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National Bridging Workshop on the International Health Regulations (IHR) and the Performance of Veterinary Services (PVS) Pathway

20-22 July 2022

Bangkok, Thailand



Organized by MoH, MoAC, WHO, WOAH and FAO

Acknowledgments

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ABBREVIATIONS & ACRONYMS

AI	Avian Influenza
AMR	Antimicrobial Resistance
CUOH	Coordinating Unit of One Health
DDC	Department of Disease Control
DLD	Department of Livestock
DNP	Department of National Parks, Wildlife and Plant Conservation
DOF	Department of Fisheries
EID	Emerging Infectious Disease
FAO	Food and Agriculture Organization of the United Nations
FDA	Food and Drug Administration
IHR	International Health Regulations (2005)
ICT	Information and Communication Technology
JEE	Joint External Evaluation
MEF	Monitoring and Evaluation Framework
MNRE	Ministry of Natural Resources and Environment
MoCA	Ministry of Agriculture and Cooperatives
MoPH	Ministry of Public Health
MoU	Memorandum of Understanding
NBW	National Bridging Workshop
OHHLEP	One Health High Level Expert Panel
PVS	Performance of Veterinary Services
SDGs	Sustainable Development Goals
SOP	Standard Operating Procedures
SPAR	State Party Self-Assessment Annual Report
THAIOHUN	Thailand One Health University Network
SEAOHUN	Southeast Asian One Health University Network
TOR	Terms of Reference
TWG	Technical Working Group
WHO	World Health Organization
WOAH	World Organisation for Animal Health

INTRODUCTION

BACKGROUND

- The World Health Organization (WHO), the World Organisation for Animal Health (WOAH) and the Food and Agriculture Organization (FAO) are the main international organizations responsible for proposing references and guidance for the public health and animal health sectors respectively. The 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. 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 Animal Health 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 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 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 IHR-PVS National Bridging Workshop (NBW) is a three-day workshop which brings together stakeholders from different 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 thirty 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 Thailand,

- a PVS Evaluation mission was conducted in 2012
- a Joint External Evaluation (JEE) was conducted in 2017

OBJECTIVES OF THE WORKSHOP AND EXPECTED OUTCOMES

The main objectives of the IHR-PVS NBW are to provide an opportunity to human health, animal health and environmental services of hosting countries to review their current collaboration gaps in key technical areas of One Health. Next, to develop a joint road-map of corrective measures and strategic investments to improve the collaborative work at the animal-human-environmental interface in the prevention, detection and control of zoonotic diseases, food-safety and control of antimicrobial resistance.

The IHR-PVS NBWs focus on the following strategic objectives:

- Increased awareness and understanding on the IHR-MEF and the WOAHPVS 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, human health and environmental 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 three sectors.

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



The NBW roadmap poster illustrates the processes in which actors from relevant sectors joint efforts to go through the IHR-PVS NBW to achieve the development of a joint One Health workplan

REPORT ON THE SESSIONS

From 20 to 23 July 2022, the National Bridging Workshop (NBW) on the International Health Regulations (IHR) and the Performance of Veterinary Services (PVS) Pathway for Thailand was held in Bangkok. The Workshop was hosted at the kind invitation of the Government of Thailand, with organizational support from WHO, WOA and FAO.

The Workshop was attended by 81 participants (including facilitators) from key national institutions addressing One Health actions at central (national), regional and provincial levels. The participants were from the Department of Disease Control (DDC), National Institute of Health, Food and Drug Administration (FDA) Ministry of Health (MoH), Department of Livestock Development (DLD), Department of Fisheries (DOF) of Ministry of Agriculture and Cooperatives (MoCA), Department of National Parks, Wildlife and Plant Conservation (DNP) of Ministry of Natural Resources and Environment (MNRE). Furthermore, the participants included observers from WHO, WOA, FAO regional offices who had actively participated during the three-day workshop. The list of the participants is provided in [Annexure 2](#).

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 follows:

OPENING SESSION

Welcoming of the participants and opening remarks were provided by Dr Sopon Lamsirithaworn, Deputy Director General of the DD, Dr Sopat Chavalkul, Deputy Director General of the DLD, Dr Richard Brown, Acting WHO Representative to Thailand, WHO, Dr Ronello Abila, Sub-Regional Representative, WOA, Dr Kachen Wongsathapornchai, ECATD Regional Manager of FAO.

They highlighted the importance of the One Health approach and much needed fruitful collaboration between Human, Animal and Environmental health, identifying gaps in order to progress towards a better coordination, collaboration, and development of a One Health roadmap to build the sustainable bridge between the sectors. Everyone highlighted that the NBW was organized on right time and expressed the strong need to strengthen coordination and collaboration amongst the key sectors to better manage future pandemics based on the lessons learnt from COVID-19 pandemic (including ongoing global epidemic of Monkey pox), and prevention and control of important zoonotic diseases like brucellosis, rabies, anthrax and zoonotic avian influenza virus, corona virus affecting Thailand. Furthermore, Thailand is preparing to conduct second IHR JEE from 31 October to 4 November 2022. The DDC and DLD highlighted the several successful ongoing One Health collaboration and

coordination activities between sectors beginning from 2013 onwards following the outbreaks of H5N1 virus, SARS (severe acute respiratory syndrome [SARS-CoV-1]), pandemic influenza H1N1 2009. Many successful joint activities are still being conducted for prevention and control of EIDs (avian influenza viruses, rabies, COVID-19 pandemic, including AMR) despite the challenges posed by COVID-19 pandemic. The Memorandum of Understanding (MOUs) for collaboration and joint activities were signed between five departments first in 2013 and established One Health coordinating unit in DDC, followed by signing of more comprehensive second MOU in 2016 between 8 ministries. Thailand has jointly developed the National Emerging Infectious Diseases (EID) Strategic Plan (2017-2021) and observed regularly the Global One Health Day since 2017 onwards. Thailand has a good working model of One Health collaboration and coordination and it was stressed that Thailand can enhance it further to serve as a role model in the region. The DDC and DLD extended their great appreciation and thanks to WHO, WOA and FAO for supporting and facilitating this very important IHR-PVS NBW. Both DDC and DLD including quadripartite organizations and other key stakeholders have affirmed their strong and continued commitment to strengthen the One Health collaboration for prevention and control of EIDs, and highlighted that the joint organization of the NBW is another testament of it.

SESSION 1: THE ONE HEALTH CONCEPT AND NATIONAL PERSPECTIVES

The Session 1 begun with the presentation on Quadripartite One Health collaboration and commitments, and recent development in the institutional landscape by Dr Gyanendra Gongal of SEARO, New Delhi. He highlighted One Health in action during COVID-19 pandemic, establishment of OHHLEP (One Health High Level Expert Panel), joint plan of actions on One Health developed, and development of various assessment and operations tools and Asia-Pacific initiatives for advocacy and operationalization of One Health. He explained about the six action tracks commitment of Quadripartite; Action Track 1: Enhancing One Health capacities to strengthen health system; Action Track 2: Reducing the risk from emerging and re-emerging zoonotic epidemics and pandemics; Action Track 3: Controlling and eliminating endemic zoonotic, neglected tropical and vector-borne diseases; Action Track 4: Strengthening the assessment, management and communication of food safety risks; Action Track 5: Curbing the silent pandemic of antimicrobial resistance (AMR) development; Action Track 6: Integrating the environment into One Health. He also highlighted that the collaboration and coordination of One Health approach is good at central level, but poor at the local level; and surveillance, risk communication, risk assessment, outbreak response management are poorly scored in general for all countries. Therefore, One Health capacity building at all levels in a well-coordinated and collaborative manner including the ownership by all the countries are very crucial for the success of the One Health programs.

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 WHO, WOA and FAO.

The DDC and DLD presented their structure, priorities and challenges, as well as ongoing One Health activities and collaboration as follows:

Veterinary services and One Health:

Dr Waraonsiri Charoenlarp of DLD presented DLD mission and vision, organizational structure, laws and legislations, priority diseases (zoonotic diseases such as Salmonellosis, tuberculosis, brucellosis, *Streptococcus suis*, rabies, trichinellosis, leptospirosis including exotic diseases like avian influenza, Nipah virus, African Swine Fever, West Nile virus, etc), animal health disease surveillance and reporting system, Thai Rabies Net, multi-sectoral collaboration on zoonotic diseases surveillance, joint outbreak investigation, AMR, laboratory and epidemiology capacity development, SARS-CoV-2 surveillance in animals, and experiences sharing on best practices. He also presented the current challenges faced such as inadequate and timely information sharing between the sectors (not up-to date and lack of accessibility to complete information, redundancy in some information), inadequate collaboration and linkages at subnational levels, and way-forward (building capacity for new generation One Health leaders) for enhancing One Health collaboration and coordination in Thailand from animal health perspective.

