One Health National Bridging Workshop – Lebanon

18-20 September 2023

Beirut, Lebanon

Acknowledgments

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ABBREVIATIONS & ACRONYMS

AI	Avian Influenza
AMR	Anti-microbial Resistance
DG	Directorate General
FAO	Food and Agriculture Organization of the United Nations
HQ	Headquarters
IHR	International Health Regulations (2005)
JEE	Joint External Evaluation
MoA	Ministry of Agriculture
MoPH	Ministry of Public Health
MoU	Memorandum of Understanding
PH	Public Health
PHEIC	Public Health Event of International Concern
PVS	Performance of Veterinary Services
SOP	Standard Operating Procedures
TOR	Terms of Reference
UNEP	United Nations Environment Programme
VS	Veterinary Services
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 a bidirectional 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.

- WOAH 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 Animals Codes* and Manuals. WOAH has also developed the Performance of Veterinary Services (PVS) Pathway, which is composed of a range of tools to assist countries in the evaluation of the capacities of their veterinary services and in addressing the main 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 authority on environment 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 WOAH PVS Pathway approaches provide the ability for countries to determine strengths and weaknesses in their respective functions and promote prioritization and pathways for improvement. Furthermore, they engage countries in a routine monitoring of their overall level of performance and help to determine their needs for compliance with internationally adopted standards.

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:

- **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 18 to 20 September 2023, the One Health National Bridging Workshop (NBW) of Lebanon was held in Beirut. The Workshop was hosted at the kind invitation of the Government of Lebanon, with organizational support from the World Health Organization (WHO), the World Organization for Animal Health (WOAH), and the Food and Agriculture Organization (FAO).

The Workshop was attended by 69 participants from key national institutions for One Health with representatives from national, provincial and local district levels. The workshop used an interactive methodology and a structured approach with user-friendly material, case studies, videos and facilitation tools. All participants received a *Participant Handbook* which comprised of all necessary information such as the objectives of the workshop, instructions for working group exercises, expected outcomes of each session etc. Sessions were structured in a step-by-step process as detailed in the following pages of this report.

OPENING SESSION

Welcoming of the participants and opening remarks were provided by Dr Atika Berry (representing H.E the Minister of Public Health), Eng. Abeer Sirawan (representing the CVO of the Ministry of Agriculture), Dr Amgad El Kholy (representing the Quadripartite), Dr Yehia Ghazi (WOAH), Mr Etienne Careme (FAO Lebanon) and Dr Alissar Rady (representing WHO Representative for Lebanon).

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 resistances.

A round of introduction then allowed all participants to state their name, position and affiliation before a group photo was taken.

The workshop approach and methodology were presented by Dr Guillaume Belot (NBW Program Coordinator, WHO Headquarters) 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 Asma Saidouni (One Health consultant, WHO EMRO) and Dr Heba Mahrous (One Health technical officer, WHO EMRO) gave a presentation to introduce the One Health Concept, its history, rationale and purpose and how it became an international paradigm at the global and regional levels. They introduced the workshop in the global, regional and national context by providing high level background information on the collaboration between WHO, WOAH, FAO and UNEP, as well as providing regional perspectives.

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

Veterinary services and One Health (Mrs Abeer Sirawan, Head of Poultry Husbandry Department-IHR veterinary focal point)**:**

Eng. Sirawan presented the structure of the Veterinary Services as well as priority endemic and non endemic diseases. She highlighted the role and ongoing work of the various departments under the animal health services in domains such as National Action Plan on AMR and vaccination campaigns and highlighted some of the key challenges. She highlighted that collaboration and coordination across sectors to protect human and animal health and address its challenges and encourage the health and integrity of our ecosystem is considered of great importance and involves different sectors. Most of the services and departments of the animal resources directorate at the ministry of agriculture roles and responsibilities integrate with the pillars of the one health approach.

