agri-food system transformation to anticipate, prevent, detect and control diseases that spread between animals and humans, tackle antimicrobial resistance, ensure food safety, prevent environment-related human and animal health threats, as well as combatting many other challenges impacting food security,
- UNEP is the leading global environmental authority that sets the global environmental agenda and specifically joined the Quadripartite Alliance to strengthen the environmental dimension of One Health. Recognizing the significance of the environment in the One Health framework, UNEP recently joined as fourth partner hosting the National Bridging Workshops in the region.
- The WHO IHR-MEF and the WOAH PVS Pathway approaches provide the ability for 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 tools and PVS Pathway can result in better alignment of capacity building approach and strategies between human and animal health services of a country. The 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 used in more than 40 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.

OBJECTIVES OF THE WORKSHOP AND EXPECTED OUTCOMES

The main objective of the NBW is to provide an opportunity to human health, animal health and environmental health services of the country to review their current collaboration gaps in key technical areas and to develop a joint roadmap of corrective measures and strategic investments to improve the collaborative work at the animal-human-environment interface. The agenda of the Workshop is available at [Annex 1](#).

The expected outcomes of this workshop were:

- Identification of current strengths and weaknesses in the collaboration between relevant sectors for the key technical areas required at the human-animal-environment interface;
- Identification of practical next steps and activities related to the developed joint national roadmap to strengthen collaboration and coordination between relevant sectors as well as enhancing the implementation of the OHP Master Plan 2021-2025; and
- 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 strategic planning.



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

REPORT ON THE SESSIONS

From 16 to 18 August 2023, the National Bridging Workshop (NBW) for One Health of Viet Nam was held in Hai Phong. The workshop was hosted at the kind invitation of the Government of Viet Nam, with organizational support from the World Health Organization (WHO), the World Organisation for Animal Health (WOAH), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP).

The workshop was attended by 113 participants from key national institutions for One Health with representatives from national, provincial and local district levels. The workshop used an interactive methodology and a structured approach with user-friendly material, case studies, videos and facilitation tools. All participants received a *Participant Handbook* which comprised of all necessary information such as the objectives of the workshop, instructions for working group exercises, expected outcomes of each session etc. Sessions were structured in a step-by-step process as detailed in the following pages of this report.

OPENING SESSION

Welcoming of the participants and opening remarks were provided by Dr Nguyen Luong Tam, Deputy Director General of General Department of Preventive Medicine (GDPM)/ Ministry of Health (MOH), Dr Nguyen Van Long, Director General of Department of Animal Health (DAH)/ Ministry of Agriculture and Rural Development (MARD), Dr Angela Pratt, WHO Representative in Viet Nam, and Dr André Furco, from the Sub-Regional Representation of WOAH for Southeast Asia and representing the Quadripartite, with additional remarks from Dr Randolph Augustin, Office of Health Director, United States Agency for International Development (USAID) office in Viet Nam.

Opening speakers highlighted the importance of multisectoral collaboration in the prevention, detection and response to health threats at the animal-human-environment interface. Recent examples of international spread of zoonotic diseases illustrate the urgent need to strengthen the One Health approach. By organizing this NBW, the three sectors show their strong dedication in improving their multisectoral collaboration at all required levels, not only for zoonoses but also for other threats at this delicate interface, such as food safety issues, or antimicrobial resistances.

SESSION 1: THE ONE HEALTH CONCEPT AND NATIONAL PERSPECTIVES

The workshop approach and methodology were presented by Dr Jessica Kayamori Lopes (Technical Officer, Food Safety and Zoonotic Diseases, WHO Regional Office for the Western Pacific). It was stressed that the meeting was neither an evaluation nor a training, but a workshop aimed at developing a national roadmap to improve the collaboration between the sectors.

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

The human health and animal health sectors in Viet Nam presented their structure, priorities and challenges, as well as ongoing One Health activities and collaboration as follows:

Human health services and One Health (Dr Nguyen Thi Huong, Technical Officer of Division of Communicable Disease Control, GDPM).

Dr Huong described the structure of health system and preventive medicine under MOH. The national IHR focal point is designated under GDPM. Strategies and national plans for prevention, preparedness, detection and response are in place, including national public health emergency operations center (PHEOC) and electronic notifiable disease surveillance system (e-CDS) from central to commune level.

Veterinary services and One Health (Dr Pham Thanh Long, Technical Officer of Department of Epidemiology, DAH):

The veterinary services under MARD are mandated under DAH in collaboration with veterinary institutes, schools and agencies. The veterinary laboratory capacity and the Viet Nam Animal Health Information System (VAHIS) were also highlighted in updating, synthesizing, analyzing and reporting animal disease situation.

Multisectoral Collaborative Activities

One Health collaboration has been strengthening in Viet Nam, from building preparedness capacity and prevention of control of zoonotic diseases to institutionalization, emergency risk management, AMR prevention, prevention and control of priority zoonotic diseases, and outbreak responses. Development and implementation of laws, regulations, strategies and plans were carried out collaboratively. Collaboration on prevention and control of zoonotic diseases for five prioritized zoonoses (avian influenza, rabies, streptococcus *suis*, anthrax and leptospirosis) is ongoing according to an official Joint Ministerial Circular No. 16/2023/TTLT-BYT-BNN&PTNT. Joint risk assessment, collaboration on communication, capacity improvement and research have been strengthened across the sectors. First assessment of the Joint Circular implementation at the local level were conducted in 2016 under the support and collaboration from WHO and FAO Viet Nam.

Outcomes of Session 1:

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

- Intersectoral collaboration between animal health, human health and environmental health sectors happens, but mainly during outbreaks; with a better coordination mechanism and preparedness, much more could be done at the human-animal-environment interface, especially at sub-national level.
- The three sectors have common concerns and challenges and conduct similar activities. Competencies exist and can be pooled. This needs to be organized through a collaborative approach.
- WHO, WOAAH, FAO and UNEP 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 six working groups of mixed participants from each sector and from different levels (Central, regional, provincial). Groups were provided with a case study scenario (Table 1) based on diseases relevant to the local context developed in collaboration with national representatives.