Human health services and One Health:

Dr Teerasak Chuxnam of DDC presented on the Thailand One Health from the public health perspective. He presented the history of One Health activities in Thailand beginning with Rabies, avian influenza and SARS and H1N1 2009 and COVID-19 pandemics. He also highlighted the MoUs signed for multisectoral collaboration and coordination between sectors beginning from 2013 onwards, establishment of Coordinating Unit for One Health (CUOH) at DDC, observation of Global One Health Day regularly and development and implementation of National EID Strategic Plan (2017-2020). The EIDs governance system in Thailand included National EIDs Committee at the highest level, National EIDs sub-committee (One Health) under it and then Steering Committee of Coordinating Unit for One Health. The organogram for it was also presented to the participants. He also presented the results of the functional One Health assessment, Joint Risk Assessment on Avian Influenza conducted in Thailand. The top five priority zoonotic diseases of One Health importance included zoonotic influenza, corona viral diseases (COVID-19, SARS, MERS), Nipah virus, Rabies and Ebola. He also highlighted the successful on-going Field Epidemiology Training Program and One Health Leadership training planed from 17-18 August 2022. He outlined the lessons learnt on collaboration such as importance of building TRUST amongst the stakeholders, importance of continuing One Health activities to keep the sectors engaged, One Health workforce capacity development in each sector, importance of conducting advocacy and awareness on One Health approach to policy makers regularly. He emphasized that One Health approach is incorporated into the National EIDs Strategic Plan.

Dr Laure Weber-Vintzel explained the workshop approach and methodology, and the participant handbook was presented.

A second documentary video provided participants with concrete worldwide examples of intersectoral collaboration in addressing health issues at the human-animal interface.

Outcomes of Session 1:

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

- Multisectoral collaboration between animal and human health sectors is relatively good in Thailand, but often happens mainly during outbreaks; with a better coordination mechanism and preparedness, much more could be done at the human-animal-environment interface, particularly engaging the environmental sector;
- 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;
- The membership and organizational structure of Coordinating Unit of One Health needed to be reviewed;
- Completeness and timely information sharing including accessibility to complete information on zoonotic EIDs is not adequate currently;
- WHO, WOAHA and FAO 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 different sectors and administrative levels (Central, Regional and Provincial). Groups were provided with a case study scenario (Table 1) based on the diseases relevant to the local context (Avian Influenza, Salmonellosis, Rabies, Corona virus group, and Brucellosis) developed in collaboration with the national representatives.

Table 1: Scenarios used for the different case studies

1. Avian influenza

Two persons were admitted at the Chulalongkorn Hospital with symptoms such as fever, cough, and acute pneumonia. Laboratory testing by RT-PCR resulted positive for H5N1 subtype of avian influenza. 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 ducks.

Based on this case scenario and experiences from the previous outbreaks of zoonotic influenza, discuss on 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.

2. Salmonellosis

Ninety people in Kanchanaburi sought medical attention when they suffered high fever, nausea, diarrhea and severe abdominal pain, 12-72 hours after eating breakfast at a marriage party in a prominent hotel. The large majority of the patients had eaten poached omelet. 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 to Salmonella species. The Managing Director of the hotel said that it sourced its eggs from a supplier operating 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 on 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.

3. Rabies

A case of rabies which was confirmed in a dairy cow recently inseminated and regularly milked, generates panic in Sa Kaeo Province. A stray dog which was known to have bitten two cows and was behaving aggressively towards people was reported to have bitten some children in the same area. It was killed by the community people two days ago. The carcass of the dog was destroyed before the Veterinary authorities were able to take the head of the dog for confirmation of diagnosis. It is worth noting that 2 jackals were found dead in the previous weeks.

Based on this case scenario and experiences from the previous outbreaks of rabies, discuss on 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.

4. Corona virus group (or unknown disease involving wildlife, people and domestic animals)

Since May 2022, there has been spike in the number of cases of COVID-19 in Uthai Thani Province. Few staff of the Huai Kha Khaeng Wildlife Sanctuary present acute respiratory symptoms along with high grade fever, muscle and joint pains, scratchy throat, cough, diarrhea, and malaise, etc. The disease is spreading easily and fast within their families and contacts. The large majority of these staff and families also have recently recovered from Omicron variant. The majority of the elderly patients who were fully vaccinated were hospitalized with severe pneumonia, unlike the Omicron variant circulating in the local communities. Few elderly people who were fully vaccinated but with pre-existing comorbidities have died.

Upon investigation, they have found that several tigers have presented respiratory symptoms that were not reported to wildlife veterinarians or veterinary authority. One of the sick tigers died after few days. Based on this case scenario and experiences from the previous outbreaks of COVID-19, discuss on 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.

5. Brucellosis

During the last month three goats all belonging to a small-holder farmer in Pattani Province 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 the District Veterinary Office. However, the third abortion took place a day before market day and he happened to be in town, where he met the District vet and he mentioned that 3 of his goats had recently aborted. After investigations, 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 NIAH for a rose Bengal test. The three were positive to brucellosis.

Based on this case scenario and experiences from the previous outbreaks of brucellosis, discuss on 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

Using the experiences from previous outbreaks of zoonotic diseases, the groups discussed how they would have realistically managed these events, and evaluated the level of collaboration between the veterinary and the public health services 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).

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



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

During a plenary session, each group presented and justified the results of their work. Output 1 summarizes the results from the five diseases groups. We can see that for the three well known diseases (zoonotic avian influenza, rabies and corona virus group) there is a good collaboration with only one red color each of the diseases, whereas there were more of red color for salmonellosis and brucellosis indicating the poor collaboration in the majority of the technical areas, and therefore require improvements in several areas. Many gaps exist for salmonellosis and brucellosis given they are relatively more prevalent in Thailand compared to other diseases, but were relatively neglected. This highlights the urgency to address the gaps in this domain to make One Health approach more inclusive for other important zoonotic diseases. Furthermore, there is only moderate collaboration in

emergency funding, coordination at technical level, risk communication, communication with media, legislations for all the diseases featuring as systemic gaps in these technical areas, and should be considered for strengthening them.

Outcomes of Session 2:

- Areas of collaboration were identified and joint activities discussed.
- Level of collaboration between the sectors (MoH, DLD, including environment and food safety) 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.

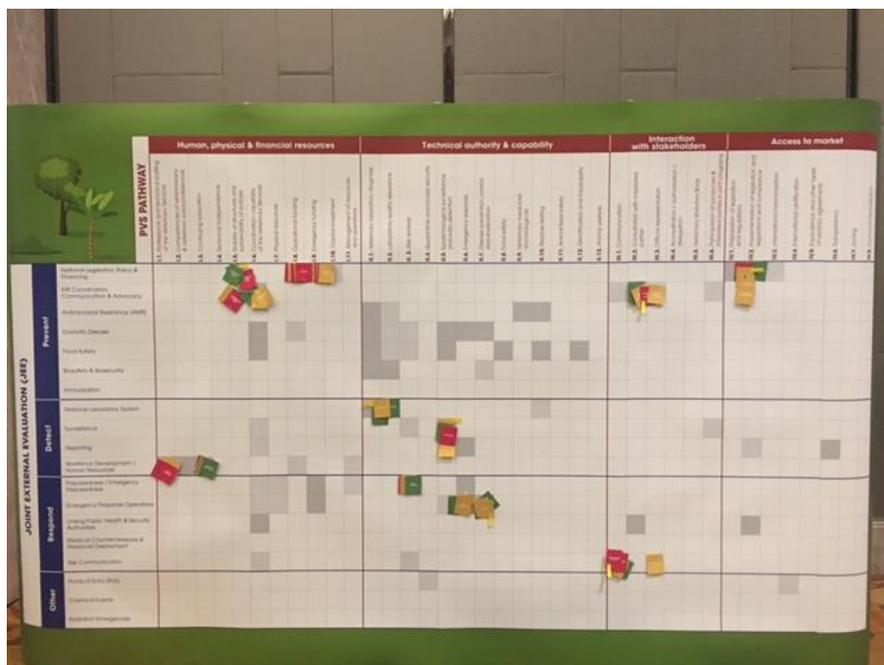


Figure 2: Mapping of the gaps by positioning the selected technical area cards on the IHR-PVS matrix.