Human health services and One Health (Dr Fatima Awada, Pharmacist at the Preventive Medicine Department):

The Preventive Medicine Department's presentation started with a small introduction regarding the one health concept in Lebanon. After that, few examples related to this concept were summarized including AMR, influenza, rabies and food safety. These examples tackled some essential activities related to one health such as preparedness and coordination among different sectors, trainings conducted and response specially during outbreaks and emergencies. As a conclusion, one health is crucial in both routine and emergencies for preparedness, surveillance, and response.

Environment health services and One Health (Youssef Naddaf, Head of Department of Environmental Monitoring & Statistics, Ministry of Environment):

The Ministry of Environment presentation delved into the roles and responsibilities of the Department of Environmental Monitoring & Statistics, Service of Planning and Programming. It revealed the organigram of the Ministry of Environment. Furthermore, it presented an example of the work conducted within the department on environmental indicators in addition to the challenges facing the department in implementing environmental monitoring.

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.

Figure 1: participants watch a documentary video which highlights the One Health concept and gives examples on its implementation for various technical areas.

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 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. This session offered the opportunity to discuss the management of zoonotic diseases and other threats at the human-animal-environment interface, identify areas of convergence, evaluate the level of collaboration between the different sectors for key technical areas and identify the main gaps.

Table 1: Scenarios used for the different case studies

Rabies
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. It was shot dead by Police in the outskirts of Tyre two days ago. The carcass of the dog was destroyed before the Veterinary authorities were able to take the head of the dog for confirmation of diagnosis.
Avian influenza H7N9
Two persons were admitted at the Rafic Hariri University Hospital with pneumonia. Laboratory testing by RT-PCR resulted positive for H7N9 subtype of avian influenza. One of the patients is a semi-commercial broiler producer who sells his birds three times a week at the local live bird market. The other patient reported having visited the same market 7 days prior to disease onset and having bought four quails.
Anti-microbial resistance
The Central Public Health Laboratory (CPHL) in Beirut Lebanon is detecting increasing number of co-occurrence of Colistin Resistance (mcr-1) and extended-spectrum β-lactamase encoding genes in Escherichia coli isolated from urinary tract infection in humans in Bebnine, Akkar. The Lebanese Agricultural Research Institute (LARI) in Fanar also reported increasing number of similar resistance pattern in E. coli associated mastitis in dairy cow in two commercial dairy farms located in the Akkar province.
River ecosystem collapse
A major die-off event of fish, birds and other freshwater species has been reported in the river of Litani. In a stretch of a total 15 km, the river ecosystem has collapsed entirely, and animal carcasses and foam patches with a strong odor are continuing to float down the river, which will affect down-stream villages and cities. This major die-off event has been covered by national and international media and has gone viral on the internet. There are reports of livestock along the river showing botulism-like symptoms. Initial investigations have shown an increased level of salinity in the water, which might be connected to climate change, however, in the region there are untreated wastewater effluents from local communities, few factories, and agricultural lands, as well as reports of unsustainable land use practices in watershed that suggest possible water contamination.

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".

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 2: 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 group.

A group quiz contest on One Health was then organized, and won brilliantly by the 'Avian Influenza' 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

A documentary video introduced the International Health Regulations (IHR) as well as its Monitoring and Evaluation Framework (IHR-MEF), including the Joint External Evaluation (JEE) and the State Party Annual Reporting (SPAR). This was followed by a Q&A session.

Dr Ghazi (Regional Representative for the Middle East at World Organization for Animal Health) presented the WOAH Performance of Veterinary Services (PVS) Pathway, with a focus on the PVS Evaluation. He explained the objective and process of this evaluation, and proceeded by sharing the key results obtained from the PVS missions in Lebanon.

The differences and connections between these tools were explained via a comparative table and participants were shown extracts of reports from both tools, highlighting once again their similar structure and process.

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.

