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

10-12 September 2019

Nay Pyi Taw, Myanmar

Organized by Ministry of Health and Sports, Ministry of Agriculture, Livestock and Irrigation, WHO and OIE

Acknowledgments

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ABBREVIATIONS & ACRONYMS

AI	Avian Influenza
DG	Directorate General
DoPH	Department of Public Health Myanmar
FAO	Food and Agriculture Organization of the United Nations
FELTP	Field Epidemiology and Laboratory Training Program
FP	Focal Point
HQ	Headquarters
IHR	International Health Regulations (2005)
IT	Information technology
JEE	Joint External Evaluation
LBVD	Livestock Breeding and Veterinary Department, Myanmar
MEF	Monitoring and Evaluation Framework
MoU	Memorandum of Understanding
NAPHS	National Action Plan for Health Security
OIE	World Organisation for Animal Health
PH	Public Health
PVS	Performance of Veterinary Services
SOP	Standard Operating Procedures
TOR	Terms of Reference
WHO	World Health Organization

INTRODUCTION

BACKGROUND

The World Health Organization (WHO) and the World Organisation for Animal Health (OIE) are the two main international organizations responsible for proposing references and guidance for the public health and animal health sectors respectively. WHO and OIE have been active promoters and implementers of an intersectoral collaborative approach between institutions and systems to prevent, detect, and control diseases among animals and humans. They have developed various frameworks, tools and guidance materials to strengthen capacities at the national, regional and global levels.

- 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. Through these regulations, countries are required to develop, strengthen and maintain minimum national core public health capacities to detect, assess, notify and respond to public health threats and as such, should implement plans of action to develop and ensure that the core capacities required by the IHR are present and functioning throughout their territories. Various assessment and monitoring tools have been developed by WHO such as the IHR Monitoring and Evaluation Framework (MEF), which includes *inter alia* the Annual Reporting Questionnaire for Monitoring Progress and the Joint External Evaluation (JEE) Tool.

- The OIE is the intergovernmental organization responsible for developing standards, guidelines and recommendations for animal health and zoonoses; these are laid down in the OIE Terrestrial and Aquatic Animal Codes and Manuals. In order to achieve the sustainable improvement of national Veterinary Services' compliance with these standards, in particular on the quality of Veterinary Services, the OIE has developed the Performance of Veterinary Services (PVS) Pathway, which is composed of a range of tools to assist countries to objectively assess and address the main weaknesses of their Veterinary Services.

These support tools shift away from externally driven, short-term, emergency response type 'vertical' approaches addressing only specific diseases, and contribute to a more sustainable, long term 'horizontal' strengthening of public and animal health systems. The WHO IHR MEF and the OIE PVS Pathway approaches enable countries to determine strengths and weaknesses in their respective functions and activities and promote prioritization and pathways for improvement. Furthermore, they engage countries in a routine monitoring and follow up mechanism on their overall level of performance and help to determine their needs for compliance with internationally adopted references and standards.

The use of the WHO IHR monitoring tools and OIE PVS Pathway results in a detailed assessment of existing weaknesses and gaps, with the better alignment of a capacity building approach and strategies at country level between the human and animal health sectors. The two organizations have developed a workshop format (the IHR-PVS National Bridging Workshops) that enables countries to further explore possible overlapping areas addressed in their PVS and IHR capacity frameworks and develop, where relevant, appropriate bridges to facilitate coordination. A structured approach using user-friendly materials enables the identification of synergies, reviews gaps and defines the operational strategies to be used by policy makers for concerted corrective measures and strategic investments in national action plans for improved health security.

In Myanmar,

- a PVS Evaluation Follow-up was conducted in 2018;
- a Joint External Evaluation (JEE) was conducted in 2017;
- The National Action Plan for Health Security (NAPHS) was validated in 2018.

Following the advocacy by WHO SEARO and WHO Myanmar, MoHS, DoPH, is organizing National Bridging Workshop on the International Health Regulations (IHR) and the OIE Performance of Veterinary Services (PVS) Pathway workshop in collaboration with MoALI, LVBD.

OBJECTIVES OF THE WORKSHOP AND EXPECTED OUTCOMES

The main objective of the IHR-PVS Pathway National Bridging Workshop (IHR-PVS NBW) is to provide an opportunity to the human and animal health services of hosting countries to build on the reviews of performance, gaps and discussions for improvement conducted in their respective sectors, and to explore options for improved coordination between the sectors, to jointly strengthen their preparedness for, and control of, the spread of zoonotic diseases.

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

- **Brainstorming:** discuss the outcomes of IHR and PVS Pathway country assessments and identify ways to use the outputs;
- **Advancing One Health**: improve dialogue, coordination and collaboration between animal and human health sectors to strategically plan areas for joint actions and a synergistic approach;
- **Building Sustainable Networks:** contribute to strengthening the inter-sectoral collaboration through improved understanding of respective roles and mandates;
- **Strategic planning**: inform planning and investments (incl. the National Action Plan for Health Security) based on the structured and agreed identification of needs and options for improvement

Expected **outcomes** of the workshop include:

1. Increased awareness and understanding on the IHR (2005) and the role of WHO, the mandate of the OIE, the IHRMEF and the OIE PVS Pathway, their differences and connections.
2. Understanding of the contribution of the veterinary services in the implementation of the IHR (2005) and how the results of the PVS Pathway and IHRMEF can be used to explore strategic planning and capacity building needs.
3. A diagnosis of current strengths and weaknesses of the collaboration between the animal health and public health services.
4. Identification of practical next steps and activities for the development and implementation of joint national roadmap to strengthen collaboration and coordination.

The agenda of the Workshop is available at Annex 1. It was attended by 79 participants from Ministry of Agriculture, Livestock and Irrigation and Ministry of Health and Sports with representatives from the Central, Provincial and District level attending the three-day discussions. Representatives of the environmental sector, legal sector, media and development partners (PREDICT, Public Health England, US CDC, Four Paws, World Bank, Asia Development Bank, FAO) were also present on the last day.

REPORT ON THE SESSIONS

The workshop used an interactive methodology and a structured approach with user-friendly material, case studies, videos and facilitation tools. Participants received a *Participant Handbook* which comprised of all necessary information such as the objectives of the workshop, instructions for working group sessions, expected outcomes of each session etc. Sessions were structured in a step-by-step process as follows:

OPENING SESSION

Dr Ye Tun Win, Director General of the Livestock Breeding and Veterinary Department, Ministry of Agriculture Livestock and Irrigation and Dr Thandar Lwin, Deputy Director General of the Department of Public Health, Ministry of Health and Sports gave opening remarks.

Dr Gyanendra Gongal, Technical Officer, World Health Organization Regional Office for South East Asia (WHO SEARO) and Dr Laure Weber-Vintzel, Deputy Sub-Regional Representative for South East Asia, World Organisation for Animal Health (OIE) gave welcome remarks and introduced the workshop.

SESSION 1: THE ONE HEALTH CONCEPT AND NATIONAL PERSPECTIVES

A first presentation explained the workshop approach and methodology and presented the participant handbook. Dr Gongal presented on Tripartite One Health collaboration in Asia and vision.