The main gaps (clusters) identified were discussed, this time on a systemic level (all diseases combined). Overall, we could see that 6 technical areas were scored positively above average: Coordination at high level, field investigation, response, laboratory, coordination at local level, education and training. However, there are systemic gaps in approximately half the technical areas mainly in finance, human resource capacity, emergency funding, coordination at technical level, surveillance and legislation, and to some extent for risk assessment and communication.

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

- Group 1: Coordination and Governance
- Group 2: Surveillance
- Group 3: Education and Training
- Group 4: Communication
- Group 5: Legislation

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 that most gaps identified are not disease-specific but systemic was ascertained.
- Identified the broader but related technical areas to focus on during the next sessions.

SESSION 4: CROSSROADS – PVS PATHWAY AND IHR MEF REPORTS

New working groups with representation from all previous groups were organized for each of the five priority technical areas (Figure 3).

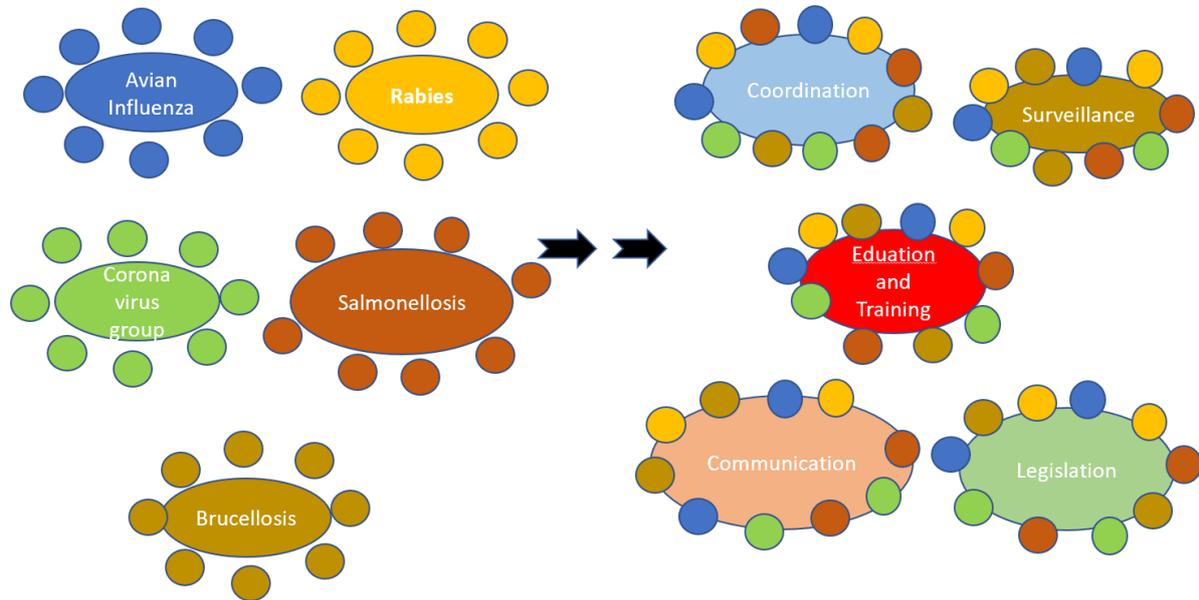


Figure 3: Generic graph describing the organization of working groups for Session 2-3 (left) and Session 4-5 (right).

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 extracted the main findings and recommendations relevant to their technical area (Figure 4).



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

Outcomes of Session 4:

- Participants got a good understanding of the assessment reports for different 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 existing reports were extracted for One Health roadmap development.

SESSION 5: ROAD PLANNING

Using the same working groups as for the previous session, participants were asked to identify, for each technical area, up to 7 priority activities that the sectors should implement in order to improve their collaboration in the future. 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 and PVS reports during Session 4;
- the technical activity cards, which give several examples of possible joint activities;
- the gaps highlighted in the presentations of the ministries (DDC and DLD presentations);
- the experiences of all the participants in working on a daily basis in the human health, veterinary and environmental health sectors of Thailand.

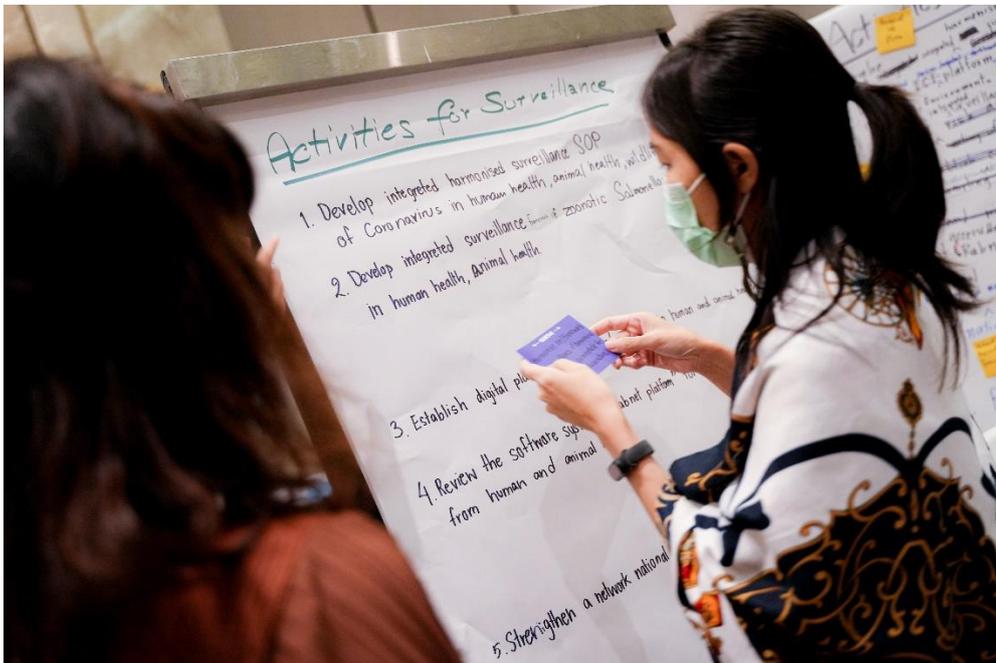


Figure 5: The group working on “Surveillance” is using the results of the previous sessions to identify joint activities to improve the collaboration between the three sectors in this domain.

Outcomes of Session 5:

- Clear and achievable activities were identified to improve multisectoral collaboration between the three sectors for all discussed technical areas.

SESSION 6: FINE-TUNING THE ROADMAP

After 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 each activity, the importance of the identifying an activity that is as operational as possible, with very clear and precise actionable steps (Figure 6).



Figure 6: Examples of extraction of gaps and recommendations from PVS country evaluation report and JEE country report and identification and development of activities by the Surveillance Group

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. For example, Activity 2.1 on “**Develop an integrated and harmonized surveillance framework/protocol for zoonotic diseases of pandemic potential (e.g. corona viruses) at human-animal-environment interface taking the One Health approach**” and Activity 2.2 on “**Develop integrated surveillance framework/protocol for priority foodborne diseases (Salmonella spp, Campylobacter spp, E.coli, etc)**” were regrouped under a common Objective “**Objective 2: Enhance integrated and harmonized surveillance framework for zoonotic disease of pandemic potential and priority foodborne diseases**”.

A World Café exercise was then organized to enable participants to contribute to the action points of all technical areas (Figure 6). Each group nominated 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 20 minutes 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 9 key objectives and 25 activities. The detailed results are presented in [Output 2](#).

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 46/62 (74.2%) participants voted. The result of the prioritization is shown in Figure 8. The top three objectives voted are to enhance One Health governance system at all administrative levels (83%), improve understanding of One Health approach and its implementation by key decision makers (74%), and improve effectiveness of One Health communication at local level (74%). Full results of the vote is provided in [Output 3](#).



