



## National Bridging Workshop for One Health – Lao PDR

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9-11 August 2023

Vang Vieng, Lao PDR



## **Acknowledgments**

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## ABBREVIATIONS & ACRONYMS

|       |   |
|-------|---|
| AI    | Avian Influenza   |
| AMR   | Anti-microbial Resistance                               |
| DCDC  | Department of Communicable Disease Control              |
| DG    | Directorate General                                     |
| DLF   | Department of Livestock and Fisheries                   |
| DOE   | Department of Environment                               |
| FAO   | Food and Agriculture Organization of the United Nations |
| HQ    | Headquarters  |
| IHR   | International Health Regulations (2005)                 |
| JEE   | Joint External Evaluation                               |
| MAF   | Ministry of Agriculture and Forestry                    |
| MEF   | Monitoring and Evaluation Framework                     |
| MoH   | Ministry of Health                                      |
| MoU   | Memorandum of Understanding                             |
| NBW   | National Bridging Workshop                              |
| PAFO  | Provincial Agriculture and Forestry Office              |
| PH    | Public Health   |
| PHD   | Provincial Health Department                            |
| PHEIC | Public Health Event of International Concern            |
| PONRE | Provincial Office of Natural Resource and Environment   |
| PVS   | Performance of Veterinary Services                      |
| SOP   | Standard Operating Procedures                           |
| TOR   | Terms of Reference                                      |
| UNEP  | United Nations Environment Programme                    |
| WHO   | World Health Organization                               |
| WOAH  | World Organisation for Animal Health                    |

# INTRODUCTION

## BACKGROUND

The health of humans and animals and the environment is vitally interlinked. A majority of emerging and endemic human diseases have their origins in animals, be they transmitted directly, through consumption of contaminated food, or exposure through the environment. Animal-specific diseases not only have indirect implications for human health through factors such as food security and other ecosystem services, but also exert effects on livelihoods, as well as have an impact on environment, acting as drivers for biodiversity loss. The mis- and over-use of antimicrobials (antibiotics, anthelmintics, pesticides etc) to treat diseases, pests or disorders is now recognized as a global threat to humanity and the environment.

It is therefore a shared responsibility and synergic potential for collaboration between public health, animal health and environment sectors to deal with zoonotic diseases, food safety issues, antimicrobial resistance, and other threats at the animal-human-environment interface.

The World Health Organization (WHO), the World Organisation for Animal Health (WOAH), the Food and Agriculture Organisation (FAO) of the United Nations and the United Nations Environment Programme (UNEP) are the main international organizations responsible for proposing references and guidance for the public health, animal health and environment sectors respectively. The Quadripartite has been active promoters and implementers of an intersectoral collaborative One Health 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.
- WOAHA is the intergovernmental organisation responsible for developing standards, guidelines and recommendations for animal health and zoonoses; these are laid down in the *Terrestrial and Aquatic Animal Health Codes* and Manuals. WOAHA 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 in work 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 \(SDGs\)](#).
- 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 IHRMEF and the WOAHPVS 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.

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## 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 NBWs focus on the following strategic objectives:

- Increased awareness and understanding on the IHR-MEF and the WOAHPVS Pathway, their differences and connections
- Improved understanding of the One Health approach and the need for multisectoral collaboration at the animal-human-environment interface.
- **Diagnosis of current strengths and weaknesses** in the collaboration between animal health, human health and environmental health services for 15 key technical areas
- **Identification of practical next steps** and activities and development of a joint national roadmap to strengthen collaboration and coordination between the three sectors.

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



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

## REPORT ON THE SESSIONS

From 9 to 11 August 2023, the National Bridging Workshop (NBW) for One Health of Lao PDR was held in Vang Vieng District, Vientiane Province. The Workshop was hosted at the kind invitation of the Government of Lao PDR, with organizational support from 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).

The Workshop was attended by 72 participants from key national institutions for One Health with representatives from national and provincial 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.

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### OPENING SESSION

Welcoming of the participants and opening remarks were provided by Dr Phayvanh Keopaseuth (Vice-minister of Ministry of Health), Dr Kaviphone Phouthavong (Director General, Department of Livestock and Fisheries, Ministry of Agriculture and Forestry), Dr Ying-Ru Jacqueline Lo (WHO Representative to Lao PDR), Mr Chantalath Pongmala (FAO Representative officer in charge), Dr Pennapa Matayompong (Consultant, WOAHA Sub-Regional Representation for South-East Asia) and Mr Toscan Vermast (Development Coordination Officer, UNEP).

Opening speakers highlighted the importance of the 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 anti-microbial resistance.

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

The workshop approach and methodology were presented by Dr Guillaume Belot (NBW Program Coordinator, WHO Headquarters) and Dr Jessica Kayamori Lopes (Technical Officer Food Safety and Zoonotic Disease, WHO Regional Office for the Western Pacific), and the participant handbook was presented. 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.

Dr Jessica introduced the One Health approach, its history, rationale and purpose and how it became an international paradigm. Following a brief overview on the Asia Pacific Regional Quadripartite coordination. The presenter also introduced the workshop in the global and national context by providing high level background information on the collaboration between WHO, WOA, FAO and UNEP.

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

**Human health services and One Health** (Dr Phouphasong Somphou, chief of zoonotic diseases and point of entry division, DCDC).

Dr Phouphasong started by presenting the coordination mechanisms between Ministry of Health and Ministry of Agriculture and Forestry (including DLF). He then described the JEE that was conducted in Lao, with a special focus on the 19 technical areas that were assessed. Four components of One Health were highlighted: (1) sharing of surveillance information, particularly for zoonotic diseases, (2) coordinated response to outbreaks, (3) joint risk assessment and joint risk reduction, and (4) joint research. Dr Somphou finished by presenting ongoing joint activities for some priority areas of work such as rabies (world rabies day, rabies committee, rabies vaccine guidelines, school curricula etc), AMR (national strategic plan, national surveillance system).