LBVD and DoPH Representatives described the structures of their respective departments and presented their activities.

Dr Min Thein Maw, Director of LBVD, MOALI made a presentation on “Veterinary services and One Health”. He described MOALI’s vision and mission, LBVD’s goals and objectives, its organizational structure, as well as its key programs such as National Action Plan for Rabies Elimination in Dogs, National Action Plan on AMR, and National Plan for Animal Health. He also introduced One Health activities from animal health perspectives, focusing on prevention and control of priority zoonotic diseases and containment of AMR in Myanmar; and presenting the lesson learned and challenges faced during collaborative activities.

Dr Nyan Win Myint, Deputy Director of Port Health/Public Health Emergency of DoPH presented areas where collaboration is satisfactory, including the Great Mekong Subregion (GMS) Health Security Project. He highlighted the good cooperation with LBVD on AMR activities, as well as the Field Epidemiology Training Program (FETP).

Dr Khin Sanda Aung, Deputy Director, Central Epidemiology Unit of Department of Public Health made a dedicated presentation focusing on Public Health services and the One Health Vision and Framework in Myanmar, prioritising anti-microbial resistance (AMR), zoonoses (rabies, zoonotic influenza, tuberculosis, anthrax and Japanese encephalitis) and food-borne diseases. The One Health priorities identified via the JEE were also presented.

A 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:

- Intersectoral collaboration between animal and human health sectors occurs, but mainly during outbreaks; with better preparedness, much more could be done at the human-animal interface.
- The two sectors have common concerns and challenges and conduct similar activities. Competencies exist and can be pooled. These need to be organized though a collaborative approach.
- WHO, OIE 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 four working groups of mixed participants from both veterinary and human health sectors 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 (zoonotic influenza, rabies, anthrax, Japanese encephalitis) developed in collaboration with national representatives.

Table 1: Scenarios used for the different case studies

Zoonotic influenza (disclaimer: this case is entirely fictitious) Two persons were admitted at the Yangon General Hospital with influenza like illness accompanied by acute respiratory 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 Mingalar Taung Nyunt live bird market. The other patient reported having visited the same market 7 days prior to disease onset and having bought four ducks. Based on this case scenario please discuss and assess the country situation in terms of level of collaboration and coordination in key technical areas between sectors, and identify the gaps to manage this outbreak. You can use 15 technical cards (provided by the facilitators) for this exercise.
Rabies (disclaimer: this case is entirely fictitious) A case of rabies which was confirmed in a dairy cow regularly milked, generates panic in the population. 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 neighbourhood in Mingalar Don township. It was killed by the community two days ago. The carcass of the dog was not available for the Veterinary authorities for laboratory confirmation. Based on this case scenario please discuss and assess the country situation in terms of level of collaboration and coordination in key technical areas between sectors, and identify the gaps to manage this outbreak. You can use 15 technical cards (provided by the facilitators) for this exercise
Anthrax (disclaimer: this case is entirely fictitious) Three people are showing identical anthrax like lesions reported in a Kanbalu district hospital. One of these patients was involved in de-skinning of a dead cow in Chatthin village. The typical signs observed were cluster of blisters with swelling around the sore and itching sensation, painless skin ulcers characterized by typical black center (eschar) that appeared after developing blisters. The lesions were seen in arms and hands. Based on this case scenario please discuss and assess the country situation in terms of level of collaboration and coordination in key technical areas between sectors, and identify the gaps to manage this outbreak. You can use 15 technical cards (provided by the facilitators) for this exercise
Japanese encephalitis (disclaimer: this case based on real outbreak but altered for this exercise) Forty-nine cases of suspected Japanese encephalitis with 10 deaths occurred due to acute encephalitis syndrome in 46 villages of nine townships of Rakhine state. Among them, 21 cases were confirmed as Japanese encephalitis infection by IgM ELISA (positive to immunoglobulin M. School children were mostly affected and age of cases ranged from 3 months to 36 years. The clinical signs present were fever, followed by convulsion, unconsciousness, mental change, nausea/vomiting, headache, or encephalitis. Median duration from onset of illness to admission to hospital was four days. Based on this case scenario please discuss and assess the country situation in terms of level of collaboration and coordination in key technical areas between sectors and identify the gaps to manage this outbreak. You can use 15 technical cards (provided by the facilitators) for this exercise.

Using 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).

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

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

Outcomes of Session 2:

- Areas of collaboration are identified and joint activities discussed.
- Level of collaboration between the two sectors for 15 key technical areas is assessed (Output 1).
- The main gaps in the collaboration are 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 (OIE standards) as well as the tools available to assess the country's capacities: the JEE tools for public health services and OIE 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.

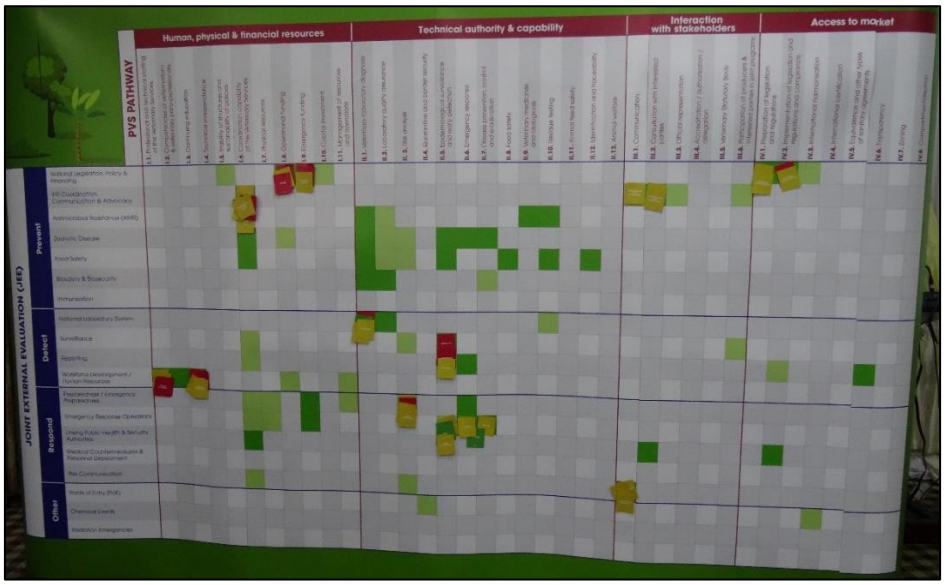

Figure 2: Mapping of the gaps by positioning the selected technical area cards on the IHR-PVS matrix.

The main gaps (clusters) identified were discussed and it was agreed that the rest of the workshop would focus on the following capacities:

- Coordination
- Surveillance
- Laboratory
- Emergency Preparedness and Response
- Communication

In addition, "Finances" and "Emergency funding" came up as technical areas needing most improvement. However, participants agreed that the audience of this workshop would not be able to provide substantial improvements in that domain. Financial support nonetheless remains a major gap to impair the efficiency of intersectoral collaboration.