Figure 7: The final roadmap is displayed, and participants could vote for the five objectives they believe are of highest priority



Figure 8: Example of the Roadmap section on 'Education and Training', which is composed of 3 objectives and 4 activities.

Outcomes of Session 6:

- A harmonized, concrete and achievable roadmap to improve the coordination and collaboration between the animal health, human health, food safety and environmental sectors in the prevention, detection and response to zoonotic diseases outbreaks and food safety 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

Results of the prioritization vote were presented and discussed. A final plenary session was organized to discuss on the way forward, and to give all participants a chance to express themselves on the resulting roadmap and how they seemed would be the best way to start its implementation. This session was entirely facilitated by national stakeholders.

The session was jointly facilitated by Drs Dr Waroonsiri Charoenlarp, DLD and Dr Teerasak Chuxnam, DDC. Key points discussed and expressed by the participants were:

- Every participant expressed the satisfaction with the workshop stating that the NBW was organized at right time and highlighted the importance of the One Health approach given the lessons learnt from COVID-19 pandemic and on-going Monkey pox global epidemic.
- A very good and realistic One Health roadmap was developed through this workshop and everyone should try to implement these activities to obtain tangible results.
- The Nation EID Strategy plan (2017-2022) incorporated and emphasized the importance One Health approach for prevention and control of EIDs and well aligned with One Health concept
- The CUOH has conducted zoonotic disease prioritization and One Health functional assessment.
- Emphasized that need to review the existing One Health governance including membership and formally institutionalizing it.
- The need to strengthen multisectoral coordination and collaboration was emphasized given Thailand is also identified as high-risk 'hotspot' for emerging infectious diseases, and being the most favourite tourist destination.
- A strong foundation of One Health exists in Thailand including Field Epidemiology Training Program, particularly for zoonotic avian influenza and rabies. However, the collaboration needed to be improved in surveillance and control of neglected zoonotic diseases of foodborne origin, brucellosis and other neglected tropical diseases.
- The One Health human resource capacity needed to be strengthened at subnational levels, particularly at the district level.
- The need to adopt latest Information and Communication Technologies including other digital technologies was highlighted.

- The need to strengthen foodborne disease surveillance between DDC, FDA and DLD taking the One Health approach was recommended.
- The need to improve collaboration and coordination activities, particularly integrated surveillance for AMR, AMC/AMU were emphasized.
- The need to improve adequate and timely information sharing on zoonotic diseases, food safety and AMR were emphasized.
- The need to enhance awareness and coordination to manage INFOSAN in the country was also highlighted.
- The need to establish sector One Health Coordination unit in DLD, FDA, Wildlife and Department of Department of National Parks, Wildlife and Plant Conservation of MNRE was recommended.
- It was also pointed out that the food safety related to seafood are a serious concern as they are not regulated like other food products.
- The need to develop program with rich One Health key concepts and contents and train One Health leadership including advocacy and awareness on One Health to policy makers were recommended. For this the THAIOHUN and SEAHUN can play a crucial role.
- The need to review and revise the National EID considering the lessons learnt from COVID-19 pandemic was also recommended.

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

- Drs Waroonsiri Charoenlarp, DLD and Teerasak Chuxnam, DDC, Richard Brown, Acting WHO Representative to Thailand of WHO, Gyanendra Gongal of WHO-SEARO, Yin Myo Aye of Regional One Health and Tripartite Specialist of ECTAD, FAO, Bangkok, Gian Cosseddu from FAO Rome, Ronello Abila, Sub-regional Representative of WOA, Bangkok provided the workshop closing remarks.

Following were the gist of closing remarks:

- They extended the appreciation and gratitude of Government of Thailand to WHO, WOA, and FAO for supporting the organization of the NBW, and thanked the international facilitators for providing excellent technical expertise and facilitation of the workshop, local organizers of the workshop, interpreters, IT experts, and participants for actively participating in the workshop, and coming up with the excellent roadmap for One Health capacity building in Thailand.
- The workshop was organized at a right time as One Health approach is gaining worldwide importance, particularly due to COVID-19 pandemic and global epidemic of Monkey pox.

- 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 as well as AMR.
- Everyone worked hard to build the excellent One Health roadmap for strengthening One Health capacity in Thailand and everyone from all the sectors must make concerted efforts to work together.
- The NBW has enabled to build network amongst professionals from different sectors and therefore working together will be easier and more effective.
- It was highlighted that that Thailand has good capacity for current and future public health emergency events related to EIDs and therefore create environment that is rich for dynamisms and strong collaboration, and tripartite will facilitate and support in terms of technical assistance and funding support to strengthen the implementation of one Health roadmap.
- Encourage to use several multisectoral collaboration and coordination tools already developed by Tripartite such as tripartite Zoonoses control guidance, JRA, SISO, MCM Operational Toolkit and NBW Rabies for assessment and continued improvement, and elimination of important diseases.
- Future NBW can be conducted at the subnational level like in Indonesia.
- Conduct of simulation exercises for assessing the functioning of INFOSAN.
- FETPV and FETP for Wildlife and Environment sectors has been developed and supported by FAO and ready to support scaling them up in Thailand.
- Readiness of Quadrapartite to support surveillance and risk reduction measures of EIDs and pandemic prevention.
- The Tripartite (WHO, WOAHA, FAO) congratulated and extended their appreciation to the local organizers, particularly the two coordinators (Drs Waroonsiri Charoenlarp and Dr Teerasak Chuxnam) for their excellent support for the preparation and conduct of the NBW.
- The Tripartite expressed their commitment and assurance to facilitate the implementation of One Health roadmap of Thailand and will closely work together with the local key stakeholders.

All the material used during the workshop, including movies, presentations, documents of references, results from the working groups, photos, videos were uploaded on the Google Drive (<https://drive.google.com/drive/folders/1opROhX0Z0vykrKYwqY63SAfOcnu6aSTD?usp=sharing>) and the participants were asked to download them from the website.

OBSERVATIONS AND RECOMMENDATIONS FROM THE FACILITATORS

The following observations and recommendations are made by the facilitators:

- Thailand is one of the leading countries in One Health approach and has established strong foundation of multisectoral coordination and collaboration mechanism, particularly between human health and animal health sectors. However, no formalized independent and all-inclusive multisectoral governance does not exist. This is important from the sustainability perspective.
- A strong commitment from all participants of the NBW was visible and a good network amongst professionals from different sectors was established, particularly the young professionals of key sectors.
- There is a need to enhance engagement of the environment and private sectors, local and international NGOs in One Health governance.
- The One Health approach needed to be strengthened in food safety.
- The One Health approach at the district level including engagement of local communities through village health volunteers needs to be strengthened
- To operationalize the One Health governance, there is a need to establish a One Health Secretariat with officials appointed from each sector and will serve as secretariat to inter-ministerial committee for One Health.
- A One Health Strategy Framework or plan needs to be developed for identifying One Health agenda and prioritize the activities at regular intervals. This is important to sustain the One Health initiatives in Thailand.
- One Health collaborative research is minimal and needed to be strengthened through One Health research mapping exercise and identifying priority research agenda.
- Review and amend the relevant policies and legislations to formalize the One Health multisectoral mechanisms.
- The priority activities identified in the Roadmap need to be implemented as soon as possible as to not lose the momentum gained during the NBW, but also because donors and financiers are interested to fund One Health activities, borrowing from experiences and lessons learnt from the COVID-19 pandemic. The One Health team could use the outputs of the NBW to further apprise their policy makers in the Ministries for mobilization of funds, both from national sources as well as from donors to implement the Roadmap.
- There is no dedicated program of One Health approach orientation program for newly recruited medical and veterinary professionals.
- Create an enabling environment by public institutes to change the working environment and inter-institutional arrangements for trained people to use these newly-acquired competencies. When proving difficult, public institutions may use partnerships with private entities, outsourcing certain One Health coordination and collaboration activities in partnership with local and international Quadripartite organizations, WCS and NGOs.