**Veterinary services and One Health** (Dr Souliyasack Chayavong, Chief of Veterinary Service Division, Department of Livestock and Fisheries):

Dr Souliyasack highlighted the six meetings on One Health that happened in the last two years, to build technical capacity in enhancing multisectoral collaboration and operationalize emergency response to animal disease outbreaks. He described ongoing collaboration with all partners for important zoonotic diseases (AI, rabies, and others), AMR, food safety, etc. The second part of the presentation focused on the veterinary services. First, the presenter showed the organizational structure under the Ministry of Agriculture and Forestry (MAF) and the six divisions and four centers that form the DLF. The animal health sector contains 76 veterinarians and 963 paraprofessionals, while there are also 5467 active village veterinary workers (private veterinarians). The update of the legislation relating to the prevention and control of transboundary animal diseases was presented,

with several revisions and decrees from 2011 to 2016. A strong emphasis was then given on the veterinary workforce development. The animal disease reporting system and key results from surveillance of priority diseases such as FMD were displayed, along with ongoing vaccination campaigns for 12 diseases.

Following the sector presentations, a second documentary video provided participants with concrete worldwide examples of intersectoral collaboration in addressing health issues at the human-animal interface for various key technical areas such as surveillance, response and communication among others.

### **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.
- 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, WOAH, 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 five working groups of mixed participants from each sector and from different levels (Central, Provincial, District). 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><b>Rabies</b></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 neighbourhood of Sekong 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><b>Avian influenza H5N1</b></p> <p>Two persons were admitted at the Saravan Provincial Hospital with pneumonia. Laboratory testing by RT-PCR resulted positive for 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 7 days prior to disease onset and having bought four chickens. Massive death of wild birds was reported in the same area.</p>  |
| <p><b>Salmonellosis</b></p> <p>90 people in Vientiane sought medical attention when they suffered high fever, nausea, diarrhoea and severe abdominal pain, 12-36 hours after eating at the same wedding party. Of these, 7 (5 children and 2 elderly) were hospitalized and diagnosed with Salmonellosis. All recovered within a week.</p>  |
| <p><b>Anthrax</b></p> <p>At least 10 people fell sick after eating meat sold by a villager at Bachieng district - Champasak province. The victims, among them school children, were rushed to the district hospital after they developed symptoms associated with anthrax and cutaneous lesions. They have been screened for anthrax. The man who sold the meat disappeared after learning that his neighbours had fallen sick.</p>   |
| <p><b>River ecosystem collapse</b></p> <p>A major die-off event of fish, wild birds and other freshwater species has been reported in a river located between two provinces. In a stretch of 15 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> |

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).

| 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 scenario for river ecosystem collapse are evaluating the level of collaboration between the three 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 scenario groups on the IHR-PVS matrix provides a snapshot of the strengths and weaknesses in the collaboration between the three sectors across all technical areas*

The main gaps (clusters) identified were discussed, this time on a systemic level (all diseases combined).

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 Legislation
- Group 2: Surveillance, Laboratory and Risk Assessment
- Group 3: Response and Field Investigation
- Group 4: Risk communication

Additionally, each group were asked to also integrate 'Finance', 'Human Resources' 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 Pathway was strengthened.
- Understanding that most gaps identified are not disease-specific but systemic was ascertained.

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## **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 extracted the main findings and recommendations relevant to their technical area.

### **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 Lao PDR.
- 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. 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.

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



*Figure 3: The technical working group on “Surveillance, Laboratory and Risk Assessment” 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 ROAD-MAP

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 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 4). 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 20 minutes to address changes or additions suggested by the other participants. Objectives and activities were fine-tuned accordingly.

Overall, the groups identified a total of 9 key objectives and 24 activities. The detailed results are presented in [Output 2](#).



*Figure 4: A world café session is organized, during which participants rotate through each group to provide comments and inputs on the different roadmap sections*

## 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.

### 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.

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## SESSION 7: WAY FORWARD

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 focused on the establishment of a One Health coordination mechanism with a scope to the national and subnational levels to facilitate the implementation of One Health activities. There were considerations to expand the scope and update the current National Communicable Disease Control Committee.

### Outcomes of Session 7:

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

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## CLOSING SESSION

Following were the gist of closing remarks made by the closing speakers, Dr Souphavanh Keovilay, Deputy Director General of Department of Livestock and Fisheries, Ministry of Agriculture and Forestry:

- The workshop was organized at a right time as One Health approach is gaining worldwide importance, particularly due to COVID-19 pandemic.
- Lao PDR is the 48<sup>th</sup> country to conduct its NBW and to develop a joint NBW Roadmap.
- 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 NBW Roadmap for strengthening One Health capacity in the country 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
- 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.

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## MATERIAL AND VIDEO

All the material 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 (accessible at: [https://drive.google.com/drive/folders/1eKCIIbQjrW-Yp9oK2tzPOK6MqNpT5eMb?usp=drive\\_link](https://drive.google.com/drive/folders/1eKCIIbQjrW-Yp9oK2tzPOK6MqNpT5eMb?usp=drive_link) ).