Table 1: Scenarios used for the different case studies

<p>1. Rabies</p> <p>A community dog which was known to have bitten two cows and was suddenly behaving aggressively towards people was reported to have bitten some children in the same neighborhood of Hai Chau two days ago. The dog died and the carcass of the dog was destroyed before the Veterinary authorities were able to take the head of the dog for confirmation of diagnosis.</p>
<p>2. Avian influenza A(H5N1)</p> <p>Two persons were admitted at the Bac Tuyen Hospital with pneumonia. Laboratory testing by RT-PCR resulted positive for A(H5N1) subtype of avian influenza. One of the patients is a 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 seven days prior to disease onset and having bought four chickens. There was no report of birds or poultry dying off in the same area.</p>
<p>3. Salmonellosis</p> <p>A suspected foodborne outbreak composed of 300 cases, including 32 severe cases, and 1 death were reported. All cases had symptoms (fever, vomiting, abdominal pain and diarrhea) after exposure to meals from a primary school in Thanh Binh City, Bac Ha province. All hospitalized cases were diagnosed with Salmonellosis. Most cases recovered in a week.</p>
<p>4. Antimicrobial Resistance</p> <p>The National Center for Communicable Diseases Laboratory is detecting increasing number of co-occurrence of Colistin Resistance (mcr-1) and extended-spectrum β-lactamase encoding genes in Escherichia coli isolated from urinary tract infection in humans in Chau Long city, Bang Lang province. RAHO 8 veterinary laboratory also reported an increasing number of similar resistance pattern in E. coli isolated from animals and farm environment in Bang Lang province.</p>
<p>5. River ecosystem collapse</p> <p>A major die-off event of fish, wild birds and other freshwater species has been reported in a river located between Hai Tien and Hai Thanh provinces. In a stretch of 35 km, the river ecosystem has collapsed entirely. Dead organisms and foam patches with a strong odor are floating 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 pollutants in the water. In the region there are untreated wastewater discharges from local communities, a few factories, and reports of unsustainable land use practices in watersheds.</p>
<p>6. Disease X</p> <p>The local newspaper report that strange things happen as a horse stable in Chau Thanh district: a number of horses showed symptoms of lethargy, anorexia and unusual neurological signs and two horse owners have been admitted in the local hospital after complaining fever and severe headaches for the past days. Testing for known pathogens were all negative. After one of the horse owners dies, national and international News media are spreading the story and local people are scared about risks to their health.</p>

Using the experiences from previous outbreaks, the groups discussed how they would have realistically managed these events, and evaluated the level of collaboration between the three sectors for 15 key technical areas: coordination, investigation, surveillance, communication, etc. These activities/areas of collaboration were represented by color-coded *technical area cards*: green for “good collaboration”, yellow for “some collaboration”, and red for “collaboration needing improvement” (Figure 1 and 2).

Level of collaboration (circle your group's result):			
Coordination at high level:	GREEN	ORANGE	RED
Coordination at local level:	GREEN	ORANGE	RED
Coordination at technical level:	GREEN	ORANGE	RED
Legislation and regulation:	GREEN	ORANGE	RED
Finance:	GREEN	ORANGE	RED
Communication and media:	GREEN	ORANGE	RED
Communication with stakeholders:	GREEN	ORANGE	RED
Field investigation:	GREEN	ORANGE	RED
Risk assessment:	GREEN	ORANGE	RED
Joint surveillance:	GREEN	ORANGE	RED
Laboratory:	GREEN	ORANGE	RED
Response:	GREEN	ORANGE	RED
Education and training:	GREEN	ORANGE	RED
Emergency funding:	GREEN	ORANGE	RED
Human resources:	GREEN	ORANGE	RED



Figures 1 and 2: Participants working on a case scenario are evaluating the level of collaboration between the sectors for 15 key technical areas.

During an ensuing plenary session, each group presented and justified the results of their work. Output 1 summarizes the results from each disease group.

Outcomes of Session 2:

- Areas of collaboration were identified, and joint activities discussed.
- Level of collaboration between the three 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 (Figure 2).

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: Mapping of the gaps by positioning the selected cards from all six on the IHR-PVS matrix provides a snapshot of the status of collaboration across technical areas in Viet Nam.

The main gaps (clusters) identified were discussed, this time on a systemic level (all diseases combined). Overall, we could see that while ‘Coordination at Central Level’ scored above average (except for the management of food-borne diseases), and workforce (explored through ‘Human resources’ and ‘Education and Training’) can be improved but seems already consistent, significant gaps are reported in the collaboration across most technical areas. Notably, some key areas such as surveillance, communication, laboratory, response or risk assessment scored low; the area with the lowest score being finance, which was only rated 1 point.

New working groups were made for the second half of the workshop, this time by technical area, to cover all aspects of collaboration where improvement is needed:

- Group 1: Surveillance and Risk Assessment
- Group 2: Communication with partners and medias
- Group 3: Response, Field Investigation and Emergency Funding
- Group 4: Laboratory
- Group 5: Coordination at subnational and technical level

Additionally, each group was asked to also integrate ‘Finance’, ‘Human Resources’, ‘Legislation’ and

'Education and training' aspects related to their designated technical areas.

Outcomes of Session 3:

- Understanding that tools are available to explore operational capacities in each of the sectors was improved.
- Understanding of the contribution of the veterinary sector to the IHR was improved.
- Understanding of the bridges between the IHR MEF and the PVS Pathway was improved. Reviewing together the results of capacities assessment might help in identifying synergies and optimize collaboration.
- Understanding of the environment sector's synergies with IHR MEF and PVS Pathways was strengthened.
- Understanding that most gaps identified are not scenario-specific but systemic was ascertained.

SESSION 4: CROSSROADS – PVS PATHWAY AND IHR MEF REPORTS

New technical area working groups with representation from all previous groups were organized as per the distribution detailed above.