WORKSHOP OUTPUTS

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

Technical area (cards)	Zoonotic influenza	Salmonellosis	Rabies	Corona virus	Brucellosis	Score
Finance	2	2	1	1	2	8
Human resources	1	2	1	2	2	8
Emergency funding	1	2	1	1	2	7
Coordination at technical Level	1	1	1	1	2	6
Surveillance	0	1	1	1	2	5
Legislation / Regulation	1	1	2	0	1	5
Communication w/ media	0	2	1	0	2	5
Risk assessment	1	1	1	0	2	5
Communication w/ stakeholders	1	2	1	0	1	5
Education and training	1	0	0	1	2	4
Coordination at local Level	0	2	0	1	1	4
Laboratory	0	1	1	0	1	3
Response	0	1	1	0	1	3
Field investigation	0	1	0	0	2	3
Coordination at high Level	0	0	0	0	2	2

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 red card, 1 for a yellow card and 0 for green card).

OUTPUT 2: OBJECTIVES AND ACTIONS IDENTIFIED PER TECHNICAL AREAS (ROADMAP)

Action	Timeline	Difficulty (1-3 scale)	Impact (1-3 scale)	Responsibility	Process
I. ONE HEALTH GOVERNANCE AND COORDINATION					
Objective 1: To enhance the One Health governance system at all administrative levels					
1.1. Review and revise the One Health governance system at central and subnational levels (regional/provincial and district levels)	2022-2023	++	+++	CUOH (Coordination Unit of One Health) of DDC	<ul style="list-style-type: none"> a) Organize a multi-sectoral consultative workshop of One Health sub-committee to review and revise the governance system at all administrative levels (national, regional, provincial and district levels). b) Identify all the stakeholders related to One Health including their roles and responsibilities c) Define a functional, all-inclusive One Health governance system to formally institutionalize it. d) Organize the stakeholders meeting again to endorse the final governance framework and seek confirmation of the commitment on the revised governance system e) Seek endorsement of the revised governance system from Cabinet/Permanent Secretaries f) Sign MoU by all the One Health sectors (DDC, FDA of MoPH, DLD of MoCA, Wildlife, environment, etc) g) Print, notify and circulate the revised governance system to all stakeholders
1.2. Conduct functional assessment of One Health again based on the experiences learnt from Pandemic and taking into consideration other tools such as MCM-OT (Multi-sectoral One Health Coordination Mechanism Operational Tool of Tripartite) and USAID One Health -App Workshop Resources.	2022 (Phase 1 at central level for 5 months) 2023 (Phase 2 at local level for 12 months)	+	+++	CUOH (Coordination Unit of One Health) of DDC	<ul style="list-style-type: none"> a) Review the existing tools to be used like newly developed MCM-OT. For previous One Health functional assessment, a USAID One Health App resource tool was used b) Identify the resource persons and participants at central and subnational levels c) Pilot test the tools and validate it d) Organize workshop to conduct the assessment of One Health coordination and collaboration including capacity assessment considering learning from the COVID-19 pandemics and potential future pandemic prevention perspective as well e) Compile the assessment reports and circulate with all the stakeholders f) Consolidate the gaps and incorporate into 5 year strategic plan
1.3. Develop One Health Strategic framework and action plan	2022-2023	++	+++	CUOH	<ul style="list-style-type: none"> a) Identify either national or international consultant or lead expert who can facilitate and develop the framework and action plans (November/Dec 2022) b) Organize a 3 to 5-day workshop to develop the strategic framework and action plan (Dec) c) Circulate the draft framework and action plan for review and endorsement by all stakeholders (March/April 2023) d) Submit the plan for review and endorsement by Emerging Infectious Diseases (EID) or Communicable Diseases Committee (CD) (May) e) Submit the draft for approval by the One Health Inter-Ministerial Steering committee (June 2023) and/or Cabinet

					f) Print and circulate the plan to all the stakeholders for the implementation after securing budget
1.4. Establish One Health Coordination Unit each in DLD (Animal Health) and Department of Natural Parks, Wildlife and Plant Conservation of Ministry of Natural Resources and Environment (Environmental Health) similar to the one in Department of Disease Control to coordinate One Health activities within a sector	2022-2023	+++	+++	CUOH, DLD and Department of National Parks, Wildlife and Plant Conservation of MNRE	a) Develop the functional mandate and ToR of the sector One Health coordination unit with staffing b) Submit the proposal to the Director General and MoCA and MNRE c) Establish the One Health coordination unit through executive order or notification d) Provide orientation and training to the staff
1.5. Establish a Joint Network of National Experts on Priority Zoonotic Diseases consisting of members from DDC, DLD, Department of Natural Parks, Wildlife and Plant Conservation (DNP), Department of Fisheries, Academia and Department of Medical Sciences (DMSC)	2023	+	+		a) Review existing network and modify or adapt them to establish this joint network b) Organize workshop or meeting to develop mandate and/or TOR for this network c) Identify and designate the members d) Issue an executive order e) Organize workshop to provide orientation and training to members f) Continue to organize meetings and workshops to carry out their assigned task as per the TOR g) Conduct regular monitoring and evaluation of the functioning of the network
II. SURVEILLANCE					
Objective 2: Enhance integrated and harmonized surveillance framework for zoonotic disease of pandemic potential and priority foodborne diseases					
2.1 Develop an integrated and harmonized surveillance framework/protocol for zoonotic diseases of pandemic potential (e.g. corona viruses) at human-animal-environment interface taking the One Health approach	2022 (Dec)	++	+++	CUOH (DDC), DLD, DNP, DMSC, Academic, Private Labs	a) Identify key experts and form Technical Working Group (including international experts) to develop the surveillance framework b) Organize a consultative meetings/workshop to develop an integrated and harmonized framework for surveillance c) Pilot test it and conduct desktop simulation d) Refine it further e) Seek endorsement from the highest One Health decision making body f) Print and disseminate for implementation g) Conduct monitoring and evaluation of it regularly
2.2 Develop integrated surveillance framework/protocol for priority foodborne diseases (Salmonella spp, Campylobacter spp, E.coli, etc)	2023 (Dec)	+++	+++	DDC, FDA, DLD, DOF	a) Identify experts and establish Technical Working Group (including international experts) b) Organize consultative meetings/workshop to develop an integrated surveillance/protocol for priority foodborne diseases c) Pilot test including conduct of desktop simulation d) Refine it further e) Seek endorsement from the highest policy decision making body of One Health f) Print it and disseminate for implementation g) Conduct monitoring and evaluation of it regularly to assess its impact and refinement further
Objective 3: Strengthen operational capacities for sharing of information between human, animal, food and environment sectors					

3.1 Conduct review of the software system of 'Rabinet Platform' and improve further for easy accessibility and inclusive and automatic information sharing between key One Health sectors at all administrative levels	2023 (Dec)	++	++	DDC, DLD, DNP, DMSc	<ul style="list-style-type: none"> a) Identify and establish Technical Working Group of experts b) Organize workshop for review and enhance of the system to improve accessibility and automatic and inclusive Alert information sharing system including addition of additional variables and to the database c) Obtain agreement from all parties involved d) Conduct monitoring and evaluation and functional assessment of it regularly to make it perfect working system.
3.2 Develop an integrated AMR Alert and Response System for effective and timely data sharing and initiate response management	2024	+++	+++	DMSC, DDC, DLD, DNP, DOF, FDA, Department of Pollution Control of MNRE, Academia	<ul style="list-style-type: none"> a) Establish a Technical Working Group of experts including hiring of International Experts b) Organize a workshop (3-5 days) to develop the Protocol and system c) Develop the ICT platform for the alert and response system d) Pilot test the system and refine it further e) Obtain agreement from all the parties involved f) Conduct training on the use of the protocol for all the stakeholders involved g) Operationalize it h) Conduct regular monitoring and evaluation of performance of the system
III. EDUCATION AND TRAINING					
Objective 4: To improve understanding of One Health approach and its implementation to key decision makers					
4.1 Conduct advocacy and education program on One Health approach for the executive decision makers at national and subnational levels	2023-2026	++	+++	Chulalongkorn University (Core course), Division of International Livestock Cooperation, Division of Wildlife Conservation, NIDA (soft skills)	<ul style="list-style-type: none"> a) Identify core team for development of the advocacy and education program b) Develop core program for advocacy and education program such on fundamentals of One Health principles and approach, application and its implementation, field visits and trip where One Health activities are implemented c) Identify target group – Directors and Director Generals (government and non-governmental agencies) at central level; heads of the organizations at provincial levels d) Conduct the course – 20 participants/training batch including Pre- and Post-test e) Conduct monitoring and evaluation using appropriate key performance indicators and KAP surveys
Objective 5: Enhance awareness on the importance and implementation of One Health to all the relevant stakeholders at all levels					
5.1 Develop One Health orientation and introduction course program for new staff of all One Health sectors (public health, DLD, DNP including private sectors) – to be included routinely from 2023	2023 (August)	+	+++	DLD (Division of International Livestock Cooperation), Office of International Cooperation (DDC), Department of Disease Control (DDC) and Division of Wildlife Conservation of DNP	<ul style="list-style-type: none"> a) Identify the core team to develop the program b) Organize workshop to develop the course for orientation and introductory training on One Health approach (online as well as face-to-face teaching) c) Distribute the course program and materials to all the stakeholder d) Conduct the orientation and training to new staff on annual basis
5.2 Conduct training for trainers (ToT) on One Health approach at provincial level	2023 (May)	+++	+++	DLD, DNP, SEAOHUN (Instructors), THAIOHUN (instructors), Academic	<ul style="list-style-type: none"> a) Establish a program committee to select suitable One Health program from the existing program b) Identify target groups (officers at regional and provincial and district levels)