A short video of the event was edited and is available at: [www.bit.ly/NBWLao](http://www.bit.ly/NBWLao) or by scanning the QR code below:



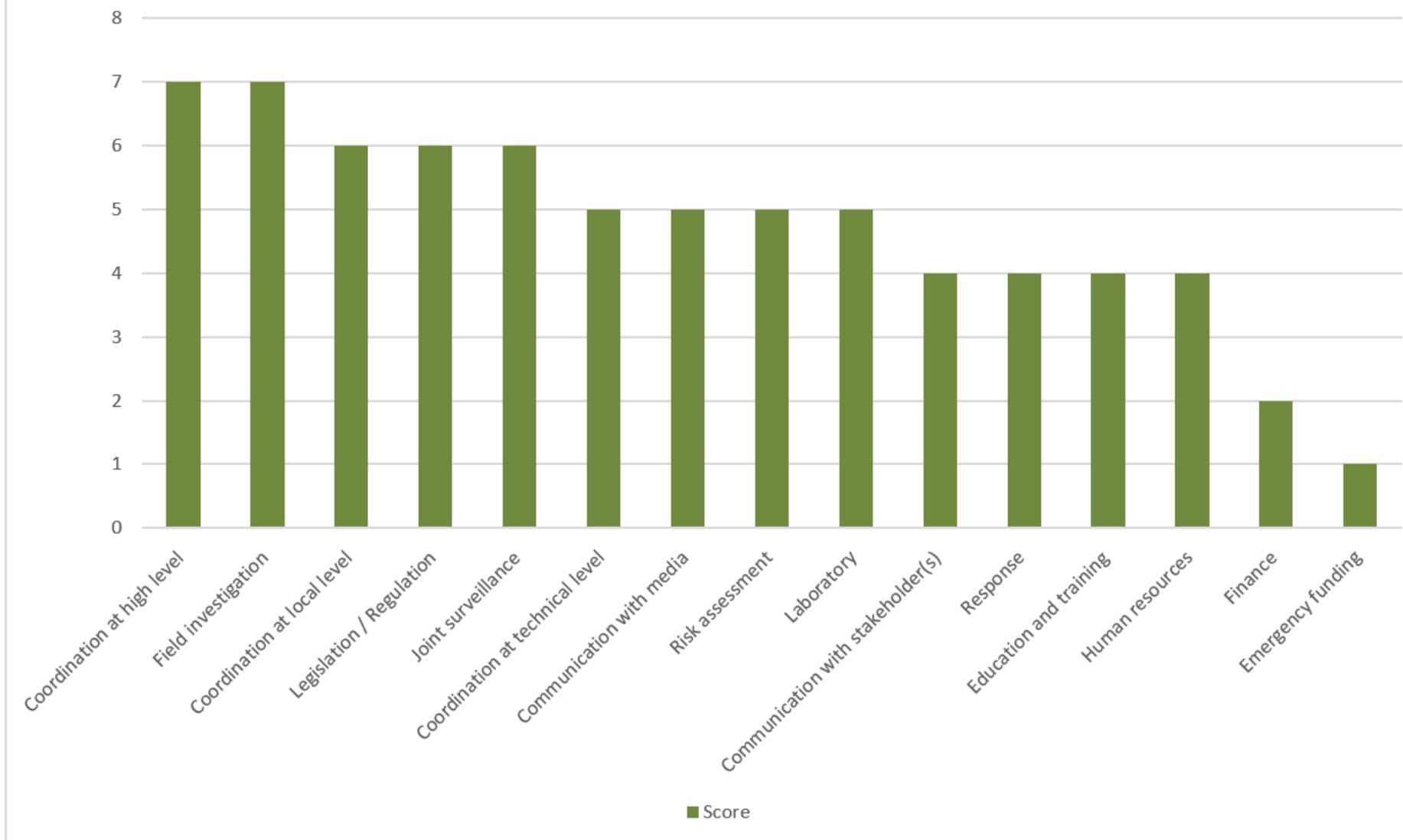
## WORKSHOP OUTPUTS

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

| Technical area (cards)          | Rabies | H5N1 | Salmonellosis | Anthrax | Ecosystem collapse | Score |
|---------------------------------|--------|------|---------------|---------|--------------------|-------|
| Coordination at high Level      | 2      | 1    | 1             | 2       | 1                  | 7     |
| Field investigation             | 0      | 2    | 2             | 2       | 1                  | 7     |
| Coordination at local Level     | 1      | 1    | 1             | 1       | 2                  | 6     |
| Legislation / Regulation        | 1      | 2    | 1             | 1       | 1                  | 6     |
| Joint surveillance              | 0      | 2    | 1             | 2       | 1                  | 6     |
| Coordination at technical Level | 1      | 2    | 2             | 0       | 0                  | 5     |
| Communication w/ media          | 1      | 0    | 2             | 1       | 1                  | 5     |
| Risk assessment                 | 0      | 2    | 1             | 1       | 1                  | 5     |
| Laboratory                      | 0      | 2    | 0             | 2       | 1                  | 5     |
| Communication w/ stakeholde     | 0      | 1    | 1             | 1       | 1                  | 4     |
| Response                        | 1      | 1    | 0             | 1       | 1                  | 4     |
| Education and training          | 1      | 1    | 1             | 0       | 1                  | 4     |
| Human resources                 | 2      | 0    | 1             | 0       | 1                  | 4     |
| Finance                         | 1      | 1    | 0             | 0       | 0                  | 2     |
| Emergency funding               | 1      | 0    | 0             | 0       | 0                  | 1     |

For each disease, the performance of the collaboration between the human health and the animal health sectors is color-coded: green for "good collaboration", 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).