Outcomes of Session 3:

- Understanding that tools are available to explore operational capacities in each of the sectors.
- Understanding of the contribution of the veterinary sector to the IHR.
- Understanding of the bridges between the IHR MEF and the PVS Pathway. Reviewing together the results of capacities assessment may help in identifying synergies and optimize collaboration.
- Understanding that most gaps identified are not disease-specific but systemic.
- Identification of the 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).

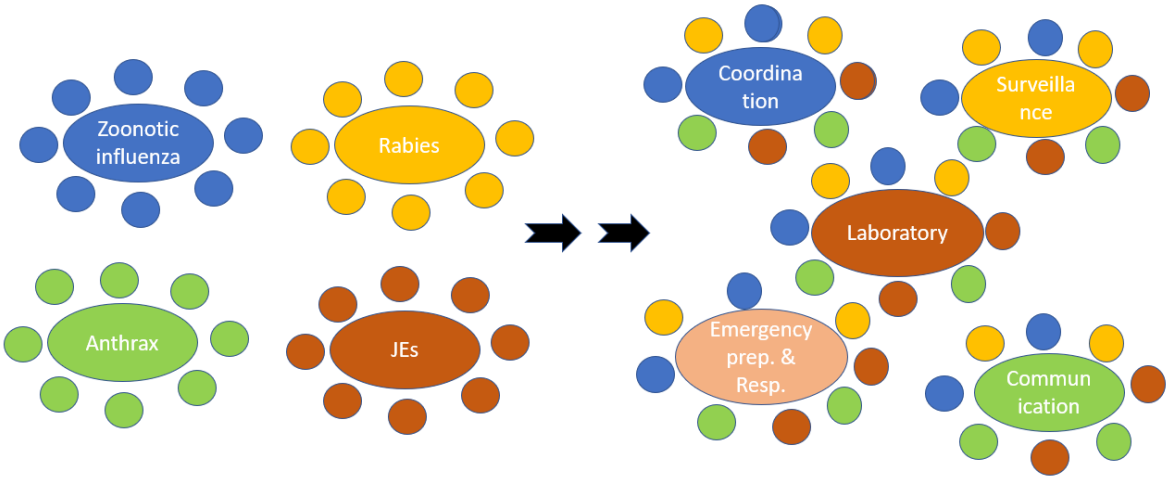

Figure 3: Generic graph describing the organization of working groups for Session 2-3 (left) and Session 4-5 (right).

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 Follow-up) 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:

- Good understanding of the assessment reports for both sectors, their purpose and their structure.
- Main gaps relevant to each technical area have been extracted.
- Main recommendations from existing reports have been extracted.
- A common understanding of the effort needed starts to emerge.

SESSION 5: ROAD PLANNING

Using the same working groups as for the previous session, participants were asked to identify, for each technical area, three joint objectives to improve their collaboration. For each objective, they filled *Action*

Cards, detailing the activities, their dates of expected implementation, the focal points responsible, the required support as well as measurable indicators (Figure 5).

Figure 5: The group working on "Laboratory" identified 3 objectives and 12 activities to improve the collaboration between the two sectors in this domain.

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

Outcomes of Session 5:

- Clear and achievable objectives and activities are identified to improve inter-sectoral collaboration between the two sectors for all technical areas selected.
- For each activity, a desired completion date, focal points, required support and measurable indicators have been identified.
- The impact and the difficulty of implementation of all proposed activities have been estimated.

SESSION 6: FINE-TUNING THE ROAD-MAP

Working groups from the previous session were given more time to finalize their objectives and activities. 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 had the possibility of leaving post-it notes on the objectives and activities of other groups when they felt that an amendment or a clarification was necessary.

At the end of the cycle, 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, and a final plenary session was conducted to discuss the outstanding points.

Figure 6: World café exercise: the group on "Communication with media" is providing feedback to the rapporteur of the group on "Coordination".

Overall, the five groups identified a total of 14 key objectives and 53 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 white stickers and asked to select the five objectives they considered as of highest priority (Figure 7).

A total of 51 participants participated in the vote. The top three selected objectives were: establishing One Health multisectoral coordination mechanisms at all levels, enhancing laboratory information systems and information and resource sharing mechanisms, and strengthening human resource technical capacity for surveillance. Full results of the vote can be found in Output 3.

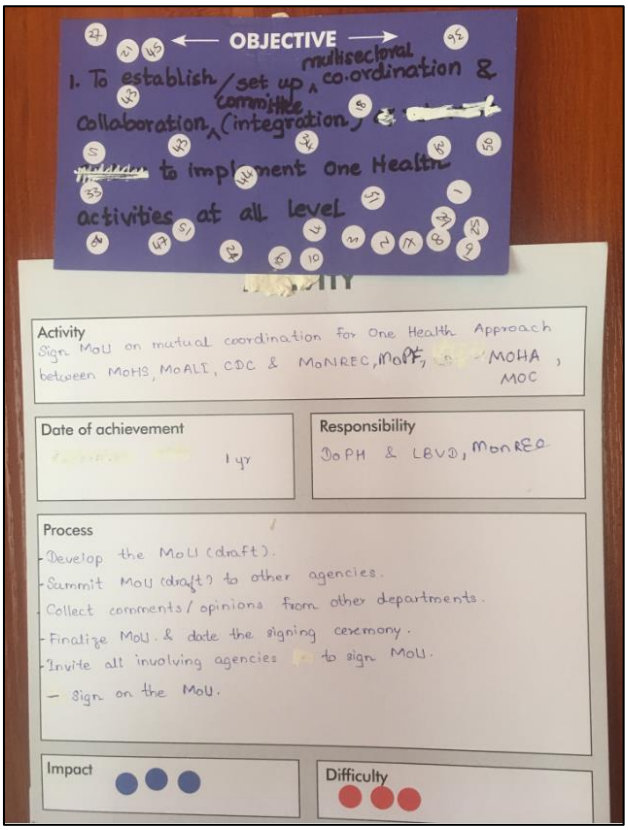

Figure 7: Participants voted for their priority objectives using round white stickers.

Outcomes of Session 6:

- Harmonized, concrete and achievable roadmap to improve the collaboration between the animal health and human health sectors in the prevention, detection and response to zoonotic disease outbreaks.
- Buy-in and ownership of all participants who contributed to all areas of the roadmap.
- Prioritization of the activities.

SESSION 7: WAY FORWARD

Results of the prioritization vote were presented and discussed.

Dr Khin Sanda Aung, Deputy Directors, DoPH, MoHS presented the roadmap of One Health activities and how they are linked to NAPHS. After her presentation, comments and observations from international and non-governmental observations were sought. The facilitators informed participants that international and non-governmental organizations can support both in terms of funding and technical expertise for the implementation of the roadmap activities.

Outcomes of Session 7:

- Understanding of how the outputs of the workshop can feed into other existing plans.
- Way forward is presented and discussed.
- Ownership of the workshop results by the country.

CLOSING SESSION

Dr Sithar Dorjee and Dr Lesa Thompson summarised the three-day workshop and highlighted the key achievements. This was followed by the feedback from the participants and facilitators.