				Sectors (medicine, veterinary medicine, pharmacy, medical technologies)	c) Conduct the training of trainers' course (30 participants/batch) in 10 provinces and repeat every 6 months d) Trainers to develop the training plan to train others at regional and provincial levels e) Conduct monitor and evaluation and impact assessment
Objective 6: Strengthen One Health knowledge and competency for solving complex issues related to zoonotic diseases prevention and management					
6.1 Develop simulation based scenario training program for prevention and control to improve knowledge and competency for solving complex issues related to zoonotic diseases using rabies as a case study (PEPREP of WHO)	2023	++	+++	Division of International Livestock Cooperation of DLD, Office of International Cooperation of DDC, DNP, university network (SEAOHUN/THAIOHUN)	a) Identify and establish technical working group experts to develop the simulation-based training module on enhancing One Health knowledge and competency for problem solving skills b) Identify target audience c) Conduct the training workshop – simulation based competency learning including use of role play d) Review and refine the program further and sustain the program
IV. COMMUNICATION					
Objective 7: To improve effectiveness of One Health communication at local levels					
7.1 Develop and sign Memorandum of Understanding (MOU) between sectors to establish volunteers to scale up One Health communication to engage communities at local levels	2022 (September)	++	+++	DDC, DLD (BDVS/Livestock Extension), Protected areas of Regional offices, Wildlife Extension Offices	a) Identify technical and policy level experts for developing objectives and program for engagement of volunteers at field levels (village, private sectors, etc) b) Organize workshop to develop program for engagement of volunteers and MOU c) Obtain consensus on the program and MOU from all the key sectors d) Obtain approval for the program and MOU from the appropriate One Health policy decision making body e) Sign the MOU f) Disseminate MOU g) Rollout the program by establishing volunteers
7.2 Develop training curriculum for harmonized and coordinated risk communication, surveillance and response to zoonotic diseases for volunteers	2022 (December)	++	+++	DDC, DLD (BDVS/Livestock Extension), Protected areas of Regional offices, Wildlife Extension Offices	a) Identify the technical experts and establish working group b) Organize the workshop to develop curriculum c) Validate the curriculum by independent experts d) Pilot test the curriculum e) Organize consultative workshop to review the outcomes of pilot testing, refine and finalize the curriculum
7.3 Conduct a series of joint ToT at regional level (12 regions of Public Health; 9 regions of DLD; 16 regions of DNP) followed by series of training for village volunteers at provincial and priority selected district and sub-district levels on harmonized and coordinated risk communication, surveillance and response of zoonotic diseases	2023-2025	+++	+++	DDC, DLD (BDVS/Livestock Extension), Protected areas of Regional offices, Wildlife Extension Offices	a) Conduct joint ToT for the professionals working in the regional and provincial (5 trainings for 30 participants each) b) Conduct trainings for village volunteers at district and subdistrict levels (at least 3 village health volunteers, 1 animal health volunteers and 1 HPH and 1 municipality staff) c) Compile the training reports and apprise the One Health policy decision making bodies of regional, provincial and central levels
7.4 Perform monitoring and evaluation of trained One Health volunteers for effectiveness of surveillance conducted	2023	+	++	CUOH, Public Health and DLD regional offices, head of volunteers	a) Review the existing disease surveillance reporting form of One Health volunteers (HQs of PH and DLD) b) Refine and agree on the final reporting form (HQs of PH and DLD)

					<p>c) Use the information in the reporting form to evaluate their performance regularly for:</p> <ul style="list-style-type: none"> - Consistency of conducting surveillance and reporting by the volunteers - Pre- and post-test to test the knowledge of volunteers - Random survey to assess the adequacy of knowledge of the village volunteers
Objective 8: To enhance risk communication under One Health approach					
8.1 Establish a National Joint Technical Committee on Risk Communication for priority zoonotic diseases	2022 (September)	++	+++	DLD, Department of Wildlife of DLD, DDC, DNP	<p>a) Organize a meeting to develop MoU and define roles and responsibilities and conducting Joint Risk Communication, and identify experts from the relevant sectors</p> <p>b) Organize a meeting to sign the MoU</p> <p>c) Sign the MoU</p> <p>d) Circulate the MoU</p> <p>e) Convene the meeting of Joint Technical Committee on Risk Communication and provide orientation to their roles and responsibilities</p>
8.2 Establish a Joint Technical Committee on Risk Communication for priority zoonotic diseases at subnational level (regional, provincial, district levels)	2023 (February)	++	+++	BDCVS and DLED, PHO, Governor Office, PLO, PEO, PARO (DNP), POONRE, PAO	<p>a) Organize a meeting to develop MoU and define roles and responsibilities (including training of One Health village volunteers) and conducting Joint Risk Communication, and identify experts from the relevant sectors</p> <p>b) Organize a meeting to sign the MoU</p> <p>c) Sign the MoU</p> <p>d) Circulate the MoU</p> <p>e) Convene the meeting of Joint Technical Committee on Risk Communication and provide orientation to their roles and responsibilities</p>
8.3 Establish a Technical Working Group (comprising focal officers from relevant One Health sectors) to detect and respond to fake news about One Health on social media	2023	+++	+++	DDC, DVS of DLD, DNP	<p>a) Identify and designate the team members</p> <p>b) Develop TOR including procedures to functions of the TWG</p> <p>c) Conduct training for the members of the TWG</p> <p>d) Monitor their performance of TWG</p>
8.4 Develop official One Health social media platform for risk communication in multiple language	2023	+++	+++	DDC, BDCVS of DLD, Department of Wildlife	<p>a) Develop a Facebook page and Line Official account for broadcasting information, education, communication materials on One Health in multiple language. One Health volunteers can also use this platform for reporting suspected case of zoonotic diseases and ask questions about One Health and also fake news management</p> <p>b) Designate officials to administer and moderate these social media platform</p> <p>c) Develop a proper One Health website platform for risk communication once these social media platforms mature and work well</p> <p>d) Monitor the social media utility by measuring the Hitlist of people visiting and using the platforms</p>
V. LEGISLATION					
Objective 9: To harmonize the existing legislations for facilitating implementation of One Health activities					