### Overall score for demonstrated assessment of levels of collaboration for 15 keys technical areas



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

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

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

| Action  | Timeline                           | Difficulty (1-3 scale) | Impact (1-3 scale) | Responsibility  | Process   |
|---|------------------------------------|------------------------|--------------------|---|---|
| <b>COORDINATION</b>   |                                    |                        |                    |   |   |
| <b>Objective 1: to strengthen multisectoral coordination and collaboration to implement one health approach</b> |                                    |                        |                    |   |   |
| <b>1.1. Establish national one health committee</b>   | Quarter 4, 2024 (by December 2024) | +++                    | +++                | MoH department of communicable disease control (DCDC); MAF department of livestock and fishery (DLF); MoNRE department of environment (DOE); MPS department of public environment; Planning departments from MoH, MAF, MoNRE and MPS. | <ol style="list-style-type: none"> <li>1) Draft roles and responsibilities of the committee</li> <li>2) Conduct consultation meeting with concerned sectors</li> <li>3) Identify and set up focal point for one health</li> <li>4) Submit official agreement of one health committee to high level (prime minister) for approval and endorsement</li> </ol> |
| <b>1.2. Establish subnational one health committee</b>  | Quarter 2, 2025 (by June 2025)     | +                      | +++                | Provincial health department (PHD), provincial agriculture and forestry office (PAFO) and provincial office of natural resource and environment (PONRE)   | <ol style="list-style-type: none"> <li>1) Conduct consultation meeting with concerned sectors</li> <li>2) Draft TOR of the committee</li> <li>3) Identify focal point for one health</li> <li>4) Submit to governor for endorsement</li> </ol>  |
| <b>1.3. Develop MOU for one health between 3 sectors</b>  | Quarter 1, 2025 (by March 2025)    | +                      | +++                | DCDC (MOH), DLF (MAF), DOE (MONRE)  | <ol style="list-style-type: none"> <li>1) Draft MOU by each sector</li> <li>2) Conduct a consultation meeting to identify the joint works</li> <li>3) Submit to minister of 3 ministries for approval</li> </ol>  |
| <b>Objective 2: enhance coordination and information sharing capacities</b>                                     |                                    |                        |                    |   |   |
| <b>2.1. Develop joint dashboard for one health</b>  | Quarter 3, 2025                    | ++                     | +++                | MOH, MAF, MONRE and relevant sectors  | <ol style="list-style-type: none"> <li>1) Identify server</li> <li>2) Identify data and indicators for dashboard</li> <li>3) Identify focal point</li> <li>4) Training</li> <li>5) dissemination</li> </ol>   |

## SURVEILLANCE & LABORATORY

### Objective 3: to strengthen the joint zoonotic diseases surveillance in multi-sector

|   |               |    |     |   |   |
|---|---------------|----|-----|---|---|
| <b>3.1. Set up the joint surveillance technical working group for zoonotic diseases</b> | 2024          | ++ | +++ | DCDC, DLF, DOE, INGO  | <ol style="list-style-type: none"> <li>1) Review the existing joint surveillance technical working group for zoonotic diseases</li> <li>2) Identify member</li> <li>3) Define TORs</li> <li>4) Technical working group agreement</li> <li>1) Kick-off meeting</li> </ol>  |
| <b>3.2. Develop the prioritized zoonotic diseases surveillance plan</b>                 | 2025          | ++ | +++ | DCDC, DLF, DOE, INGO  | <ol style="list-style-type: none"> <li>1) Review the existing diseases surveillance (e.g HPAI, Rabies)</li> <li>2) Develop plan</li> <li>3) Consultation on the plan</li> <li>4) Joint agreement/approval</li> <li>5) Dissemination of the plan</li> </ol>  |
| <b>3.3. Develop SOP for surveillance of prioritized zoonotic diseases</b>               | December 2024 | ++ | +++ | Technical working group (DCDC, DLF, UHS, NUOL, INGO-WHO, FAO, WSC, WWF) | <ol style="list-style-type: none"> <li>1) Organize TWG meeting to draft SOP for each specific disease, identify format and timeframe for drafting</li> <li>2) Each sub-TWG review existing materials/SOPs in Laos and other countries</li> <li>3) Each sub-TWG draft SOP for assigned disease</li> <li>4) Organize consultation meeting to update the progress made and review the draft SOPs for inputs</li> <li>5) Endorsement and dissemination</li> </ol> |
| <b>3.4. Joint training on using SOP of prioritized zoonotic diseases</b>                | 2025          | +  | +++ | DCDC, DLF, DOE, INGO  | <ol style="list-style-type: none"> <li>1) Conduct training of trainer "TOT" at central level</li> <li>2) Train provincial staff on SOP implementation</li> </ol>  |

### Objective 4: to ensure the quality of laboratory testing of multi-sectoral laboratory

|   |              |    |     |   |   |
|---|--------------|----|-----|---|---|
| <b>4.1. Joint quality control and quality assurance of bacterial disease and AMR of NAHL and NCLE</b> | One per year | ++ | +++ | NAHL, NCLE, DOE, international partners | <ol style="list-style-type: none"> <li>1) Assess the existing capacity</li> <li>2) Draft agenda of joint EQA training</li> <li>3) Draft TORs and agreement</li> <li>4) Training on EQA</li> <li>5) NCLE provides EQA panel for NAHL and natural sector</li> <li>6) Follow up and implement</li> </ol> |
|---|--------------|----|-----|---|---|