Through an interactive approach, working groups were invited to plot their *technical area cards* (from the Session 1 exercise) 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. This process enabled the participants to visualize the main gaps identified in each essential capacity and to distinguish disease-specific versus systemic gaps. This also helped the identifying which technical areas the following sessions should focus on.
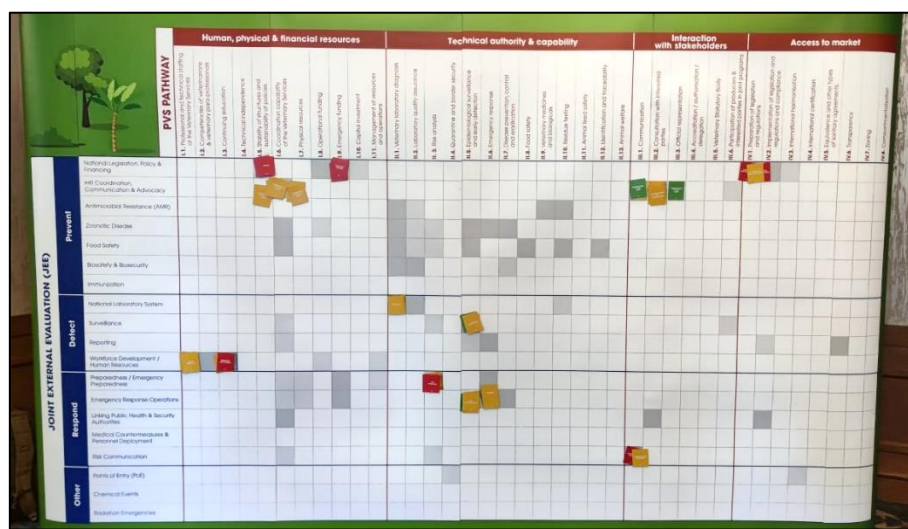
Figure 3: Mapping of the gaps by positioning the selected cards from all disease groups on the IHR-PVS matrix provides a snapshot of the strengths and weaknesses in the collaboration between the three sectors across all technical areas

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

New working groups were made for the second half of the workshop, this time by technical area, to

cover all aspects of collaboration where improvement is needed:

- Group 1: Coordination, Legislation and Financing
- Group 2: Surveillance and Laboratory
- Group 3: Response and Field Investigation
- Group 4: Risk assessment and Risk Communication
- In addition, since they are cross-cutting issues, each group was tasked to also consider the 'Human Resources' and 'Education and Training' aspects in their work.

Outcomes of Session 3:

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

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.

Figure 4: Participants from the Surveillance and Laboratory group are extracting relevant information from Lebanon's PVS and JEE reports.

Outcomes of Session 4:

- Participants got a good understanding of the assessment reports for both sectors, their purpose and their structure.
- The main gaps relevant to each technical area and related to coordination and collaboration between sectors were extracted.
- Similarly, 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 of Lebanon.

Figure 5: The technical working group on "Response and Field Investigation" is using the results of the previous sessions to brainstorm 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. 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 13 key objectives and 35 activities. The detailed results are presented in Output 2.
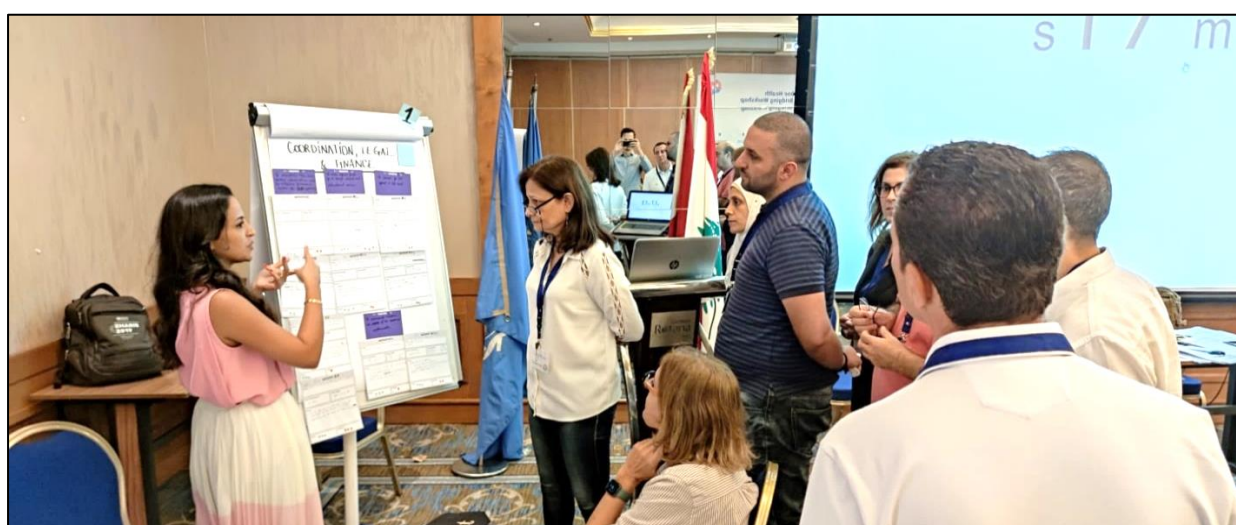
Figure 6: A world café session is organized, during which participants rotate through each group to provide comments and inputs on the different roadmap sections