9.1 Develop guideline/protocol for drafting, reviewing, harmonizing and amendment of legislations that have cross-sectoral One Health implication					<ul style="list-style-type: none"> a) Identify experts (lawyers, professionals from human health, animal health, food safety, wildlife and environmental sector) b) Organize retreat workshop to develop the protocol c) Organize consultative workshop to review and endorse the guideline or protocol d) Seek approval of the guideline or protocol from the appropriate One Health policy decision making body e) Circulate and operationalize the implementation of the guideline
9.2 Identify and review laws and regulations related to control of zoonotic diseases and food safety, identify gaps, overlaps, conflicting clauses to harmonize them to facilitate implementation of One Health activities	2023	+++	+++	CUOH, DDC, FDA, DLD, DOF, DNP, Academia	<ul style="list-style-type: none"> f) Identify the working group team members to review the laws and regulation g) Develop their TORs and issue executive order h) Organize the meeting to brief the team members i) Conduct review of the existing laws and regulations relevant to One Health j) Organize the multisectoral meeting to present the gaps, overlap, conflicting clauses or sections, and recommendations for harmonization k) Submit proposals for harmonization and amendments of the relevant legislations
9.3 Designate Technical professionals (medical doctors, veterinarians, wildlife and environmental experts on part time basis) for legal divisions of One Health sectors to provide technical review and advises for development, review, harmonization and amendment of laws and regulations to capture One Health approach	2024	++	+++	DLD, DDC, DOF, DNP, ACFS, FDA	<ul style="list-style-type: none"> a) Identify and designate technical professionals b) Develop TORs c) Conduct training to these professionals on One Health and legal aspects d) Assign tasks to them
9.4 Draft proposal for harmonization and amendment of priority legislations	2023 Q2-4	++	+++	<ul style="list-style-type: none"> -NCZD EOP -NCCD surveillance department - SCVL -GAVS livestock health protection department - MoET division responsible for animals 	<ul style="list-style-type: none"> a) Organize workshop for drafting harmonized and amended legislations for approval by the government b) Organize multi-sectoral consultative meetings to endorse the harmonized and amended sections of the relevant legislations c) Submit the legislations to be amended for approval d) Circulate the newly harmonized and amended legislations to all the stakeholders e) Conduct sensitization and awareness on newly harmonized and amended sections of the legislation to all stakeholders

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

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

OUTPUT 3: PRIORITIZATION RESULTS

All participants were asked to vote individually using white sticker (provided 5 per person) to select which five of the identified objectives they considered as the highest priority. A total of 46/62 (74.2%) participants voted. The result of the prioritization is shown in Figure 8. The top three objectives voted are to enhance One Health governance system at all administrative levels (83%), improve understanding of One Health approach and its implementation by key decision makers (74%), and improve effectiveness of One Health communication at local level (74%). In addition, more than half of the participants voted enhancing integrated and harmonized surveillance framework for zoonotic EIDs and priority foodborne pathogens, enhancing awareness on the importance of One Health to all the relevant stakeholders at all the administrative levels, and harmonize the existing legislations for facilitating the implementation of One Health activities.

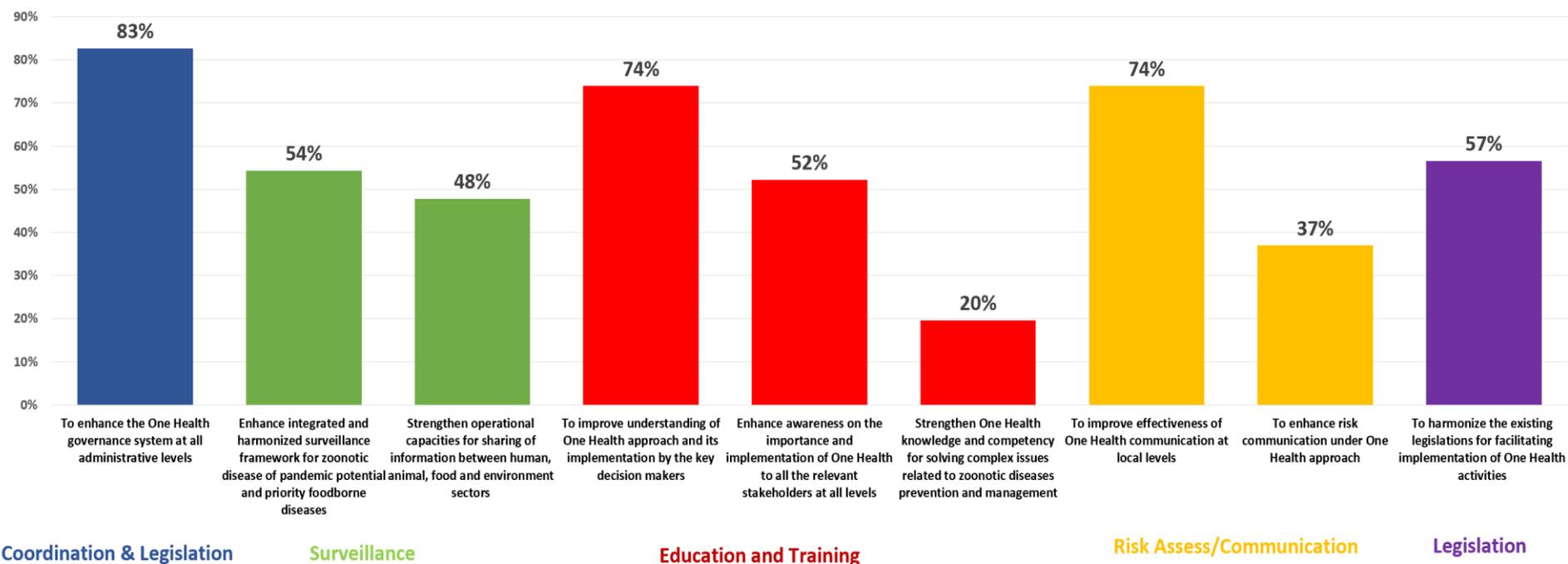


Figure 8. Results of the prioritization of joint roadmap objectives and activities to be implemented in forthcoming coming years in Thailand

WORKSHOP EVALUATION

An evaluation questionnaire was completed by 48/62 (77.49%) participants in order to collect feedback on the relevance and utility of the workshop.

Tables 2-5: Results of the evaluation of the event by participants (48 respondents)

Workshop evaluation	'Satisfied' or 'Fully satisfied'	Average score (/4)
Overall assessment	96%	3.4
Content	100%	3.3
Structure / Format	98%	3.5
Facilitators	96%	3.4
Organization (venue, logistics, ...)	100%	3.7

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	94%	3.1
The work of your unit/department	98%	3.3
The intersectoral collaboration in Thailand	98%	3.3

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

Satisfaction rate for each session (Satisfied to Fully Satisfied)						
Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7
100%	96%	92%	100%	100%	98%	98%

Would you recommend this workshop to other countries?	
Absolutely	77%
Probably	23%
Likely not	0%
No	0%

ANNEX 1: WORKSHOP AGENDA

20 July 2022 (DAY 1)	
08:00 – 09:00	Registration of participants
09:00 – 10:00	<p><u>Opening Ceremony</u></p> <ul style="list-style-type: none"> • Dr Sopon Iamsirithaworn, Deputy Director General of the Department of Disease Control (4') • Dr Sopat Chavalkul, Deputy Director General of the Department of Livestock Development (4') • Dr Richard Brown, Acting WHO Representative to Thailand, WHO (4') • Dr Ronello Abila, Sub-Regional Representative, WOAHA (4') • Dr Kachen Wongsathapornchai, ECTAD Regional Manager, FAO (4') • Introduction of participants (10') • Group Picture (10') + Coffee break (20')
10:00 – 12:00	<p><u>Session 1: Workshop Objectives and National Perspectives</u></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 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"> • Tripartite One Health collaboration and vision - Dr Gyanendra Gongal, WHO SEARO (20') • Movie : Tripartite One Health collaboration and vision (15') • Veterinary Services and One Health in Thailand – Dr Waroonsiri Charoenlarp, DLD (20') • Public Health Services and One Health in Thailand – Dr Teerasak Chuxnam, DDC (20') • Workshop approach and methodology - Dr Sithar Dorjee/Laure Weber-Vintzel (10') • MOVIE 1: Driving successful interactions - Movie (25')
Lunch (12:00-13:30)	
13:30 – 17:00	<p><u>Session 2: Navigating the road to One Health</u></p> <p>Session 2 divides participants into 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. 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 colour-coded cards (green, orange, red).</p>

	<ul style="list-style-type: none"> • Presentation and organization of the working group exercise – PPT (15') • Case study - Working groups by disease (120') • Restitution (75')
<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> • <i>Level of collaboration between the two sectors for 16 key technical areas is assessed.</i> • <i>Collaboration gaps identified for each disease.</i> 	
17:00 – 18:30	Facilitators and moderators only: Briefing Session 3-4-5 and compilation of results from Session 2