## RISK COMMUNICATION

### Objective 5: establish a multisectoral platform to enhance risk communication capacities

|  |              |   |    |                              |  |
|--|--------------|---|----|------------------------------|--|
| <b>5.1. Establish risk communication taskforce</b> | October 2023 | + | ++ | LAOHUN as a main focal point | <ol style="list-style-type: none"> <li>1) Preparation of relevant documentation</li> <li>2) Organize a meeting to form a committee and develop role-function</li> <li>3) Sign agreement</li> </ol> |
|--|--------------|---|----|------------------------------|--|

|  |                |   |     |                                    |   |
|--|----------------|---|-----|------------------------------------|---|
| <b>5.2. Develop a communication strategy</b>   | June 2024      | + | +++ | LAOHUN, UHS, NUOL, MOH, MAF, MONRE | <ol style="list-style-type: none"> <li>1) Preparation meeting</li> <li>2) Develop a strategy (30 days)</li> <li>3) Draft a strategy's structure and conduct consultation meeting to review the strategy</li> <li>4) Revise the strategy (5days)</li> <li>5) Finalization meeting</li> <li>6) Approved by national one health committee and relevant stakeholders</li> </ol>   |
| <b>5.3. Risk communication assessment and health literacy survey at the northern, central and southern parts of Laos</b> | December 2024  | + | +++ | LAOHUN, MOH, MAF, MONRE            | <ol style="list-style-type: none"> <li>1) Kick-off meeting</li> <li>2) Tool development</li> <li>3) Testing tools (pre-test)</li> <li>4) Data collection (desk review, interview)</li> <li>5) Data management (data entry and analyse)</li> <li>6) Report</li> <li>7) Dissemination</li> </ol>  |
| <b>5.4. Develop SOP on one health risk communication</b>   | September 2024 | + | +++ | LAOHUN, UHS, NUOL, MOH, MAF, MONRE | <ol style="list-style-type: none"> <li>1) Review relevant SOPs to develop SOP for one health risk assessment</li> <li>2) Write the first draft</li> <li>3) Introduce a draft version</li> <li>4) Revise the SOP</li> <li>5) Finalize the SOP</li> <li>6) Approved by national one health committee and implemented by relevant sectors</li> </ol>   |
| <b>5.5. Capacity building on one health risk communication</b>   | March 2025     | + | +++ | LAOHUN, UHS, NUOL, MOH, MAF, MONRE | <ol style="list-style-type: none"> <li>1) TOT workshop at central level (5days)</li> <li>2) Training on one health risk communication for the northern, central and southern parts of Laos to target participants from provinces, district and community</li> <li>3) Refresher training</li> </ol>  |
| <b>Objective 6: increase stakeholders' awareness on health threats at the human-animal-environment interface</b>         |                |   |     |                                    |   |
| <b>6.1. Produce effective IEC materials</b>  | June 2025      | + | +++ | LAOHUN, MOH, MAF, MONRE            | <ol style="list-style-type: none"> <li>1) Preparation meeting (3days)</li> <li>2) Technical meeting to design (3 times)</li> <li>3) Consultation meeting to present the first draft, review and revise (3 days)</li> <li>4) Pilot test (5 days)</li> <li>5) Revision (15 days)</li> <li>6) Finalization meeting (3 days)</li> <li>7) Endorsement and dissemination meeting of all IEC materials (2 days)</li> </ol> |
| <b>6.2. Develop one health communication website</b>   | 3 months       | + | +++ | LAOHUN, MOH, MAF, MONRE            | <ol style="list-style-type: none"> <li>1) Preparation</li> <li>2) Design</li> <li>3) Approve</li> </ol>   |
| <b>Objective 7: to develop task force working group documentation (organization and role-function, strategy and SOP)</b> |                |   |     |                                    |   |
| <b>7.1. Monitoring and evaluation</b>  | 2024-2027      | + | +++ | LAOHUN (NUOL)                      | <ol style="list-style-type: none"> <li>1) Risk communication evaluation</li> <li>2) SOP assessment</li> <li>3) Capacity building</li> <li>4) Delivery</li> </ol>  |

## FIELD INVESTIGATION AND RESPONSE

### Objective 8: establish an operational multisectoral framework for joint response to outbreak

|   |               |     |     |                |   |
|---|---------------|-----|-----|----------------|---|
| <b>8.1. Establish national joint one health outbreak response plan</b>  | June 2024     | ++  | +++ | DCDC, DLF, DOE | <ol style="list-style-type: none"> <li>1) Set up focal point at each sector</li> <li>2) Consultation meeting between human-animal-environment sectors to review existing materials, HR, etc.)</li> <li>3) Identify technical working group from each sector to draft the plan</li> <li>4) Review meeting to revise the draft plan with all relevant stakeholders including development partners</li> <li>5) Finalization meeting</li> <li>6) Endorsement and dissemination meeting</li> </ol> |
| <b>8.2. Establish joint RRT at all level from central to local</b>  | August 2024   | ++  | +++ | DCDC           | <ol style="list-style-type: none"> <li>1) Identify and establish joint coordination mechanism with technical coordinator</li> <li>2) Establish official agreement of joint RRT at central and local levels</li> <li>3) RRT meeting to dissemination TORs</li> </ol>   |
| <b>8.3. Establish joint SOP on chemical, radiation and communicable diseases</b>  | March 2025    | +++ | ++  | DCDC, DLF, DOE | <ol style="list-style-type: none"> <li>1) Technical meeting to review all existing manual</li> <li>2) Draft joint outbreak investigation and response manual</li> <li>3) Finalization meeting with all relevant sectors including development partners</li> <li>4) Endorsement and dissemination</li> </ol>   |
| <b>8.4. Establish joint budget plan and fund sharing mechanism for field investigation and response to one health event</b> | May 2025      | +++ | +++ | DCDC, DLF, DOE | <ol style="list-style-type: none"> <li>1) Each sector draft their budget plan and funding sharing mechanism</li> <li>2) Consultation meeting with ministry of finance to review the existing process and mechanism of using emergency budget and identify next step for develop joint budget plan and fund sharing mechanism</li> </ol>   |
| <b>8.5. Establish joint outbreak investigation and response manual for priority zoonotic diseases</b>                       | December 2024 | +++ | +++ | DCDC, DLF, DOE | <ol style="list-style-type: none"> <li>1) Technical meeting to review all existing manual that related from each sector</li> <li>2) Draft joint outbreak investigation and response manual together</li> <li>3) Finalization meeting with all relevant sector including development partners</li> <li>4) Endorsement and dissemination</li> </ol>   |