The matrix was used to link the identified gaps to their relevant indicators in the IHR MEF and in the PVS Pathway. Each working group then opened the assessment reports (JEE, PVS Evaluation and Surveillance Evaluation Tool - SET) and extracted the main findings and recommendations relevant to their technical areas (figure 3).



Figure 3: Group are considering the gaps and recommendations made in the Joint External Evaluation (JEE) and in the PVS reports related to the technical areas they are in charge of.

Outcomes of Session 4:

- Participants got a good understanding of the assessment reports for both sectors, their purpose and their structure, and explored links between both assessment reports and environmental protection efforts in Viet Nam.
- The main gaps relevant to each technical area and related to coordination and collaboration between sectors were extracted.
- Similarly, main recommendations from the existing reports were extracted.

SESSION 5: ROAD PLANNING

Using the same working groups as for the previous session, participants were asked to identify, for each technical area, priority activities that the sectors should implement to improve their collaboration in the future. The result is a workplan with identified stakeholders of different sectors and proposed timeline for each activity. This brainstorming used several items as information sources:

- The report sheets from Session 2, which highlight the key gaps for all technical areas and for the different diseases/ case studies used.
- The key gaps and recommendations extracted from the JEE, PVS and SET reports during Session 4.
- The technical activity cards, which give several examples of possible joint activities.

-and most importantly, the experiences of all the participants in working on a daily basis in the human health, veterinary and environmental health sectors of Viet Nam.



Figure 4: The group working on 'Response, Field Investigation and Emergency Funding' is using the results of the previous sessions to identify joint activities to improve the collaboration between the sectors in this domain.

Outcomes of Session 5:

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

SESSION 6: FINE-TUNING THE ROADMAP

After brainstorming activities had been discussed and validated with international and national facilitators, participants were asked to fill the *Activity Cards* for each activity, detailing the desired date of implementation, the responsible lead focal points, as well as the detailed process of implementation of an activity, the importance of the identifying an activity that is as operational as possible, with very clear and precise actionable steps.

The image shows two activity cards. The left card is titled "Risk Communication" and is divided into two columns: "Animal Health" and "Public Health". Each column has two sections: "Findings (gaps)" and "Recommendations". The "Findings (gaps)" sections contain three small orange boxes, and the "Recommendations" sections contain three small green boxes. The right card is titled "Activity" and contains handwritten text. It has a section for "Activity" with the text "Conduct a joint simulation exercise to test contingency plan". Below this are two boxes: "Date of achievement" with "December 2018" and "Responsibility" with "Public Health: NCH" and "Animal Health: Ep. Unit (NH)". Below these is a "Process" section with three bullet points: "Organizing a 4-day table-top simulation exercise to test newly developed contingency plan", "Identify gaps in the contingency plan", and "Amend the contingency plan accordingly". At the bottom, there are two boxes: "Impact" with two blue circles and "Difficulty" with one red circle.

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

Activity cards that were linked (by theme, or by process) were then regrouped under one *Objective card*, to start structuring the roadmap.

A World Café exercise was then organized to enable participants to contribute to the action points of all technical areas (Figure 5). Each group had a rapporteur whose duty was to summarize the results of their work to the other groups. Each group rotated between the different boards to contribute and provide feedback on all technical areas. Rotating groups used the post-it note pad to leave their comments on the objectives and activities of other groups when they felt that an amendment or a clarification was necessary.

At the end of the World Café, each group returned to their original board and the rapporteur summarized the feedback received. Groups were given enough time to address changes or additions suggested by the other participants. Objectives and activities were fine-tuned accordingly.

Overall, the five groups identified a total of 10 key objectives and 33 activities. The detailed results are presented in [Output 2](#).



Figure 5: Participants fill the objective and activity cards to be inserted in the NBW roadmap. The group working on 'Surveillance and Risk assessment' prioritized 3 objectives and 9 activities. Through a World Café exercise, participants from other groups provide comments on post-it, which were taken into account for the finalization of the roadmap.

Prioritization of Objectives

To prioritize the objectives identified by the technical working groups, participants were given five small white stickers each, to identify which five objectives (and their constituting activities) they considered as of highest priority.

A total of 274 votes were casted, with an objective related to Coordination at the Local and Technical Levels obtaining very high scores 'Objective 2: Raising awareness and knowledge on One Health at localities' (53 priority votes). Another objective also reached a high score, and was related to Field Investigation, Response and Emergency Funding 'Objective 9: A institutionalized legal framework for a One Health approach in terms of investigating, responding, and controlling of zoonoses related emergencies (43 priority votes). Each objective received more than 14 votes, highlighting the fact that all components of the roadmap are considered as a priority by a portion of participants.

Outcomes of Session 6:

- Harmonized, concrete and achievable roadmap to improve the coordination and collaboration between the animal health, human health 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

This final plenary was chaired by a panel composed of Dr Phan Quang Minh, Deputy Director General, DAH/ MARD, Prof Phan Trong Lan, Director General, GDPM/ MOH, and Dr Jessica Kayamori Lopes, WHO Regional Office for the Western Pacific and representing the Quadripartite, and facilitated by Dr Vu Ngoc Long, Vice Chief, Department of Communicable Disease Control, GDPM/ MOH.

The NBW in Viet Nam was found particularly relevant for national authorities. Although the Joint Ministerial Circular for collaboration between MARD and MOH was issued in 2013, after ten years implementation of this Circular, there is a need for a review on how the inter-ministerial collaboration has been in the country and what are the gaps. In addition, a Master Plan for One Health Framework for Zoonoses, period 2021-2025, has been developed to guide implementation of the One Health Partnership (OHP) framework for zoonoses, period 2021-2025, that was agreed upon at a signing ceremony among the three Ministries: MARD, MOH, and Ministry of Natural Resources and Environment (MONRE). Prof Lan suggested to conduct a mid-term review of the Framework with the support of the Quadripartite and integrating the roadmap developed during the NBW. This roadmap will be instrumental for enhancing operationalizing and the collaboration between the three sectors. During the session, each group was invited to present the result of their work, and the different areas were commented on in detail by the panel.