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. The results were presented and discussed in a short plenary session.

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.

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 from MoA and MoH.

The way forward and next steps, as discussed and agreed with all participants was identified as follows:

- **Roadmap Consolidation and Sectoral Collaboration:** Following constructive discussions, there has been an unanimous agreement on the need to finalize the roadmap and each participating sector commits to sharing it with their respective decision-makers. This will ensure a holistic approach to prioritizing activities, benefiting from the unique perspectives of each sector.
- **Organization of the One Health Stakeholder Meeting:** Recognizing the momentum generated during this workshop, it has been agreed to organize a One Health stakeholder meeting. The primary agenda of this proposed meeting will be to formally endorse the roadmap. Additionally, it will be an opportunity to identify and engage potential partners and donors. to support the implementation of the road map to strengthen the operationalization of One Health in Lebanon.
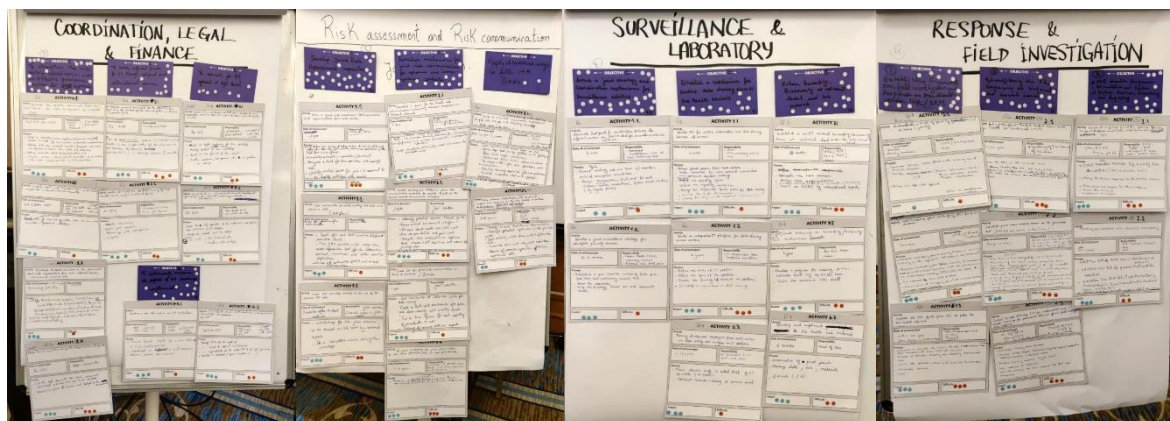
Figure 7: The final NBW Roadmap contains 13 objectives and 35 activities.

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.

MATERIAL AND SHARED DRIVE

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: www.bit.ly/NBWLebanonSharedrive).