### Objective 9: test and monitor the operational framework for joint response

|  |               |   |     |                |  |
|--|---------------|---|-----|----------------|--|
| <b>9.1. Joint simulation exercise on field investigation and response on emergency event related to human-animal-environment with all relevant sectors</b> | Every 6 month | + | +++ | DCDC, DLF, DOE | <ol style="list-style-type: none"> <li>1) Identify case scenario and target participants</li> <li>2) Conduct simulation exercise every 6 month</li> </ol>  |
| <b>9.2. Conduct joint after-action review and annual review meeting on outbreak response at national and subnational level</b>                             | November 2024 | + | +++ | DCDC, DLF, DOE | <ol style="list-style-type: none"> <li>1) Consultation meeting between three sectors to agree on the objectives and expected outcome of conduct these two meetings</li> <li>2) Identify key sector and rotation for conducting the review meeting</li> </ol> |

## WORKSHOP EVALUATION

An evaluation questionnaire was completed by 40 participants to collect feedback on the relevance and utility of the workshop.

| Workshop evaluation                  | 'Satisfied' or 'Fully satisfied' | Average score (/4) |
|--------------------------------------|----------------------------------|--------------------|
| <b>Overall assessment</b>            | <b>100%</b>                      | <b>3.3</b>         |
| Content                              | 95%                              | 3.4                |
| Structure / Format                   | 100%                             | 3.7                |
| Facilitators                         | 100%                             | 3.5                |
| Organization (venue, logistics, ...) | 100%                             | 3.6                |

*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              | 95%                      | 3.3                |
| The work of your unit/department               | 98%                      | 3.4                |
| The intersectoral collaboration in the country | 88%                      | 3.1                |

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

| Would you recommend this workshop to other countries? |     |
|---|-----|
| Absolutely  | 55% |
| Probably  | 43% |
| Likely not  | 2%  |
| No  | 0%  |

## APPENDIX

### ANNEX 1: WORKSHOP AGENDA

| 9 August 2023 (DAY 1)      |   |
|----------------------------|---|
| 08:30 – 09.00              | Registration of participants  |
| 09.00 – 10.00              | <p><u>Opening Ceremony</u></p> <ul style="list-style-type: none"> <li>● Quadripartite Representative (FAO, UNEP, WHO, and WOAHA)</li> <li>● Representative of the Ministry of Health (10')</li> <li>● Representative of the Ministry of Agriculture (10')</li> <li>● Introduction of participants (10')</li> <li>● Group Picture (10') + <b>Coffee break (20')</b></li> </ul>   |
| 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 WOAHA-WHO-FAO-UNEP collaboration. It is followed by comprehensive presentations from both Ministries on the national public and animal health services. A second documentary provides concrete worldwide examples of fruitful intersectoral collaboration, showing how the two sectors share a lot in terms of approaches, references and strategic views.</p> <ul style="list-style-type: none"> <li>● Workshop approach and methodology – PPT (10')</li> <li>● MOVIE 1: Quadripartite One Health collaboration and vision (15')</li> <li>● Veterinary Services and One Health – PPT (20')</li> <li>● Public Health Services and One Health – PPT (20')</li> <li>● MOVIE 2: Driving successful interactions - Movie (25')</li> </ul> |
| <b>Lunch (12:00-13:30)</b> |   |
| 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.</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 colour-coded cards (green, orange, red).</p> <ul style="list-style-type: none"> <li>● Presentation and organization of the working group exercise – PPT (15')</li> <li>● Case study - Working groups by disease (120')</li> <li>● Restitution (75')</li> </ul>  |
| 17.00 – 18.30              | <p>Facilitators and moderators only:</p> <p>Briefing Session 3-4-5 and compilation of results from Session 2</p>  |

## 10 August 2023 (DAY 2)

|                            |   |
|----------------------------|---|
| 08.30 –<br>11.20           | <p><b><u>Session 3: Bridges along the road to One Health</u></b></p> <p>Session 3 presents the tools from two sectors (IHR MEF, JEE, PVS) and uses an interactive approach to map activities identified earlier onto a giant IHR-PVS matrix.</p> <p>This process will enable to visualize the main gaps, to distinguish disease-specific vs systemic gaps and to identify which technical areas the following sessions will focus on.</p> <ul style="list-style-type: none"> <li>● MOVIE 3: IHR Monitoring and Evaluation Framework (25')</li> <li>● MOVIE 4: PVS Pathway (25')</li> <li>● MOVIE 5: IHR-PVS Bridging (10')</li> <li>● Mapping gaps on the IHR/PVS matrix (50') + <b>Coffee break (20')</b></li> <li>● Discussion – Plenary (30')</li> </ul> |
| 11:20 -<br>12:40           | <p><b><u>Session 4: Crossroads - IHR MEF, JEE and PVS Pathway reports</u></b></p> <p>Participants will be divided into working groups by technical topic (surveillance, communication, coordination, etc) and will explore the improvement plans already proposed in the respective assessments (IHR annual reporting, JEE, PVS Evaluation, etc.), extract relevant sections and identify what can be synergized or improved jointly.</p> <ul style="list-style-type: none"> <li>● Presentation and organization of the working group exercise (20')</li> <li>● Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (60')</li> </ul>                                       |
| <b>Lunch (13:00-14:00)</b> |   |
| 14:00 -<br>14:30           | <p><b><u>Session 4 (continued)</u></b></p> <ul style="list-style-type: none"> <li>● Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (continued, 30')</li> </ul>  |
| 14:30–<br>17:15            | <p><b><u>Session 5: Road planning</u></b></p> <p>Participants will use the results obtained from the case studies and from the assessment reports to develop a realistic and achievable road-map to improve the collaboration between the sectors.</p> <ul style="list-style-type: none"> <li>● Presentation and organization of the working group exercise (15')</li> <li>● Identification of Activities (Working groups by technical topic) (150')</li> </ul>   |
| <b>17.15 –<br/>19.00</b>   | <p><b>Facilitators only:</b> Compilation of results from Session 5 (drafting of the road-map) and preparation of Session 6</p>  |