Dr Ye Tun Win, Director General of LBVD, provided closing statements on behalf of the Myanmar Government and extended his appreciation and gratitude to WHO and OIE for supporting the NBW, and thanked the facilitators for providing excellent technical expertise and facilitation of the workshop, local organizers of the workshop, and to the participants for their active contribution to the workshop resulting in an excellent roadmap for One Health capacity building in Myanmar. He emphasized that the MOHS and MoALI should both take ownership of the outcomes of the workshop. He also ensured the joint engagement in addressing the gaps identified for collaboration at the human-animal interface. WHO and OIE reiterated their full commitment to support the country in improving this collaboration.

All the material used during the workshop, including movies, presentations, documents of references, results from the working groups and pictures were copied on a memory stick distributed to all participants.

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WORKSHOP OUTPUTS

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

Technical area (cards)	Zoonotic influenza	Rabies	Anthrax	JE	Score
Finance					7
Surveillance					7
Emergency funding					7
Education and training					6
Human resources					6
Coordination at technical level					5
Legislation / Regulation					5
Communication with media					5
Risk assessment					5
Coordination at high level					4
Communication with stakeholders					4
Laboratory					4
Coordination at local level					3
Response					3
Field investigation					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 a green card). Technical areas marked in bold were selected and addressed in-depth throughout the rest of the workshop.

OUTPUT 2: OBJECTIVES AND ACTIONS IDENTIFIED PER TECHNICAL AREAS

Action	Timeline	Difficulty (1-0 scale)	Impact (1-0 scale)	Responsibility	Process
ONE HEALTH COORDINATION					
Objective 1: Establish One Health multisectoral mechanisms at all levels					
1.1 Seek endorsement and approval of Myanmar One Health Strategic Framework	December 2019	++	+++	DoPH and LBVD and MONREC	1) Convene meeting to finalize Myanmar One Health Strategic Framework 2) Seek approval from the Cabinet 3) Print and circulate the framework for implementation
1.2 Sign Memorandum of Understanding for multisectoral collaboration on One Health amongst key stakeholders (MoHS, MoALI, CDC, MONREC, MoPF, MoHA, MoC, etc)	August 2020	+++	+++	DoPH and LBVD and MONREC	1) Organize consultative meeting and draft MoU 2) Circulate draft MoU to all the relevant agencies for feedback and comments and endorsement 3) Finalize the MoU 4) Organize stakeholder meeting to sign the MoU by all stakeholders 5) Circulated signed MoU for its implementation
1.3 Institute a National Multisectoral Coordination Committee (NMCC) for One Health	November 2020	+	++	DoPH and LBVD and MONREC	1) As per the signed MoU, identify and designate members for NMCC for One Health 2) Develop ToR of the committee including meeting procedures and decision making 3) Notify the establishment of the Committee to all stakeholders 4) Use this Committee for making policy decisions on One Health activities
1.4 Institute Regional (15), District (66) and Township (330) One Health Committees at subnational level	January 2021	+	++	DoPH and LBVD	1) As per the signed MoU, identify and designate members for these subnational One Health Committees 2) Develop ToR of the committees including meeting procedures and decision making 3) Notify the establishment of the Committee to all stakeholders 4) Use these committees for making policy decisions and implementation of One Health activities at subnational level

Objective 2: Enhance operationalization of formal One Health coordination through structures and enabling instruments					
2.1 Review and harmonize existing legislations related to zoonoses, AMR and biosecurity for coordinated implementation of One Health activities	August 2021	+++	+++	Technical and legal experts from DoPH and LBVD and MONREC	1) The national One Health Committee will establish working group (both technical and legal members) 2) Develop ToR of the working group 3) Conduct review of relevant legislations and other legal documents 4) Present proposals for harmonization of the legislations and other legal instruments for smooth coordination and implementation of One Health activities 5) Report to NMCZ periodically 6) Final report and recommendations are presented to appropriate authorities or bodies for approval
2.2 Appoint sectoral focal points for specific disease/technical areas (zoonoses, AMR, food safety, etc) at all levels (national, regional, district/township levels)	March 2021	+	++	DoPH and LBVD and MONREC	1) Identify specific disease or technical areas of One Health activities 2) Nominate focal points at national and subnational levels 3) Develop ToR and meeting procedures of the focal points 4) Corresponding Focal points become the secretaries of the National and subnational One Health committees
2.3 Develop Standard Operating Procedures (SOPs) for One Health multisectoral coordination and collaboration on specific diseases or technical areas (e.g. zoonoses, AMR, Food safety, etc)	August 2021	+	++		1) Hire consultants to develop SOPs 2) Conduct consultative meetings to collect information for developing SOPs 3) Conduct workshop for finalization and endorsement of SOPs 4) Seek approval of SOPs from the National One Health Committee 5) Print and circulate SOPs to all relevant sectors for implementation
SURVEILLANCE					
Objective 3: Enhance coordinated surveillance for zoonoses and AMR pathogens					
3.1 Prioritize zoonotic diseases and AMR pathogens for implementing coordinated surveillance	March 2020	++	++	CEU, NHL, VMDCDC	1) Conduct consultative workshop amongst stakeholders for prioritization of zoonotic diseases and AMR pathogens 2) Issue executive order for coordinated surveillance of priority zoonotic diseases and AMR pathogen 3) Notify and publish list of priority zoonotic diseases and AMR pathogens

3.2 Designate TWG for implementing coordinated and/or joint surveillance for the priority zoonotic diseases and AMR pathogens	May 2020	++	++	CEU, NHL, VMDCDC	1) Nominate and designate TWG members 2) Conduct consultative meeting to develop ToR including meeting procedures 3) Issue executive order formalizing the TWG
3.3 Develop SOPs and guidelines for coordinated and/or joint surveillance of priority zoonotic diseases and AMR pathogens	July 2020	+	+++	CEU, NHL, VMDCDC	1) Hire consultant for developing SOPs and guidelines for coordinated and/or joint surveillance 2) Conduct consultative workshop to draft the SOPs 3) Seek approval of the SOPs from the National One Health Committee 4) Print and circulate SOPs to all stakeholders
Objective 4: Strengthen human resource technical capacity for surveillance					
4.1 Conduct training on implementation and use of SOPs and guidelines for coordinate surveillance of priority zoonotic diseases and AMR pathogens	October 2020	+	+++	CEU, NHL, VMDCDC	1) Draft agenda for the training 2) Send official invitation to nominate surveillance officials for the training 3) Conduct trainings for the surveillance officials at national and sub-national levels 4) Draft and submit training report to the National One Health Committee
4.2 Conduct training on joint risk assessment for zoonotic diseases at the national levels	November 2019	+	+++	CEU, NHL, VMDCDC	1) Mobilize fund and expertise for conducting training on joint risk assessment of zoonotic diseases 2) Draft agenda of the training 3) Send official invitation to nominate surveillance officials for the training 4) Conduct training 5) Draft and submit training report to the National One Health Committee
4.3 Conduct TOT training to surveillance officials on principles and application of surveillance, and analysis and interpretation of surveillance data	January 2021	+	+++	CEU, NHL, VMDCDC	1) Mobilize fund and expertise to conduct training 2) Draft agenda of the training 3) Send official invitation to nominate surveillance officials for the training 4) Conduct training 5) Draft and submit training report
4.4 Conduct cascade trainings to the surveillance officials at subnational levels on principles and application of surveillance, and analysis and interpretation of surveillance data	May-October 2021	+	+++	CEU, NHL, VMDCDC	1) Draft agenda of the training 2) Send official invitation to nominate surveillance officials for the training 3) Conduct training 4) Draft and submit training reports