WORKSHOP VIDEO

A short video of the event was made and is available at: www.bit.ly/NBWLebanon or by scanning the QR code below:

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

Technical area	AMR	Rabies	Avian Influenza	River ecosystem collapse	Score
Coordination at high Level	1	2	2	1	6
Field investigation	1	2	1	1	5
Response	1	1	2	1	5
Communication w/ stakeholders	1	1	1	1	4
Joint surveillance	1	2	0	1	4
Laboratory	0	2	1	1	4
Human resources	1	1	1	1	4
Coordination at local Level	1	0	1	1	3
Coordination at technical Level	1	1	1	0	3
Education and training	0	1	1	1	3
Communication w/ media	0	0	1	1	2
Legislation / Regulation	0	0	0	1	1
Risk assessment	0	0	0	1	1
Finance	0	0	0	0	0
Emergency funding	0	0	0	0	0

For each hazard, 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).

Activity	Timeline	Difficulty	Impact	Responsibility	Process
COORDINATION, LEGAL & FINANCE					
Objective 1: Strengthen the multi sectoral coordination under an effective governance system					
1.1. Activate the existing strategic inter-ministerial committee and revise its TORs and structure to integrate One Health Approach	Q4 2023	++	+++	MOPH MOA MOE One health focal points	1. Draft a One Health Approach file (vision, objectives, TORs, roadmap) related to One Health operationalization in the country for the involved authorities and committees 2. Meet with the concerned ministers to present the One Health roadmap 3. Meeting with the head of the Disaster Risk Management unit 4. Decide which inter-ministerial committee to be involved in the OHA (DRM and IHR committee)
1.2. Establish an operational technical OH coordination team/ OH secretariate involving focal points from the line ministries	Q4 2023	++	+++	MOPH MOA MOE One health focal points	1. Develop TORs for the coordination team/secretariate 2. Communicate with the line ministries to nominate a OH focal point to join the team 3. Hold meetings with the OH focal points (coordination team members) to develop and define the coordination mechanism including frequency of meetings, information sharing tool/methodology, means for communication (formal and informal 4. Develop needed agreements/formalities for establishing these team 5. Communicate with the decision makers to highlight challenges and proposed solutions to establish a sound coordination mechanism among sectors 6. Organize meetings among the team to follow up on OH activities both with the technical sub-committees and to report to the inter-ministerial committee
1.3. Revise and integrate technical subcommittees for One Health related technical areas (ex. Zoonoses, AMR, Food Safety, JRA) with TORs under the inter-ministerial committee	Q4 2023	+	+++	MOPH MOA MOE One health focal points	1. Develop TORs and structure / profile for the sub committees under the inter-ministerial committee: operational – strategic 2. Communicate with the line ministries to nominate representatives to participate in the committees 3. Develop needed agreements/formalities for establishing these committees
1.4. Integrate the OH approach within the work of the health committees at the governate level, with representatives from	Q1 2024	+	+++	MOPH MOA MOE One health focal points	1. Review and update TOR, roles and responsibilities of each of the representative members (technical and the decision making IHR, national IHR)

each relevant sector IHR technical, IHR national					2. Organize meetings among the committees members involving the coordination team at the central level to discuss challenges and provide support on progressing the agreed planned activities
1.5. Review and harmonize the legal framework for One Health Approach	Q2 2024	**+++**	**+++**	Strategic sub committee	1. List the legal documents that require revision and harmonization. 2. Hold meetings with the key staff responsible for revising the legislation in each sector (ex. Department of Legal Affairs in respective entities). 3. Organize meetings with the decision makers to define legal gaps, review and approve the revised legislation and provide needed support for its implementation

Objective 2: To secure sufficient funds for implementing agreed activities aim at improving coordination among sectors through national and international sources