21 July 2022 (DAY 2)	
08:30 –11:20	<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, PVS) and uses an interactive approach to map activities identified earlier onto a giant IHR-PVS matrix. This process will enable us to visualize the main gaps, distinguish disease-specific vs systemic gaps and identify which technical areas the following sessions will focus on.</p>
	<ul style="list-style-type: none"> • MOVIE 2: IHR Monitoring and Evaluation Framework (25') • MOVIE 3: PVS Pathway (25') • MOVIE 4: IHR-PVS Bridging (10') • Mapping gaps on the IHR/PVS matrix (50') + Coffee break (20') • Discussion – Plenary (30')
<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> 	
11:20 - 12:40	<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, 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 (20') • Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (60')
Lunch (13:00-14:00)	

14:00 - 14:30	<p><u>Session 4 (continued)</u></p> <ul style="list-style-type: none"> • Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (continued, 30')
<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> 	
14:30–17:15	<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 road-map to improve the collaboration between the sectors.</p> <ul style="list-style-type: none"> • Presentation and organization of the working group exercise (15') • Identification of Activities (Working groups by technical topic) (150')
<p>Expected outcomes of Session 5:</p> <ul style="list-style-type: none"> • <i>Clear and achievable activities are identified to improve inter-sectoral collaboration between the two sectors for all technical areas selected.</i> 	
17:15 – 19:00	<p>Facilitators only: Compilation of results from Session 5 (drafting of the road-map) and preparation of Session 6</p>

22 July 2022 (DAY 3)

09:00 - 12:30	<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"> • Fine-tuning of the road-map: Objectives and filling out of Activity cards (90') • Coffee break (15') • World Café (90') • Presentation of the prioritization vote (10') • Prioritization vote (during lunchtime)
<p>Expected outcomes of Session 6:</p> <ul style="list-style-type: none"> • <i>Harmonized, concrete and achievable road-map.</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> 	
<p>Lunch (12:15-13:30)</p>	
13:30 - 15:30	<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 are discussed. This is also where any need from the country can be</p>

	<p>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> <p>You can also invite interested donor partners to give a brief presentation of 5-10 minutes.</p>
	<ul style="list-style-type: none"> • Results of the prioritization vote (15') • Integrating the action points into the IHR-MEF process (30') • Next steps (75') (lead by Ministry representatives)
<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> 	
15:30 - 16:30	<p><u>Closing Session</u></p> <ul style="list-style-type: none"> • Evaluation of the workshop (20') • Closing ceremony (40')
16:30 – 17:00	Facilitators: Video interview of some participants

ANNEX 2: LIST OF PARTICIPANTS

Animal Health Sector

SN	Name	Office
1	Anyarat Thiptara	Veterinary Research and Development Center (Upper Northern Region), DLD
2	Chananya Kanchanasaka	Protected Area Regional Office 1 (Prachinburi)
3	Intuorn Teeranuwat	Department of Livestock Development
4	Jaree Polchana	Aquatic Animal Health Research and Development Division, Department of Fisheries
5	Julaporn Srinha	Department of Livestock Development
6	Khannamthong Phunnoi	Department of Fisheries
7	Kirana Noradechanon	Department of National Parks, Wildlife and Plant Conservation
8	Methawi Thongsangiem	Division of Veterinary Inspection and Quarantine
9	Muksuda Ruangree	Ratchaburi Artificial Insemination and Research Center, Bureau of Biotechnology in Livestock production
10	Mutita Thamacharoen	Department of Fisheries
11	Naruebeth Noentong	Bureau of Quality Control of Livestock Products
12	Naruepol Promkuntod	Veterinary Research and Development Center, Lower Northern Region
13	Nathawit Immak	Animal Health section, The 5th Regional Livestock Office
14	Natnicha Phetsri	Division of International Livestock Cooperation, DLD
15	Nuntita Ruksachat	Protected Areas Regional Office 8
16	Olarn Kijpreedaborisuthi	Bureau of Livestock Standards and Certification, DLD
17	Onpawee Sagarasaeranee	DLD
18	Parinya Chienwichai	Department of Livestock Development
19	Pasakorn Chaiyasan	Division of international livestock cooperation
20	Pawares Panyasomboonying	Bureau of Disease Control and Veterinary Services
21	Petchroi Petchreing	Bureau of Biotechnology in Livestock Production
22	Porjai Rattanapanadda	Division of Animal Feed and Veterinary Products Control, DLD
23	Prasit Chaitaweesub	Division of Veterinary Inspection and Quarantine, DLD
24	Preeyanan Sriwanayos	Department of Fisheries
25	Rata Rungsitiyakorn	Bureau of disease control and veterinary services, DLD
26	Reka Kanitpun	National Institute of Animal Health
27	Siriwimon Thamgandee	Department of Fisheries
28	Sontana Mimapan	National Institute of Animal Health

29	Suchana Sukklad	Division of Animal Feed and Veterinary Products, DLD
30	Supalak Prabsriphum	Department of Livestock Development
31	Supaporn Wongsrichai	Bureau of Quality Control of Livestock Products
32	Thanawadee Phaichana	Department of National Parks, Wildlife and Plant Conservation
33	Tosapal Dejyong	Bureau of Disease Control and Veterinary Services, DLD
34	Waroonsiri Charoenlarp	Department of livestock development
35	Watcharapon Chotiyaputta	Division of International Livestock Cooperation, DLD

Human Health Sector

SN	Name	Office
36	Athiwat Primsirikunawut	National Institute of Health
37	Autthawit Watcharatummaruk	Division of Epidemiology
38	Charuttaporn Jitpeera	Division of Epidemiology, DDC
39	Chiti Hoonaukit	Department of Disease Control
40	Darika Kingnate	Department of Disease Control, MOPH
41	Hattaya Kanjanasombat	Division of Epidemiology, Department of Disease Control
42	Jittima Panitchakit	Office of Disease Prevention and Control 3
43	Keinika Sanguansat	Office of International Cooperation, DDC
44	Kotchaya Sinchai	DDC
45	Lertrob Honhanrob	FDA
46	Oraphan Kanyamee	Division of Epidemiology, Department of Disease Control
47	Nattama Rongmalee	Institute for Urban Disease Control
48	Nuntiya Somjetanakul	Food and Drug Administration
49	Oranuch Chonjaroen	Office of Disease Prevention and Control 3
50	Pattarawadee Pakdeepang	Division of Epidemiology, DDC
51	Peewara Boonwisat	Division of Epidemiology
52	Phatcharida Hongchan	Division of Epidemiology
53	Pravit Choomkasien	Department of Disease Control
54	Punchawee Sukbut	Mukdahan provincial health office
55	Ratanaporn Tangwangvivat	Division of Communicable Diseases
56	Sudarat Damrongwatanapokin	Office of International Cooperation
57	Sukanya Namsavad	Food and Drug Administration
58	Teerasak Chuxnum	Division of Epidemiology, DDC
59	Wanwipa Tavajintanon	Bureau of General Communicable Diseases, DDC
60	Wimwiga Sakchainanon	Bureau of General Communicable Diseases, DDC
61	Wiphat Klayut	National Institute of Health
62	Yuwanan Kongsing	Institute for Urban Disease Control

International Organizations

FAO

SN	Name	Position
63	Farida Zenal	Country National Veterinary Advisor
64	Gian Cosseddu	Project Coordinator
65	Kachen Wongsathapornchai	Regional Manager, Emergency Centre for Transboundary Animal Diseases (ECTAD)
66	Sigit Prihutomo	National Consultant on One Health Policy and NBW Catalyst
67	Yin Myo Aye	Regional One Health and Tripartite Specialist

WHO

SN	Name	Position
68	Dipendra Gautam	National Professional Officer- IHR
69	Endang Widuri Wulandari	
70	Gyanendra Gongal	Senior Public Health Officer, SEARO
71	Phiangjai Boonsuk	NPO Health Emergencies and AMR
72	Preechaya Srithep	Executive Assistant (Programme)
73	Richard Brown	Programme Manager, Health Emergencies and AMR
74	Sandip SHINDE	
75	Sithar Dorjee	General/ Assistant Professor of Epidemiology of KGUMSB, and WHO Consultant for NBW

WOAH

SN	Name	Position
76	Chantanee Buranathai	One Health Coordinator
77	Kinley Choden	Animal Health Officer
78	Laure Weber-Vintzel	Programme Manager
79	Pennapa Matayompong	Consultant
80	Ronello Abila	Sub-Regional Representative
81	Therajade Klangnurak	Administrative Officer