Between other remarks, the panelists mentioned the below:

- i) For Surveillance and Risk Assessment, the 3 main objectives are to strengthen information exchange, the strengthening of data analysis and utilization, including at provincial level, and improved capacities for risk assessment, both single-sector and joint risk assessment.
- ii) For Coordination at the Technical and Local Level, the need to improve implementation of One Health at provincial level, through multisectoral Memorandum of Understanding based on Circular 16 and the creation of local task forces and associated plan of activity;
- iii) For Field investigation, Response and Emergency Funding, the link between the two activities should be institutionalized and MONRE more involved;
- iv) For Laboratories, the need to improve information sharing on zoonoses, food safety and AMR through the review of coordination mechanisms between DAH, GDPM, Department of Environmental Pollution Control - MONRE;
- v) For Communication, the need to establish a One Health communication team.

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.

CLOSING SESSION

Following were the gist of closing remarks made by the panel of Session 7

- The workshop was organized at the right time as One Health approach is gaining worldwide importance, particularly due to COVID-19 pandemic.
- The leaders from GDPM/MOH and DAH/MARD extended the appreciation and gratitude of the Government of Viet Nam to WHO, WOA, FAO and UNEP for supporting the organization of the NBW and thanked the international facilitators for providing technical expertise and facilitation of the workshop, local organizers of the workshop, IT experts, and participants for their active participation in the workshop, and coming up with the excellent roadmap for One Health capacity building in Viet Nam.
- Over the three-day workshop, everyone from central and subnational levels, particularly professionals working in the field have gained same level of understanding of One Health and its importance to effectively mitigate the risk of future pandemics and in prevention and control of zoonotic diseases and food safety outbreaks.
- Everyone worked hard to build the excellent One Health roadmap for strengthening One Health capacity in Viet Nam and everyone from all the sectors must make concerted efforts to work together.
- The One Health roadmap resulted from the NBW is considered instrumental to expedite the implementation of the Master Plan for One Health Framework for Zoonoses, period 2021-2025 in Viet Nam which was hindered by the COVID-19 pandemic.
- The NBW has enabled Viet Nam to build a network amongst professionals from different sectors and therefore working together will be easier and more effective.
- Every participant was urged to spread through their words of mouth on the importance of One Health and how different sectors should work together for prevention and control of zoonotic diseases including other hazards like chemical contamination and food safety.

All the materials used during the workshop, including movies, presentations, documents of references, results from the working groups, photos, videos were uploaded on a shared drive with a link shared to all participants: <https://drive.google.com/drive/folders/1wnWqmDIs-sba4f9rwCqm1m2xZicLxES?usp=sharing>

WORKSHOP OUTPUTS

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

Technical area	Salmonellosis	Rabies	AMR	H5N1	Disease X	Ecosystem collapse	Score
Coordination at high Level	0	2	2	2	1	2	9
Coordination at local Level	0	1	1	1	1	1	5
Coordination at technical Level	1	0	1	0	1	2	5
Legislation / Regulation	1	1	1	2	0	1	6
Finance	0	1	0	0	0	0	1
Communication w/ media	1	1	0	1	1	1	5
Communication w/ stakeholders	1	0	1	0	1	0	3
Field investigation	0	2	0	0	1	2	5
Risk assessment	1	1	0	0	2	0	4
Joint surveillance	0	1	1	0	1	1	4
Laboratory	0	0	0	0	2	1	3
Response	1	0	0	1	1	1	4
Education and training	2	1	1	1	2	0	7
Emergency funding	1	2	1	1	0	1	6
Human resources	2	1	1	1	2	1	8

For each disease, the performance of the collaboration between the human health and the animal health sectors is color-coded: green for “good collaboration”, yellow for “some collaboration”, and red for “collaboration needing improvement”. The score uses a semi-quantitative scale (2 points for a green card, 1 for a yellow card and 0 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
COORDINATION AT THE LOCAL AND TECHNICAL LEVEL					
Objective 1: Developing a multisectoral coordination mechanism for preventing and combating zoonotic diseases at different levels					
1.1. Consulting experts for piloting localities	OCT 2023	++	++	OH central coordinator	<ul style="list-style-type: none"> - Consulting experts for piloting locations based on legal framework of joint circular no. 16
1.2. Developing a coordination mechanism between DOH, DOA and DONRE	Q1 of 2024	++	+++	DOH, DARD and DONRE	<ul style="list-style-type: none"> - Organize meetings between the 3 departments on October – November, 2023 - Assign tasks and identify responsibilities and power of each department - Develop a draft and collect input from participants - Promulgate the mechanism (Beginning of 2024) <p>Organize regular meetings to evaluate the implementing results (every 3 months)</p>
1.3. Developing coordination procedures	Q2 of 2024	+	+++	Leader: DOH and DARD (relevant sub-DAH, and sub-Department of Animal Health and Livestock (Sub-DAHL)) and stakeholders: DONRE, DOF and people's committee at different levels	<ul style="list-style-type: none"> - Organize meetings between stakeholders: establish focal agencies (Jan of 2024) - Develop a draft for procedures (Jan of 2024) - Collect input from stakeholders (Jan and Feb of 2024) <p>Issue the procedures (Feb of 2024)</p>
Objective 2: Raising awareness and knowledge on OH at localities					
2.1. Organizing response training and exercises	Q3 of 2024	++	+++	Lead: DOH	<ul style="list-style-type: none"> - Develop a plan on response training and exercises: including funding and participants (provincial – district – communal levels) - Develop scenarios for response exercises <p>Implement field training, exercising and responding</p>
COMMUNICATION					
Objective 3: Develop a national plan on OH intersectoral communication under OHP mechanism, period 2024- 2030					