2.1. Prepare needed documents for the allocation of a budget line for implementing joint agreed activities in the OH roadmap through the council of the ministries (domestic fund)	Q2 2024	**+++**	**+++**	Involved ministries	1. Lists of needs, activities and estimated costs prepared by involved ministries 2. Compile in one budget study for the submission to the ministry of finance 3. Submission to the ministry of finance through the council of ministers
2.2. Prepare joint proposal for fundraising to seek donor support (external fund)	Q1 2024	**++**	**+++**	Involved ministries and UN agencies	1. Map key and potential donors 2. Prepare joint proposals 3. Review joint proposals with UN agencies 4. Contact donors and Submit proposals

Objective 3: To advocate for One Health Approach implementation at high level

3.1. Conduct an advocacy workshop with politicians (deputy and governors) to make them activists of One Health	Q2 2024	**++**	**++**	OH focal persons of MOH, MOA, MOE with support of WHO, FAO, WOAH	1. Prepare all workshop related technical and logistic aspects including identifying target audience involving academia, UN agencies, etc., CN, venue and allocate fund 2. Prepare and present a policy brief to convince high officials in the country 3.
3.2. Establish an intersectoral advocacy website / dashboard for OH (updates, information, training materials, action plans, etc. ...)	Q2 2024	**++**	**++**	OH operational committee	1. Decide the entity responsible for the establishment. operation and maintenance of this platform 2. Develop the website and content 3. Establish link with the Risk commitment plan / surveillance data exchange

Objective 4: To continuously measure the progress of OH roadmap implementation

4.1. Conduct a new JEE and a new PVS evaluation	Q2 2024	**+**	**+++**	MOPH – MOA and involved UN agencies	1. Submit formal request for a new JEE (MOPH) and (PVS) (MOA) missions 2. MOPH – MOA to conduct a self-assessment 3. Prepare and conduct the mission
4.2. Establish and implement an intersectoral M and E plan for OH roadmap	Q4 2023	**++**	**+++**	MOPH – MOA – MOE OH focal points with	1. Identify KPIs for OH roadmap 2. Identify source of information and frequency

framework using available tools and methodologies				support from FAO, WHO, MOE	3. Identify responsibilities for the implementation of the M and E framework 4. Develop a dashboard / reporting template on M and E

<table>
<tr><td colspan="6" style="text-align:center">RISK ASSESSMENT & RISK COMMUNICATION</td></tr>
<tr><td colspan="6">Objective 5: Undertake Joint Risk Assessment for health threats at the human-animal-environment interface</td></tr>
<tr>
<td>5.1. JRA subcommittee to review existing JRA tools and select a tool (task force)</td>
<td>Q2 2025</td>
<td>+</td>
<td>+++</td>
<td>JRA sub-committee</td>
<td>1. conduct desk review of the available risk assessment tools
2. The JRA committee, with the support of an international expert mission will select the most appropriate tool for the Lebanese context, resources and other countries experiences
3.</td>
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<tr>
<td>5.2. Perform JRA for prioritized health threats list and communicate science-based findings with the decision makers for further action</td>
<td>Q2 2025</td>
<td>+</td>
<td>+++</td>
<td>OH operational committee and JRA sub-committee</td>
<td>1. Agree on the list of diseases and threats to be assessed
2. Undertake the JRA exercise
3. Develop JRA report including recommendations and risk communication messages and send to decision makers</td>
</tr>
<tr>
<td>5.3. Train JRA committee member on the use of the selected JRA tool</td>
<td>Q3 2025</td>
<td>+</td>
<td>+++</td>
<td>OH operational committee and JRA sub-committee</td>
<td>1. Conduct a workshop for the joint committee to be trained on the tool by external expert
4. Complete a practical exercise during the workshop
5. Develop an annual training plan for national focal points</td>
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<tr><td colspan="6">Objective 6: Establish mechanism for joint risk communication for epidemic and inter-epidemic context</td></tr>
<tr>
<td>6.1. Establish a quota for one health risk communication community awareness campaigns on national channels</td>
<td>Q3 2024</td>
<td>+</td>
<td>+++</td>
<td>MOPH
Ministry of information
Ministry of High Education</td>
<td>1. Revise and update existing legislations linked to RC
2. Agree on the roles and responsibilities of each involved parties, ministries and partners
3. Identify the means of risk communication that each sector use for RC ex MOPH uses campaigns, brochures, advertisements and social media, Ministry of information uses media, TV, journals, tv programs, talk shows.</td>
</tr>
<tr>
<td>6.2. Update existing and develop new joint risk communication materials for threats at the human animal environment interface</td>
<td>Q3 2024</td>
<td>++</td>
<td>+++</td>
<td>OH operational committee</td>
<td>1. Identify potential common threats for the human animal environment interface
2. For each threat, create an SOP with clear responsibilities and joint work
3. Compile this material in a reference guide shared in all ministries and source of notification
4. Prepare potential message in case needed</td>
</tr>
<tr>
<td>6.3. Create SOPs for joint risk communications in times of outbreaks/disasters</td>
<td>Q3 2024</td>
<td>++</td>
<td>+++</td>
<td>OH operational committee</td>
<td>1. Each ministry has to select her system for data sharing
2. Create a link with dashboard for data and alerts sharing with priority levels
3. Put a time frame for each reporting if immediate or not
4. Sharing of common data on report</td>
</tr>
</table>