Objective 5: Strengthen surveillance information systems					
5.1 Develop web-based database for reporting and collection of information on priority zoonotic diseases and AMR pathogens	September 2020	+++	+++	DoPH and LBVD and MONREC	1) Hire consultant to review and design coordinated surveillance system for priority zoonotic diseases and AMR pathogen 2) Conduct consultative meetings and workshop to design the surveillance system 3) Contract software developer to develop database for the surveillance system 4) Pilot test and finalize the database and surveillance system
5.2 Install the surveillance database in all relevant units of national and subnational agencies	March 2021	++	+++	DoPH and LBVD and MONREC	1) Install the database
5.3 Train database manager and surveillance officials on new database use and management at national and subnational level	May-July 2021	++	+++	DoPH and LBVD and MONREC	1) Develop the database training manual 2) Conduct trainings
5.4 Develop sector-specific web-based database for notifiable human and animal diseases including SMS notification feature (there is no web-based database for notification of animal and human disease outbreaks (including event-based and indicator-based surveillance)	March 2021	++	+++	DoPH and LBVD and MONREC	1) Hire consultant to review and design coordinated surveillance system for priority zoonotic diseases and AMR pathogen 2) Conduct consultative meetings and workshop to design the surveillance system 3) Contract software developer to develop database for the surveillance system 4) Pilot test and finalize the database and surveillance system
LABORATORY					
Objective 6: Enhance laboratory information systems and information and resource sharing mechanisms					
6.1 Sign MoU for laboratory resource and information sharing between relevant sectors	January 2021	++	+++	NHL, LBVD, Ministry of Defence, DMR	1) Organize consultative meeting and draft MoU 2) Circulate draft MoU to all the relevant agencies for feedback and comments and endorsement 3) Finalize the MoU 4) Organize MoU signing ceremony 5) Circulated signed MoU for its implementation
6.2 Conduct laboratory resource and capacity mapping (diagnostic capacity, laboratory experts, equipment, facility, etc) to identify resource and information sharing	March 2021	++	++	NHL, LBVD, Ministry of Defence, DMR	1) Identify national experts for resource mapping 2) Develop template for resource mapping and sharing 3) Visit relevant laboratories 4) Organize consultative meetings to finalize resource and capacity for sharing and exchange 5) Submit findings to National OH committee

6.3 Develop electronic laboratory information system in each sector	October-December 2020	+++	+++	NHL and LBVD	1) Hire consultants to design and develop architecture of laboratory information system for NHL and LBVD 2) Contract for software development 3) Procure necessary IT equipment 4) Install software
6.4 Conduct trainings for laboratory officials to use new laboratory information management system in each sector	January – March 2021	+	++	NHL and LBVD	1) Develop training manuals 2) Conduct trainings
6.5 Develop SOPs and guidelines to enhance data sharing and collaboration within each sector	September 2020	+	+++	NHL and LBVD	1) Identify experts to develop SOPs and guidelines 2) Organize consultative meetings to develop and endorse SOPs and guidelines 3) Sign agreements or issue executive order to implement the SOPs and guidelines
Objective 7: Enhance laboratory diagnostic capacity					
7.1 Conduct joint training on identification and antimicrobial sensitivity testing for prioritized AMR pathogens	April-June 2020	++	+++	NHL and LBVD	1) Hire international experts for the training 2) Develop curriculum 3) Conduct training
7.2 Conduct joint training on laboratory quality assurance	July-August 2020	+	+++	NHL and LBVD	1) Hire international experts for the training 2) Develop training curriculum 3) Conduct training
7.3 Conduct joint training for biosafety and biosecurity	October-December 2020	+	+++	NHL and LBVD	1) Hire international experts for the training 2) Develop training curriculum 3) Conduct training
7.4 Develop inventory and procure laboratory equipment and reagents required for AMR surveillance	Annual procurement cycle	+	+++	NHL and LBVD	4) List laboratory equipment (blood culture machine, etc) and reagents for AMR testing 5) Tender for procurement 6) Procure the equipment and reagents
Objective 8: Enhance laboratory biosafety and biosecurity systems					
8.1 Develop comprehensive national biosafety and biosecurity legislation	October-December 2020	++	+++	NHL and LBVD	1) Hire international consultants for developing the legislation 2) Organize meetings and consultative workshop for developing the legislation 3) Seek approval from the parliament
8.2 Develop comprehensive national biosafety and biosecurity guidelines and SOPs	October-December 2020	++	+++	NHL and LBVD	4) Hire international consultants for developing guidelines and SOPs 5) Organize meetings and consultative workshop for developing these documents 6) Seek approval from relevant authorities for implementation of these guidelines and SOPs

8.3 Establish mechanism and plans for regular maintenance, validation, and calibration of laboratory equipment	Annually	+	+++	NHL and LBVD	1) Secure tripartite support for fielding consultants for developing schedule and plans for regular maintenance and plans for calibration 2) Organize consultative workshop to endorse the plan 3) Print and circulate the schedule and plans for implementation
EMERGENCY PREPAREDNESS AND RESPONSE					
Objective 9. Establish joint Incident Management structures for emergency preparedness and response for zoonoses					
9.1 Institute National Steering Committee for joint emergency preparedness and response for zoonoses	November 2019-January 2020	++	+++	MOHS, MOALI, MONREC	1) Organize consultative meetings with stakeholders to establish the national steering committee and its structure 2) Develop TORs and meeting procedures 3) Issue executive order of formation of the National Steering Committee
9.2 Institute subnational level Joint Committee for emergency preparedness and response for zoonoses	May-July 2020	++	+++	MOHS, MOALI, MONREC	1) Organize consultative meetings with stakeholders to establish the subnational level joint committees for emergency preparedness and response for zoonoses 2) Develop TOR and meeting procedures 3) Issue executive order of formation of the subnational joint committees
9.3 Establish Joint Rapid Response team for emergency response to outbreaks of zoonoses at national level	January-March 2020	++	++	MOHS, MOALI, MONREC	1) Identify and nominate officials for joint rapid response team 2) Develop TOR and meeting procedures 3) Organize consultative meetings endorsement of the members 4) Formalize through executive order issuance from National OH Committee
9.4 Establish Joint Rapid Response teams for emergency response to outbreaks of zoonoses at subnational level (regional, district/township levels, whichever is relevant)	April-June 2020	++	++	MOHS, MOALI, MONREC	1) Identify and nominate officials for joint rapid response teams at subnational level 2) Develop TOR and meeting procedures 3) Organize consultative meetings to endorse members and TOR 4) Formalize through executive order issuance from National OH Committee