3.1. Organizing OH communication workshop	Q4 of 2023	+	+++	MARD, Ministry of Information and Communications (MIC), MOH, MONRE and OHP	Organize OH communication workshop
3.2. Establishing OH communication group	Jan of 2024	+	+	MARD	MARD, MIC, MOH, MONRE and stakeholders propose personnel for the group
3.3. Developing OH national communication framework	Feb – May of 2024	+++	+	OH communication group (OHP)	- Organize meetings between communication group and technical working groups Develop planning draft
3.4. Consulting and adjusting national plan	June – July of 2024	++	++	Communication group, OHP, localities and stakeholders	- Collect input from localities - Organize meetings to collect consulting input - Adjust and finalize Collect input from 4 ministries and stakeholders
3.5. Issuing OH national plan	Aug – Sep of 2024	+	+++	MARD, MIC, MOH, MONRE	Organize national plan issuing workshop
3.6. Implementing OH national plan and mobilizing resources	Q4 of 2024	+++	+++	MARD, MIC, MOH, MONRE and OHP	- Organize implementation workshop at central and local levels - Consolidate implementing agencies at different levels Issuing OH communication plan from localities (for provinces)
3.7. Evaluating and disseminating regularly results of OH communication	Annually to 2030	+	+++	OH communication group, OHP	Organize OH communication results evaluation and dissemination workshop
3.8. Adjusting the plan	Once every 2 years	+	+	MARD, MIC, MOH, MONRE, OH communication group and OHP	Organize workshop

LABORATORY

Objective 4: Enhance the collaboration and effectively intersectoral laboratory diagnostic information sharing on disease X, zoonotic diseases, food safety, wildlife* and AMR to protect public health

4.1. Establishing intersectoral LAB-Link group, review coordination and information sharing mechanism, develop an action plan for Lab-link (under OHP)	Q1 of 2025	++	+++	GDPM, DAH, related laboratory and OHP	- Division of epidemiology of DAH and relevant agencies report to DAH - Pasteur institutes/ national and provincial CDCs report to GDPM - Develop a draft for coordination and information sharing mechanism Organize intersectoral consultation workshop for input and approval under OHP framework
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4.2. Conducting coordination and Lab-link intersectoral information sharing demand analysis	Q1 of 2025	+	++	Laboratory expert team	<ul style="list-style-type: none"> - Develop a quick demand survey - Send the survey to relevant labs (central, regional and piloting provincial) to collect the information on demand <p>Briefly analyze results of the surveys to prepare reports for the Lab-link planning workshop</p>
4.3. Making plan and organizing implementing activities to maintain the operation and surveillance of operation results of Lab-link	Q2 of 2025	+++	+++	Lab-link, GDPM, DAH, OHP, central labs, regional labs and provincial piloting labs	<ul style="list-style-type: none"> - Organize the first meeting of lab-link to develop a draft identifying objectives, task assignment, human and material resources and timeline review - Approve the plan to implement - Develop a financial plan for activities and seek for international and national funding source.
4.4. Organizing training activities for labs under Lab-link	2025 – 2027	++	+++	Lab-Link, relevant labs, GDPM, DAH and OHP	<ul style="list-style-type: none"> - Review the demand to make curriculum for the training - Prepare for logistics, trainers and budget - Organize training courses (3) under the plan - Identify the funding source for the training course
4.5. Develop and harmonize the lab-link intersectoral testing procedures	6 months/each disease	+++	+++	Central labs, regional labs and provincial piloting labs	<ul style="list-style-type: none"> - Identify portfolio of the procedures of stakeholders, assess the priority of the SOP - Organize technical meetings to review and agree procedures for each disease (disease X, zoonotic diseases and AMR) - Evaluate testing procedures and comparing between labs <p>Submitting for approval of procedures</p>
4.6. Sharing testing diagnostic materials (check samples, reagents and equipment)	When needed	+	+++	Labs	<ul style="list-style-type: none"> - Share items when requested by stakeholders - Labs send request to lab-link <p>Lab-link requests labs to share their resources with labs in need</p>

SURVEILLANCE AND RISK ASSESSMENT

Objective 5: Increased surveillance information-sharing on zoonoses

5.1. Actively update and share information periodically on cases and outbreaks	2024-2025	+	++	GDPM/ MOH, DAH/ MARD	<p>(This may not be a step-by-step process?)</p> <p>1) Issue circulars and regulations at ministerial level for information-sharing instructions:</p> <ul style="list-style-type: none"> - Points of contact for both 2 ministries - Information must be shared - Announce the timeline of information sharing (monthly, quarterly, etc.)
5.2. Build SOP for surveillance information sharing	2024	+	+++	GDPM, DAH	<ol style="list-style-type: none"> 1) Establish technical team, editorial team 2) Ask for consultation from stakeholders 3) Set up the conference 4) Finalize the draft

					5) Submit for approvals
5.3. Integrate and synchronize data on intersectoral surveillance	before 2028	+++	+++	GDPM, DAH	Set up a digital (ideally interoperable) platform for information-sharing
Objective 6: Improved performance in analyzing and presenting surveillance data					
6.1. Train how to analyze and present data at district level in some small provinces	2024	+	++	GDPM, DAH	1) Draft the plan and materials for training 2) Pick the districts from some at-risk provinces
6.2. Pilot the “periodically issued hygiene and epidemiology report” and share with stakeholders	2024-2025	+	++	GDPM, DAH	1) Set up a unified reporting template
Objective 7: Improved performance in risk evaluating at multi-levels (from provincial to national)					
7.1. Issue national guidelines on joint risk assessment (JRA)	2024-2025	+	+++	GDPM, DAH, MONRE	1) Review and finalize JRA guideline 2) Get the national JRA guideline approved
7.2. ToT training	2024-2025	++	+++	GDPM, DAH	1) Draft the plan and related materials for multi-level training 2) Conduct ToT training at national, regional levels and some prioritized provinces 3) Execute at all 63 provinces/ cities
7.3. Conduct intersectoral (joint) risk assessment at national and provincial levels	2024 - 2028	+++	+++	Intersectoral stakeholders from local to national level	1) Commence preliminary review and final review for risk assessment
FIELD INVESTIGATION, RESPONSE AND EMERGENCY FUNDING					
Objective 8: Reduced risk of infection of zoonoses for responders, field investigators while on duty in accordance with the One Health approach/ management					
8.1. Establish mechanism and resources for national reserve in case of emergency response	2028	+++	+++	MOF, MOH, MARD, MONRE	1) Identify the list including areas in need of a national reserve 2) Set up a multi-ministry task force to work with MOF in proposing, adding items to the national reserve list 3) Cooperate with MOF in building, finalizing and submission of the national reserve list
Objective 9: A institutionalized legal framework for a One Health approach in terms of investigating, responding, and controlling of zoonoses related emergencies					
9.1. Establishing legal framework for multi-ministry collaboration for response, zoonotic emergencies control	Q4, 2025	+++	+++	MOH and GDPM (in charge)	1) Review current regulations