## 10 August 2023 (DAY 3)

|                            |   |
|----------------------------|---|
| 09:00 -<br>12:30           | <p><b><u>Session 6: Fine-tuning the roadmap</u></b></p> <p>The objective of Session 6 is to have all participants contribute to all technical areas and to consolidate the joint-road map by making sure it is harmonized, concrete and achievable.</p> <ul style="list-style-type: none"> <li>● Fine-tuning of the road-map: Objectives and filling out of Activity cards (90')</li> </ul> <p style="color: red;">Coffee break (15')</p> <ul style="list-style-type: none"> <li>● World Café (90')</li> <li>● Presentation of the prioritization vote (10')</li> <li>● Prioritization vote (during lunchtime)</li> </ul>   |
| <b>Lunch (12:15-13:30)</b> |   |
| 13:30 -<br>15:30           | <p><b><u>Session 7: Way forward</u></b></p> <p>In the last session, representatives from the key Ministries take over the leadership and facilitation of the workshop to discuss with participant 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 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"> <li>● Results of the prioritization vote (15')</li> <li>● Integrating the action points into the IHR-MEF process (30')</li> <li>● Next steps (75') (lead by Ministry representatives)</li> </ul> |
| 15:30 -<br>16:30           | <p><b><u>Closing Session</u></b></p> <ul style="list-style-type: none"> <li>● Evaluation of the workshop (20')</li> <li>● Closing ceremony (40')</li> </ul>   |
| <b>16.30 –<br/>17.00</b>   | <b>Facilitators:</b> Video interview of some participants   |

## ANNEX 2: LIST OF PARTICIPANTS

| No | Name                          | Position                                  | Organization                                    |
|----|-------------------------------|---|---|
| 1  | Dr Phoupasong Somphou         | Chief of zoonosis and POE division        | DCDC  |
| 2  | Phongsavay Chanthasaeng       | Deputy chief of zoonosis and POE division | DCDC  |
| 3  | Dr Khatthaoudone Bounkhoun    | Technical officer                         | DCDC  |
| 4  | Dr Khampheng Inthavong        | Technical officer                         | DCDC  |
| 5  | Dr Sompadith Phavilay         | Technical officer                         | DCDC  |
| 6  | Dr Mayoula Intheppavong       | Technical officer                         | DCDC  |
| 7  | Dr Phouvilout Lathsapho       | Technical officer                         | DCDC  |
| 8  | Chintana Mahavong             | Finance officer                           | DCDC  |
| 9  | Dr Bounthanome Sengkeopaseuth | Chief of Epidemiology division            | National Center for laboratory and Epidemiology |
| 10 | Soulivanh Inthikone           | BFDI                                      | BFDI  |
| 11 | Dr Xayyavong duangmanee       | Deputy director                           | Vientaine capital health department             |
| 12 | Dr Khamlar Phaodavanh         | Chief of CDC division                     | Vientaine capital health department             |
| 13 | Dr Bounnam Phetsykham         | Deputy director                           | Luangnamtha PHD                                 |
| 14 | Dr Dalaphone Keomanyvong      | Technical officer                         | Luangnamtha PHD                                 |
| 15 | Dr Khamphou Chanthavong       | Deputy director                           | LuangPrabang PHD                                |
| 16 | Dr Somxery Xayyavong          | Deputy chief of CDC division              | LuangPrabang PHD                                |
| 17 | Dr Phonepadith Phomsee        | Director                                  | Xayyabouly PHD                                  |
| 18 | Dr Khoutphet Phommathep       | Chief of CDC division                     | Xayyabouly PHD                                  |
| 19 | Dr Latsamy Syphanh            | Chief of CDC division                     | Champasak PHD                                   |
| 20 | Khampasong dalavong           | Technical officer                         | Champasak PHD                                   |
| 21 | Korlakun Phichitchai          | Chief of CDC division                     | Savannakhet PHD                                 |
| 22 | Sengdao sedalay               | head director                             | Savannakhet PHD                                 |
| 23 | Dr Sisavanh Phommachan        | Deputy of Department                      | University of Health Sciences                   |
| 24 | Dr Kaviphone Phouttavong      | Director General                          | DLF   |
| 25 | Dr Souphavanh Keovilay        | Deputy Director General                   | DLF   |
| 26 | Dr Souliyasak Jaiyavong       | Director of Veterinay Service Division    | DLF   |