6.4. Set up a mechanism for joint press release by the three ministries in case of outbreak	Q3 2024	**++**	**+++**	Ministers of Public health, Agriculture and environment and other potential involved ministers/ministries	1. Prepare a mechanism proposal for the involved ministries

Objective 7: Apply alternative ways to fill gaps

7.1. Write an MOU (memorandum of understanding) with two academic institutions to fill gaps	Q2 2024	**+++**	**+**	Minister of Public health, agriculture, environment, Lebanese university, AUBMC	1. Each ministry to identify shortage, challenges and possible solutions to overcome (HR, technical expertise, resources, diagnostics …) 2. Prioritize functions and occupations that can be filled with alternative methodologies such as agreement with academia to hire fellows 3. 4. Address an MOU to the administration 5. Develop TORs for each needed activity 6. Develop training material for the position 7. Develop evaluation sheet with specific outcomes
7.2. Map relevant stakeholders able to provide support and resources to the one health line ministries considering the PPP	Q4 2024	**++**	**++**	Minister of Public health, agriculture, environment, culture	1. Identify potential sponsor in the private sector 2. Each ministry will share a list from her side 3. Share the list with the joint committee 4. Selection of common sponsors to be approached later. 5. Produce a list (as a guidance) of the possible and promising PPP projects to encourage PP Projects developments based on the local market situation and existing legislations

SURVEILLANCE & LABORATORY

Objective 8: Ensure a joint strategy and coordination mechanisms for surveillance activities

8.1. Nominate focal points for coordination between the different sectors at central and province level for surveillance activities	Q2 2024	**+**	**++**	surveillance units at MOPH, MOA and MOE	1. Conduct regular meetings between head of surveillance unit of concerned ministries 2. Assign responsible focal points for each/group of disease under surveillance from each sector (using a legal form)
8.2. Develop a joint surveillance strategy for identified priority diseases	Q2 2024	**+**	**+++**	focal points from MOPH (ESU) veterinary services and referral labs	1. Conduct an OH zoonotic disease prioritization (OHZDP) exercise, or review (revisit) pre-existing prioritization report. 2. Develop the strategy targeting the list of prioritized diseases and inline with joint risk assessment results

Objective 9: Establish a mechanism for routine data sharing across one health sectors

9.1. Develop SOPs for routine information and data sharing between all sectors	Q2 2024	**+**	**+++**	MOPH, MOA (veterinary services) and MOE	1. Assign the same committee for inter-sectorial collaboration 2. Conduct regular meetings 3. Develop the reporting system 4. Define the reporting mechanism 5. Assign the responsible focal points for data sharing