				MARD and DAH (in charge) MONRE and PCD (Pollution Control Department) MOF, MOJ	2) Review all the current challenges, gaps and recommendations & draft a proposal for policy (at decree level or Prime Minister issued level) building 3) Set up an editorial team to help with new decrees building, issuing, and editing. Decrees must include specific division of labor among technical areas, standardized protocols, procedures, mechanism for allocating funding/ resources. 4) Submit for approvals
9.2. Draft a plan for and conduct multi-ministry simulation training for zoonoses and emergence of new diseases response	2026, 2028, 2030 (training conducted every 2 years after decrees' been issued)	++	++	MOH and GDPM MARD and DAH MONRE and PCD	1) Set up an editorial team 2) Draft the plan for multi-ministry simulation training (possibly every 2 years, adjustable according to real demand) 3) Commence training 4) Review and assess the results
Objective 10: Readily available resources for efficient investigation and response to zoonoses in accordance with the One Health approach					
10.1. Establish intersectoral technical procedures in response, investigate and emergencies, zoonoses control	Q4 2024	+	+++	MOH and GDPM MARD and DAH MONRE and PCD	1) Establish an intersectoral task force including Hygiene and Epidemiology, Testing, Tripartite (3 ministries) communication 2) Identify? SOPs 3) Draft the SOPs based on references from WHO, USCPC? and sources from different countries and past experience.
10.2. Establish an intersectoral and multi-level response team, optimize, improve performance	Q3 2024	++	+++	MOF, MARD, MONRE and provincial level	1) Approve the establishment of the response team 2) Draft the plan for training 3) Commence training for technical procedures 4) Provide support in simulation training
10.3. Establish mechanism and information-sharing system (apply digital technology)	Q2 2025	+++	+++	Tripartite	1) Have an information-sharing mechanism 2) Identify the scope, method, frequency, content and level of information-sharing 3) Set up an online information-sharing platform 4) Commence
10.4. Applying innovative technology in outbreak investigating and responding	Q1 2026	++	++	MOF, MARD, MONRE, research institutes and international organization	1) Study latest practices in testing, tracking, vaccines, drugs and technology (apps etc.) 2) Increase collaboration in research, bring new technology to Vietnam

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

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

WORKSHOP EVALUATION

An evaluation questionnaire was completed by 46 participants to collect feedback on the relevance and utility of the workshop.

Workshop evaluation	'Satisfied' or 'Fully satisfied'	Average score (/4)
Overall assessment	98%	3.7
Content	100%	3.6
Structure / Format	100%	3.7
Facilitators	98%	3.7
Organization (venue, logistics, ...)	96%	3.5

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

Impact of the workshop on...	'Significant' or 'Major'	Average score (/4)
Your technical skills / knowledge	93%	3.2
The work of your unit/department	91%	3.2
The intersectoral collaboration in The Philippines	91%	3.2

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

Satisfaction rate for each session						
Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7
3.5	3.5	3.5	3.5	3.5	3.6	3.5

Would you recommend this workshop to other countries?	
Absolutely	76%
Probably	17%
Likely not	7%
No	0%

APPENDIX

ANNEX 1: WORKSHOP AGENDA

DAY 1	
08:00 - 08.30	Registration of participants
08.30 - 9.10	<p>Opening Ceremony</p> <ul style="list-style-type: none"> • Representative of the 2 Ministries - MOH and MARD (10'), 5' for each remark • Regional and HQ Representative of Quadripartite (WHO + FAO + WOAHA + UNEP) • Country joint WHO + FAO remark, delivered by Dr. Angela Pratt, WHO Representative in Viet Nam. • USAID remark • Introduction of participants – Mentimeter
09.10 - 10.15	<p>Session 1: Workshop Objectives and National Perspectives</p> <p>The first session sets the scene by providing background information on the One Health concept and the subsequent tripartite WOAHA-WHO-FAO collaboration. It is followed by comprehensive presentations jointly delivered by MOH and MARD. A second documentary provides concrete worldwide examples of fruitful intersectoral collaboration, showing how the three sectors share a lot in terms of approaches, references and strategic views.</p> <ul style="list-style-type: none"> • Workshop approach and methodology • Quadripartite One Health collaboration and vision • Public Health and Veterinary Services and OH –Dr Pham Thanh Long, DAH; Dr Nguyen Thi Huong, GDPM
10.15 – 10.45	<u>Tea break and group photo</u>
10.45 – 12.00	<p>Session 2: Navigating the road to One Health</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"> • Presentation and organization of the working group exercise • Working groups by case study
Lunch (12:00-13:30)	
13.30 – 15.45	Case study (continued)- Working groups by case study: Restitution: Facilitated by international team
15.45 – 17.00	Visit RAHO II and Hai Phong Centre for Disease Control, participants divided into two groups. Need GDPM and DAH support
<p>Expected outcomes of Sessions 1 and 2:</p> <ul style="list-style-type: none"> • <i>Understanding of the concept of One Health, its history, its frameworks and its benefits.</i> • <i>Understanding that a lot of areas for discussion and possible improvements do exist and can be operational - not only conceptual.</i> 	