|    |                               |  |  |
|----|-------------------------------|--|--|
| 27 | Dr Phouvong Phommachanh       | Director of National Animal Health Laboratory        | DLF  |
| 28 | Dr Laphinh Phithacthep        | Deputy Director of Veterinay Service Division        | DLF  |
| 29 | Dr Wathana Thepangna          | Deputy Director of National Animal Health Laboratory | DLF  |
| 30 | Ms. Ounheuane Ngaosavath      | Deputy Director of Admin and planning Division       | DLF  |
| 31 | Mr. Somchan Boudta            | Technician in Veterinary Service Division            | DLF  |
| 32 | Mr. Sengxay Phonthasy         | Technician in National Animal Health Laboratory      | DLF  |
| 33 | Ms. Amphayvanh Phanthasombuth | Technician in Veterinary Service Division            | DLF  |
| 34 | Ms. Chanthana Senaphan        | Technician in National Animal Health Laboratory      | DLF  |
| 35 | Ms. Chansamone Vanthanouvong  | Technicial in Admin and planning Division            | DLF  |
| 36 | Ms. Thongvanh Viravongsa      | Technicial in Admin and planning Division            | DLF  |
| 37 | Ms. Mina Koulavong            | Technicial in Admin and planning Division            | DLF  |
| 38 | Mrs. Pit Phomphet             | Deputy Director of PAFO                              | Provincial of Agriculture and Forestry Office. Vientiane Capital     |
| 39 | Dr. Doualy LYLIANOU           | Deputy Head of PLFS                                  | Provincial Livestock and Fishery Section, Vientiane Capital          |
| 40 | Mr. Vilavong Kettavongsa      | Deputy Head of PLFS                                  | Provincial of Agriculture and Forestry Office. Sayaboury Province    |
| 41 | Mr. Xengphavone Khonmany      | Veterinary Technical                                 | Provincial Livestock and Fishery Section, Sayaboury Province         |
| 42 | Mr. Somphet PHENGCHANH        | Deputy Director of PAFO                              | Provincial of Agriculture and Forestry Office. Luangphabang Province |
| 43 | Ms. Keola PHATTHANA           | Deputy head of PLFS                                  | Provincial Livestock and Fishery Section, Luangphabang Province      |
| 44 | Mr. Saykham SOMVANG           | Deputy Director of PAFO                              | Provincial of Agriculture and Forestry Office, Luangnamtha Province  |
| 45 | Mr. Phonphachan KOEVILAY      | Head of PLFS   | Provincial Livestock and Fishery Section, Luangnamtha Province       |
| 46 | Mrs. Olavanh SAMARTHMANIVONG  | Head of PLFS   | Provincial of Agriculture and Forestry Office, Savahnaket Province,  |

|    |                              |  |  |
|----|------------------------------|--|--|
| 47 | Mr. Donechan Xayphanyha      | Technician Veterinary  | Provincial Livestock and Fishery Section, Savahnakhet Province   |
| 48 | Mr. Kham NILAVONG            | Deputy Director of PAFO  | Provincial of Agriculture and Forestry Office, Champasak Province  |
| 49 | Ms. Malayphet BOUNMY         | Head of PLFS   | Provincial Livestock and Fishery Section, Champasak Province   |
| 50 | Mr. Viengsy Seandaohouang    | Deputy Director General  | Prevention Department, Ministry of Public Security   |
| 51 | Mr. Phoukheng XAYYADETH      | Deputy head of Health and Sanitation Crime Prevention Division | Department of Environmental Police, Ministry of Public Security  |
| 52 | Pol.maj Anannaeth Ouphaphone | Deputy head of division Counter Illicit Trade                  | Department of Economical Police, Ministry of Public Security   |
| 53 | Mr.Khamla Sinthavong         | Technical Officer  | Department of Forestry, MAF  |
| 54 | Mr. Sithixay Kaylath         | Deputy director of Department of Veterinary Medicine, LAOHUN   | Faculty of Agriculture, (LAOHUN)   |
| 55 | Prof. Daosavanh Sanamay      | LAOHUN   | Faculty of Environment Science, (LAOHUN)   |
| 56 | Ms. Keodokmay Phouipaseuth   | Head of Policy Division  | Department of Water Resources, Ministry of National Resources and Environment                            |
| 57 | Mr. Malabou Bailatry         | Deputy Director of Information Division                        | Department of Climate Change, Ministry of National Resources and Environment                             |
| 58 | Mr.Thongsamlid Onemanisone   | Technical Officer  | Department of Environment, Ministry of National Resources and Environment                                |
| 59 | Mrs. Minavanh Douangmala     |  | Provincial Offices for Natural Resources and Environment, Ministry of National Resources and Environment |
| 60 | Mrs. Chanthala Vongxaysana   | PHS assistant  | DTRA   |
| 61 | Dr Chantanee Buranathai      | One Health Coordinator   | WOAH   |
| 62 | Dr Pennapa Matayompong       | Consultant   | WOAH   |
| 63 | Mr. Chanthalath Pongmala     | FAOR officer   | FAO  |
| 64 | Dr Leo Loth                  | Lead Technical Advisor   | FAO  |

|    |                             |                                   |                     |
|----|-----------------------------|-----------------------------------|---------------------|
| 65 | Mr. Soubanh Silithammavong  | National Animal Health Specialist | FAO                 |
| 66 | Ms. Kongsy Khammavong       | Health program coordinator        | WCS Lao PDR Program |
| 67 | Mr. Phaivieng Vongkhamheang |                                   | WWF, Lao PDR        |
| 68 | Mr. Toscan Vermast          | Development Coordination Officer  | UNEP                |
| 69 | Sengdeuane Chirdchung       | SSA                               | WHO                 |
| 70 | Viengsavanh Nakhonesid-fish | NGO-Program                       | WHO                 |
| 71 | Phanoula Zonarath           | Technical officer                 | WHO                 |
| 72 | Dr Guillaume Belot          | Technical officer                 | WHO HQ              |
| 73 | Dr Jessica Kayamori Lopes   | Technical officer                 | WHO WPRO            |