Objective 10. Develop enabling instruments (guidelines, SOPs) for emergency preparedness and response for zoonoses					
10.1 Develop joint guidelines and SOPs for emergency preparedness and response for priority zoonotic diseases	August 2020	++	+++	DOPH, LBVD, MONREC, CDC	1) Hire international consultants for developing guidelines and SOPS 2) Organize series of consultative meetings to develop the joint guidelines and SOPs for priority zoonotic diseases 3) Finalize and seek approval of the joint guidelines and SOPs
10.2 Conduct National One Health Committee or senior level meetings to discuss and approve joint guidelines and SOPs	October - December 2020	++	++	DOPH, LBVD, MONREC, CDC	1) Develop agenda of the meeting 2) Circulate invitation for the meeting 3) Conduct meetings 4) Publish and circulate guidelines and SOPs for implementation
10.3 Conduct workshop to train relevant officials on joint guidelines and SOPs for emergency preparedness and response for zoonoses	January-March 2021	+++	+	DOPH, LBVD, MONREC, CDC	1) Develop agenda for the training 2) Send official invitation letter 3) Conduct training
Objective 11. Enhance technical capacity for emergency preparedness and response for zoonoses					
11.1 Conduct TOT at national level for joint outbreak investigation and response for zoonoses taking a One Health approach	October-December 2020	++	+++	DOPH, LBVD, MONREC	1) Hire international and national experts for developing training module 2) Develop training module 3) Identify TOT members 4) Conduct training to TOT members
11.2 Conduct cascade trainings on joint outbreak investigation and response for zoonoses taking One Health approach at regional and district levels (3-5 trainings per region annually)	Starting January 2021	++	+++	DOPH, LBVD, MONREC	1) Plan regional training schedules 2) Send official invitation letters 3) Conduct trainings
11.3 Conduct joint field simulation exercise on zoonotic influenza at national level	June-August 2021	++	+++	DOPH, LBVD, MONREC	1) Hire international consultant to conduct joint field simulation exercises 2) Plan the field simulation exercise 3) Conduct the field simulation exercise
11.4 Conduct table top simulation exercise on one priority zoonotic disease	October-December 2021	++	+++	DOPH, LBVD, MONREC	1) Hire international or national consultant to develop scenarios to conduct joint table top simulation exercises 2) Plan the table top simulation exercise 3) Conduct the table top simulation exercise
11.5 Develop proposal and plan for securing funding for emergency response to zoonotic diseases	July-August 2020	+	+	DOPH, LBVD, MONREC	1) Identify experts 2) Organize consultative workshop to develop the proposal and plan for emergency fund 3) Submit proposal to higher authority for approval

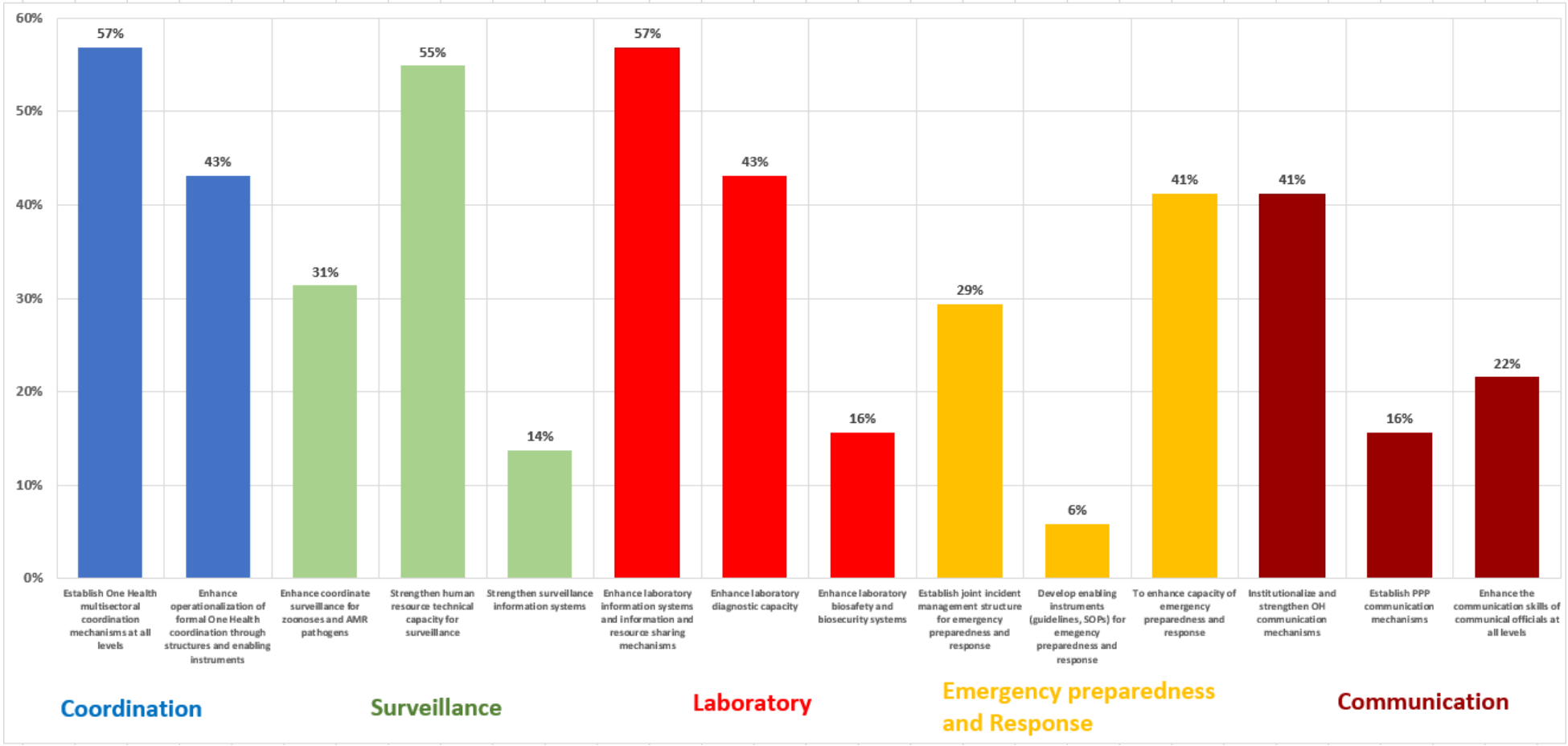
COMMUNICATION					
Objective 12: Institutionalize and strengthen One Health communication mechanisms amongst stakeholders					
12.1 Develop joint risk communication framework for One Health	January-March 2020	+	+++	DoPH, ECD, LBVD	1) Hire international expert to develop joint risk communication framework 2) Conduct consultative meetings to develop the communication framework 3) Seek approval for the joint communication framework 4) Publish and circulate the framework for implementation
12.2 Sign MoU for implementation of joint communication framework and information sharing	April-June 2020	+	+++	DoPH, ECD, LBVD	1) Develop MoU based on the joint communication framework 2) Convene meeting for signing MoU 3) Publish and circulate the signed MoU for implementation
12.3 Develop SOPs for One Health communication mechanism	July-September 2020	+	+++	DoPH, ECD, LBVD	1) Hire national or international consultant 2) Organize consultative workshop to develop the SOPs 3) Seek approval of the SOPs 4) Publish and circulate SOPs for implementation
12.4 Develop Myanmar One Health website to provide platform for sharing information	April-June 2020	+++	+++	CEU, HMIS, VMDCD, CDC	1) Identify where to host the website 2) Identify working group for development of the website 3) Organize workshop to develop website requirements 4) Develop website by IT officials, communication specialists and technical focal point officers of One Health
Objective 13: Establish Public-Private Partnership (PPP) Communication mechanisms					
13.1 Develop public-private partnership communication framework or guidelines and SOP	December 2020	++	+++	LBVD, DOPH, CEU, ECD	1) Hire consultant to develop the framework or guideline and SOPs for PPP Communication 2) Organize consultative meeting to develop PPP framework or guideline and SOPs 3) Seek approval of the framework or guideline and SOP
13.2 Sign MOU for PPP communication framework or guidelines and SOPs amongst public and private sectors	April-June 2021	++	+++	LBVD, DOPH, CEU, ECD	1) Develop MoU based on the approved PPP framework 2) Conduct meeting for signing of the MoU 3) Circulate signed MoU to all the stakeholders