<ul style="list-style-type: none"> • <i>Level of collaboration between the two sectors for 15 key technical areas is assessed.</i> • <i>Collaboration gaps identified for each scenario.</i> 	
17.00 – 18.15	Facilitators and moderators only: Briefing Session 3-4-5 and compilation of results from Session 2
18.30 – 20.30	Welcome dinner
DAY 2	
08.30 - 11.00	<p><u>Session 3: Bridges along the road to One Health</u></p> <p>Session 3 presents the tools from both sectors (IHR MEF, JEE and PVS) and uses an interactive approach to map activities identified earlier onto a giant IHR-PVS matrix. 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>
	<p>MOVIE 2: IHR Monitoring and Evaluation Framework</p> <p>MOVIE 3: PVS Pathway</p> <p>MOVIE 4: IHR-PVS Bridging</p> <p>Mapping gaps on the IHR-PVS matrix</p> <p>Coffee break</p> <p>Discussion – Plenary: Q&A of above presentations and MOVIES</p>
<p>Expected outcomes of Session 3:</p> <ul style="list-style-type: none"> • <i>Understanding that tools are available to explore capacities in each of the sectors.</i> • <i>Understanding of the contribution of the veterinary sector to the IHR.</i> • <i>Understanding of the bridges between the IHR MEF and the PVS Pathway.</i> • <i>Identification of the technical areas to focus on during the next sessions.</i> 	
11:00 - 12:00	<p><u>Session 4: Crossroads - IHR MEF, JEE and PVS Pathway reports</u></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, SET etc.), extract relevant sections and identify what can be synergized or improved jointly.</p>
	<ul style="list-style-type: none"> • Presentation and organization of the working group exercise • Extract main gaps and recommendations from the PVS, IHR (including the JEE) reports, in relation to gaps identified on the matrix
Lunch (12:00-13:30)	
13:30 - 14:15	<p><u>Session 4 (continued)</u></p>
	<ul style="list-style-type: none"> • Extract main gaps and recommendations from the PVS and IHR (including the JEE) reports, in relation to gaps identified on the matrix
<p>Expected outcomes of Session 4:</p> <ul style="list-style-type: none"> • <i>Good understanding of the assessment reports, their purpose and their structure.</i> • <i>Main gaps and recommendations from existing reports have been extracted.</i> • <i>A common understanding of the effort needed starts to emerge.</i> 	
14:15–17:15	<p><u>Session 5: Road planning</u></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"> • Presentation and organization of the working group exercise + Coffee break • Identification of Activities (Working groups by technical topic)
<p>Expected outcomes of Session 5:</p>	

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

DAY 3

DAY 3	
8:30 - 11:00	<p><u>Session 6: Fine-tuning the roadmap</u></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>
	<ul style="list-style-type: none"> • Building the road map: Objectives and filling out of Activity cards • Coffee break • World Café • Fine-tuning roadmap: feedback on objectives and activities • Prioritization voting
<p>Expected outcomes of Session 6:</p> <ul style="list-style-type: none"> • <i>Harmonized, concrete and achievable roadmap.</i> • <i>Timeline, focal points, needed support and indicators have been identified for each activity.</i> • <i>The impact and the difficulty of implementation of proposed activities have been estimated.</i> • <i>Buy-in and ownership of all participants who contributed to all areas of the roadmap.</i> • <i>Prioritization of the activities.</i> 	
Lunch (12:00-13:30)	
11:00 - 13:15	<p><u>Session 7: Way forward</u></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 National Action Plan for Health Security (NAPHS) are discussed. This is also where any need from the country can be addressed. This will depend greatly on the current status of the country in terms of IHR-MEF and on the level of One Health capacity.</p>
	<ul style="list-style-type: none"> • Results of the prioritization vote • Integrating the action points into the IHR-MEF process • Next steps (lead by Ministry representatives) • Coffee break
<p>Expected outcomes of Session 7:</p> <ul style="list-style-type: none"> • <i>Linkages with NAPHS.</i> • <i>Identification of immediate and practical next steps.</i> • <i>Identification of opportunities for other components of the IHR-MEF.</i> 	
15:15 – 13:30	<p><u>Closing Session</u></p> <ul style="list-style-type: none"> • Evaluation of the workshop • Closing ceremony

ANNEX 2: LIST OF PARTICIPANTS

No	Name	Organization
1	Phan Trong Lan	General Department of Preventive Medicine (GDPM)
2	Nguyen Luong Tam	GDPM
3	Pham Hung	GDPM
4	Vu Ngoc Long	GDPM
5	Tran Dai Quang	GDPM
6	Nguyen Thi My Ha	GDPM
7	Hoang Van Ngoc	GDPM
8	Nguyen Thi Huong	GDPM
9	Do Xuan Chinh	GDPM
10	Hoang Thi Van Anh	GDPM
11	Nguyen Thi Hong	GDPM
12	Dinh Thu Trang	GDPM
13	Le Thai Ha	Health Environment Management Agency (VIHEMA)
14	Do Manh Cuong	VIHEMA
15	Nguyen Dang Vung	Institute of Preventive Medicine and Public Health - Hanoi Medical University
16	Pham Duc Phuc	Viet Nam One Health University Network (VOHUN)
17	Ha Hong Nhung	National Institute of Hygiene and Epidemiology (NIHE)
18	Ngo Huy Tu	NIHE
19	Nguyen Cong Khanh	NIHE
20	Nguyen Thi Thanh Huong	NIHE
21	Nguyen Quang Vinh	Tay Nguyen Institute of Hygiene and Epidemiology (TIHE)
22	Dang Huu Nguyen	TIHE
23	Huynh Kim Mai	Pasteur Institute in Nha Trang (PI NT)
24	Ha Tuan Anh	PI NT

25	Le Nguyen Duy Thinh	Pasteur Institute in Ho Chi Minh City (PI HCM)
26	Vu Pham Hong Nhung	PI HCM
27	Le Thu Thuy	Hanoi University of Natural Resource and Environment
28	Phan Hong Hai	Center for Disease Control (CDC) of Hai Phong City
29	Vu Thi Yen Minh	CDC of Hai Phong City
30	Pham Ngoc Hoan	CDC of Dien Bien province
31	Dao Viet Hung	CDC of Dien Bien province
32	Tu Ba Hai	CDC of Dien Bien province
33	Nguyen Thanh Hung	CDC of Dien Bien province
34	Duong Tien Hung	Department of Health, Nghe An province
35	Chu Trong Trang	CDC of Nghe An province
36	Nguyen Huy Anh	CDC of Nghe An province
37	Nguyen Cong Dung	Nghe An Department of Natural Resource and Environment
38	Pham Van Hau	Department of Health, Dak Lak province
39	Le Phuc	CDC of Dak Lak province
40	Bui Van Hinh	CDC of Dak Lak province
41	Nguyen Van Thinh	CDC of Dak Lak province
42	Dang Han	CDC of Quang Tri province
43	Truong Huu Nhan	CDC of Quang Tri province
44	Huynh Hoang Son	Department of Health, Ben Tre province
45	Pham Hong Thai	CDC of Ben Tre province
46	Tran Hung Nam	CDC of Ben Tre province
47	Tran Trong Hien	CDC of Ben Tre province

48	Tran The Vinh	CDC of Kien Giang province
49	Le Hoang Phuong	CDC of Kien Giang province
50	Danh Vinh	CDC of Kien Giang province
54	Nguyen Van Long	Department of Animal Health (DAH)
55	Phan Quang Minh	DAH
56	Nguyen Thi Diep	DAH
57	Nguyen Ngoc Tien	DAH
58	Hoang Thi Le Phuong	DAH
59	Pham Thanh Long	DAH
60	Chu Duc Huy	DAH
61	Trịnh Thi Tuyet	Department of Animal Health and Livestock, Hai Phong province
62	Bui Van Luyen	Department of Animal Health and Livestock, Hai Phong province
63	Bui Nguyen Toan	Sub-Department of Animal Health No. II
64	Truong Van Minh	Sub-Department of Animal Health No. II
65	Pham Xuan Truong	Sub-Department of Animal Health No. II
66	Tran Anh Tuan	Sub-Department of Animal Health No. III
67	Dang Van Hanh	Sub-Department of Animal Health No. III
68	Nguyen Thi My Phuong	Sub-Department of Animal Health No. IV
69	Nguyen Van Quyen	Sub-Department of Animal Health No. V
70	Le Chi Kien	Sub-Department of Animal Health No. V
71	Nguyen Kim Dung	Sub-Department of Animal Health No. VI
72	Tran Duc Trung	Sub-Department of Animal Health No. VI
73	Tran Quoc Phong	Sub-Department of Animal Health No. VII

74	Cao Nhut Truong	Sub-Department of Animal Health No. VII
75	Nguyen Dang Tho	National Centre for Veterinary Diagnosis (NCVD)
76	Nguyen Thi Thu Hien	National Institute of Veterinary
77	Le Thi Hong Ngan	Sub-Department of Animal Health and Livestock, Dak Lak province
78	Tran Thi Minh Thi	Sub-Department of Animal Health and Livestock, Dak Lak province
79	Tran Ngoc Son	Sub-Department of Animal Health and Livestock, Dak Lak province
80	Le Ngoc Hao	Department of Nature and Biodiversity Conservation
81	Tran Thi Huong Lien	Sub-Department of Animal Health and Livestock, Ben Tre province
82	Truong Tan Liem	Sub-Department of Animal Health and Livestock, Ben Tre province
83	Huynh Nguyen Duy	Department of Agriculture and Rural Development, Ben Tre province
84	Dao Van An	Department of Agriculture and Rural Development, Quang Tri province
85	Duong Van Tuong	Sub-Department of Animal Health and Livestock, Nghe An province
86	Nguyen Viet Luong	Sub-Department of Animal Health and Livestock, Nghe An province
87	Ha Thi Thuy	Sub-Department of Animal Health and Livestock, Dien Bien province
88	Pham Thi Loan	Sub-Department of Animal Health and Livestock, Dien Bien province
89	Le Nguyen Thi Nhu Lan	Sub-Department of Animal Health and Livestock, Kien Giang province
90	Huynh Thi Ngan	Sub-Department of Animal Health and Livestock, Kien Giang province
91	Angela Maree Pratt	World Health Organization Representative Office in Viet Nam (WHO Viet Nam)
92	Nguyen Thi Phuc	WHO Viet Nam
93	Do Thi Hong Hien	WHO Viet Nam
94	Nguyen Thi Vinh	WHO Viet Nam
95	Sophie Dorothea Celle Maria Von Dobschutz	WHO HQ in Geneva
96	Pawin Padungtod	Food and Agriculture Organization in Viet Nam (FAO Viet Nam)
97	Vo Duy Thanh	FAO Viet Nam

98	Le Thi Dung	FAO Viet Nam
99	Ta Ha My	FAO Viet Nam
400	Randolph Henri Augustin	United States Agency for International Development (USAID)
101	Myat Htoo RAZAK	USAID
102	Kim Thuy Oanh	USAID
103	Vo Ngan Giang	USAID
104	Lindsay Kim	United States Centers for Disease Control and Prevention (USCDC) in Viet Nam
105	Do Thuy Trang	USCDC
106	Nguyen Thi Minh Thoa	USCDC
107	Goutard Flavie Luce	CIRAD
108	Nguyen To Nhu	PATH
109	Nguyen Thanh Huyen	PATH
110	Nguyen Ngoc Thang	DTRA
111	Nguyen Manh Hiep	IUCN
112	Roya Karimnia	GIZ
113	Le Thanh Hai	GIZ
	International Facilitators	
114	Stephane De La Rocque	WHO HQ in Geneva
115	Jessica Kayamori Lopes	WHO Regional Office for Western Pacific
116	André Furco	WOAH, Head Quarter in Paris
117	Pennapa Matayompong	World Organization for Animal Health (WOAH), Office in Bangkok, Thailand
118	Chantanee Buranathai	WOAH, Office in Bangkok, Thailand
119	Yin Myo Aye	RAO Regional Office in Bangkok, Thailand
120	Marie-Yon Strucker	United Nations Environment Programme (UNEP), Regional Office in Bangkok, Thailand