13.3 Develop IEC materials, video/TV spots, leaflets and pamphlets on One Health activities, and on priority zoonotic diseases prevention and control in Myanmar	July-September 2021	++	+++	LBVD, DOPH, CEU, ECD	1) Identify communication materials needed 2) Develop the communication materials and tools jointly by all stakeholders through series of meetings and workshops
13.4 Conduct awareness and education, advocacy on One Health approach and for prevention and control of priority zoonotic diseases	July-December 2021 and thereafter as and when required	+++	+++	LBVD, DOPH, CEU, ECD	1) Develop schedules for awareness and education campaign 2) Identify target groups 3) Conduct the campaigns using suitable communication materials and platforms
Objective 14: Enhance the communication skills of national, regional and district/township communication officials					
14.1 Conduct TOT on risk communication for communication officials at national level	January 2020	+++	+++	CEU, ECD, DOPH, LBVD	1) Hire consultant to develop the training module and conduct TOT 2) Identify key TOT members 3) Conduct TOT
14.2 Conduct cascade trainings on risk communication for communication officials at subnational levels (3-5 regional trainings per year)	Starting July-September 2020	++	+++	CEU, ECD, DOPH, LBVD	1) Develop schedule of the trainings to be conducted at the national levels 2) Identify the participants for each region 3) Conduct the trainings as per the schedules
14.3 Develop dedicate risk communication component and link in One Health webpage for risk communication and awareness and education materials	October-December 2020	++	+++	CEU, ECD, DOPH, LBVD	1) Develop webpage link for communication in One Health website 2) Develop risk communication and other educational and awareness materials 3) Upload them on the webpage 4) Disseminate and share the links using social media and other platforms for accessing these awareness and educational materials

Difficulty of implementation: *Low +, Moderate ++, Very difficult +++* ***Impact:*** *Low impact +, Moderate impact ++, High impact +++*

OUTPUT 3: PRIORITIZATION RESULTS

All participants were asked to vote five priority objectives they considered as highest priority by placing white sticker on each objective. A total of 51 participants participated in the voting. The results are shown below. The top three selected objectives are: establishing One Health multisectoral coordination mechanisms at all levels, enhancing laboratory information systems and information and resource sharing mechanisms, and strengthening human resource technical capacity for surveillance.



WORKSHOP EVALUATION

An evaluation questionnaire was completed by 46 participants (Figure 8) in order to collect feedback on the relevance and utility of the workshop. The majority of respondents were from the Animal Health sector followed by the Human Health sector, with the remainder from other sectors (Figure 8). The majority of respondents were also from the national level followed by local/district level and regional level (Figure 9). Nearly 98% of the participants rated the overall experiences of the workshop, as well as logistics, venue and assistance provided, at the "satisfied to fully satisfied" level. The remaining assessments on content (quality, relevance, technical level), format (methodology, materials and activities), facilitators (communication skills, technical expertise) were also rated highly as "satisfied to fully satisfied" (91%) as shown in Table 2.5. Looking at the responses of the assessment on impact of the workshop on intersectoral collaboration, the participants misunderstood the question to be asking them the current level of intersectoral collaboration, saying it is currently "very low" (Table 2.6). Therefore, this assessment was rated relatively low with only 78% reporting a significant to highest impact. Almost 100% of the respondents rated all sessions as "satisfied" (average score of 3) and "fully satisfied" for session 3 (score of 3.9) (Table 2.7).

The main strengths of the workshop highlighted by respondents were:

- The workshop has increased or strengthened intersectoral coordination and collaboration and networking (46%)
- Increased awareness on IHR and PVS pathways capacity strengths, gaps, and weaknesses and how they can be improved through the One Health approach
- Workshop methodology, group exercises and less lecture presentation, and having movie presentations
- Facilitators' communication skills and technical knowledge and expertise

The main weaknesses of the workshop the respondents highlighted were:

- Limited printed copies of the participant's manual, and suggested either printed copies are provided to each participant or soft copies should have been provided well in advance. A large majority of the participants highlighted this weakness
- Some expressed that official representatives from many One Health-related relevant sectors (other than from MoH and MoALI) were not invited including communication specialists from MoH
- Some respondents expressed that the workshop duration was short (suggested to extend it to 4 days), while a similar number expressed that it was long and should have been cut back to 2 days
- At least 3 participants, all from the local/district level, expressed they needed a translation facility
- A few also expressed that the workshop hall was long and narrow and a little congested for group work.

Overall, the participants expressed positive experiences of the workshop which helped them understand the synergies and complementariness of animal and human health sectors and how they intersect to build capacity and collaboration for prevention and control of zoonotic diseases in Myanmar.

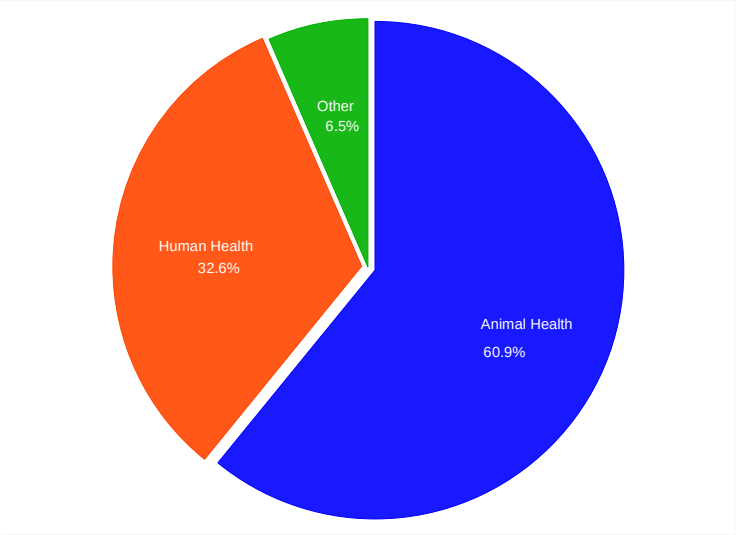


Figure 8: Answers to the question "Which sector are you from?" (46 respondents)

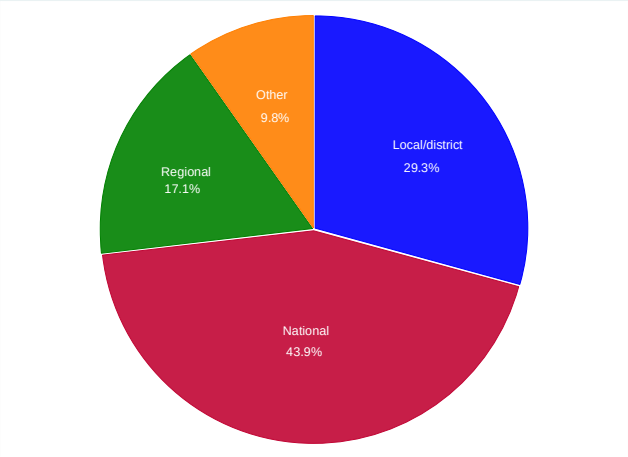


Figure 9: Answers to the question "Which administrative level are you from?" (41 respondents)

Tables 2-5: Results of the evaluation of the event by participants (46 respondents)

Workshop evaluation	'Satisfied' or 'Fully satisfied'	Average score (/4)
Overall experience of the workshop	**97.8%**	**3.1**
Content	95.7%	3.1
Structure / Format	91.3%	3.1
Facilitators	95.6%	3.3
Organization (venue, logistics, etc)	97.9%	3.2

Participants had to choose between 1=Highly unsatisfied – 2=Unsatisfied – 0=Satisfied – 4=Highly satisfied

Tables 2-6: Results of the evaluation of the event by participants (46 respondents)

Impact of the workshop on…	'Significant' or 'Major'	Average score (/4)
Your technical skills / knowledge	**93.5%**	**3.0**
The work of your unit/department	95.7%	3.1
The intersectoral collaboration in Myanmar	78.3%	2.8

Participants had to choose between 1=No impact at all – 2=Minor impact – 0=Significant impact – 4=Major impact

Tables 2-7: Results of the evaluation of the event by participants (46 respondents)

Average score for each session (/4)						
Session 1	**Session 2**	**Session 3**	**Session 4**	**Session 5**	**Session 6**	**Session 7**
3.1	3.0	3.9	3.1	3.2	3.1	3.1

Tables 2-8: Results of the evaluation of the event by participants (46 respondents)

Would you recommend this workshop to other countries?	
Absolutely	30.4%
Probably	54.4%
Likely not	0
No	0
Missing	15.2%

APPENDIX

ANNEX 1: WORKSHOP AGENDA

Time	Activity	Moderator
Day 1: 10th Sept 2019		
08.30 – 09.00	Registration	
09.00 – 09.10	**Opening Remarks**	Dr Ye Tun Win, Director General, LBVD, MoALI
09.10 – 09.20	**Opening Remarks**	Dr Thandar Lwin, Deputy Director General (DC), DoPH
09.20 – 09.30	**Welcome Remarks**	Dr Gyanendra Gongal, WHO Expert, WHO SEARO
09.30 – 09.40	**Welcome Remarks**	Dr Laure Weber-Vintzel, OIE Bangkok
9.40 – 10.15	**Group Photograph and Coffee Break**	
	Session 1: Workshop Objectives and National Perspectives	
10.15 – 10.30	Workshop approach and methodology	Dr Sithar Dorjee, OIE Expert
10.30 – 10.45	Tripartite One Health collaboration in Asia and vision – PPT	Dr Gyanendra **Gongal**, WHO Expert
10.45 – 11.05	Veterinary Services and One Health	Dr Min Thein Maw, Director, LBVD, MOALI
11.05 – 11.25	Public Health Services and One Health	Dr Nyan Win Myint and Dr Khin Sanda Aung, Deputy Directors, DoPH, MoHS
11.25 – 12.00	Movie 1: Driving successful interactions	WHO / OIE
12.00– 13.30	**Lunch**	
	Session 2: Navigating the road to One Health	
13.30 – 15.30	**Presentation and Organization of the working group exercises** Case study – Working groups by disease (Zoonotic Influenza, Rabies, Anthrax and Japanese Encephalitis)	Facilitators from WHO & OIE & Participants
15.30 – 16.00	**Coffee break**	
16.00 – 17.00	**Restitution**	Facilitators from WHO & OIE & Participants
17.00 – 18.30	**Facilitators and Moderators Only** Briefing Session 3-4-5 and compilation of results from Session 2	
19.00	**Welcome Dinner (Hotel Amara Dining Room)**	

Time	Activity	
Day 2: 11th Sept 2019		
	Session 3: Bridges along the road to One Health	
08.30– 09.00	Movie 2: IHR Monitoring and Evaluation Framework	WHO/OIE
09.00- 09.30	Movie 3: PVS Pathway	WHO/OIE
09.30– 09.40	Movie 4: IHR – PVS Bridging	WHO/OIE
9.40 -10.30	Mapping gaps on the IHR/PVS matrix	Facilitators from WHO & OIE & Participants
10.30-11.00	**Coffee break**	
11.00-12:00	Discussion – Plenary	All
12.00-13.00	**Lunch**	
	Session 4: Crossroads – IHR MEF, JEE and PVS Pathway reports	
13.00– 14.30	Presentation and Organization of Working group exercises	Facilitators from WHO & OIE & Participants
14.30- 15.30	Extract main gaps and recommendations from the PVS and IHR reports including JEE), in relation to gaps identified on the matrix	Facilitators from WHO & OIE & Participants
15.30-15.45	**Coffee break**	
	Session 5: Road Planning	
15.45 – 16.00	Presentation and Organization of Working group exercises	Facilitators from WHO & OIE & Participants
16.00 – 17.15	Identification of Activities	Facilitators from WHO & OIE & Participants
17.15 – 18.30	**Facilitators Only** Compilation of results from Session 5 (drafting of the road map) and preparation of session 6	

Time	Activity	
Day 3: 12th Sept 2019		
	Session 6: Fine tuning the roadmap	
08.30– 10.00	Fine tuning of the road map: Objectives and filling out of activity cards	Facilitators from WHO & OIE & Participants
10.00-10.15	**Coffee break**	
10.15-11:00	World Cafe	Facilitators from WHO & OIE & Participants
11.00-12:00	Presentation of the prioritization vote	Facilitators from WHO & OIE
12.00-13.00	**Lunch (Prioritization of votes during lunch)**	

Time	Activity	
	Session 7: Way forward	
13.00– 13.30	Results of the prioritization votes	Facilitators from WHO & OIE
13.30- 14.00	Integrating the action points into the IHR-MEF process	Facilitators from WHO & OIE
14.00– 14.30	Next steps (Linkage with NAPHS)	DoPH and LBVD
14.30-14.45	Evaluation of the workshop	
14.45 –15.00	Thank you notes	Tripartite partners
15.00-15.15	Closing and Coffee break	
15.15 –15.30	**Facilitators Video interview of some participants**	

APPENDIX

ANNEX 2: LIST OF PARTICIPANTS

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