					6. Write the SOP document 7. Share the SOP with relevant stakeholders
9.2. Develop an interoperable integrated IT platform for data sharing across sectors	Q3 2025	**+++**	**+++**	IT assigned from MOPH, MOA, MOE	1. Define the specifications of the platform 2. Ensure the funding to Establish the platform 3. Develop an agreement on data sharing
9.3. Train relevant employees from each sector on data management and analysis on the IT platform	Q1 2026	**+**	**+++**	IT specialists from MOPH, MOA, MOE	1. Train relevant staff at central level by IT specialist 2. Conduct cascade training at province level.
Objective 10: Enhance biosafety –biosecurity measures at national lab network					
10.1. Establish a multi-sectoral biosafety/biosecurity team at national level in coordination with network of CPHL, LARI, and supporting expert laboratories	Q3 2024	**++**	**+++**	MOA (ARD) MOPH (ESU) LABS	1. Nominate the team members including academic and private sector 2. Develop the ToRs 3. Recruit expert for development of guidelines and training of laboratory trainers 4. Develop national guidelines in biosafety and biosecurity 5. Train on biosafety/biosecurity measures
10.2. Conduct joint training on biosafety/biosecurity for all lab technicians	Q3 2024	**++**	**+++**	Biosafety/biosecurity team	1. Develop an annual program for training at the national level by the biosafety/biosecurity team 2. Train the concerned lab staff
RESPONSE AND FIELD INVESTIGATION					
Objective 11: Establishing framework for fields investigation and response as on health under IHR /DRM					
11.1. Update / Develop joint contingency plans for priority diseases and threats	Q2 2024	**+++**	**+++**	IHR (National & technical) Committees	1. Set the contingency plan for priority diseases and threats as priority activity on the agenda of IHR (National and Technical) 2. Establish contingency plan involving all concerned parties with different scenarios, with the collaboration of all stakeholders including NGOs, and international organizations (WHO, WOAH, FAO...) 3. Get approval from IHR and DRM unit 4. Dissemination of contingency plan to all involved parties (ministries NGOS DRM unit)
11.2. Update the SOPs of the joint PHEOC to follow the OH approach	Q4 2024	**+++**	**+++**	Head of department in each ministry & DRM unit	1. Develop and revise available SOPs (representatives from stakeholders from each ministry) with clear TOR and timeline
Objective 12: Strengthening the rapid response capacity at the national and local levels					
12.1. Set-up the joint rapid response team at the national level in coordination between PHEOC and DRM	Q3 2024	**+++**	**+++**	OH operational committee	1. Activate the multisectoral RRT at the governorate level 2. Specify and identify the role and responsibilities 3. Establish a list of persons involved in RRT unit and a Roster list 4. Train the RRT on various One Health Approach and joint activities

12.2. Establish joint RRT at the governorate levels in coordination between PHEOC and DRM	Q2 2024	**+++**	**+++**	Head of Public Health Department at the Governorate level IHR committee: National and technical – DRM committee Involved agencies: Military-ISF-NGOs	1. RRT coordinator will be assigned for each governorate 2. Members of the RRT will be assigned for their specialty, form different parts of the joint health 3. Allocate a budget 4. Members will be selected based on voluntary basis 5. Roles and responsibilities will be fixed 6. List of the different RRTs at the governorate level will prepare with contact members will be shared with PHEOC and DRM
12.3. Conduct cascade training (ToT for national RRT and cascade trainings for governorate RRTs) on joint field investigation and response	Q4 2024	**+++**	**+++**	Expert MoPH/MoA or national/international	1. Establish training plan chapters 2. Selection of the expert (national & regional experts) that are qualified in the field needed 3. Prepare training material by the experts 4. Establish roster of trained individuals (database)
Objective 13: One Health Response simulation and after-action review, monitoring and reporting					
13.1. Conduct an annual joint simulation exercise focusing on joint response and field investigation to One Health	2025	**+++**	**+++**	DRM-MOPH-MOA-MOE with support of NOGs, WHO-WOAH-IOM	1. Select the appropriate simulation exercises type (table-top, drills, Functional exercise, Full scale exercise) 2. Assign the parties responsible for the simulation exercise 3. Preparation and organization of the simulation exercise 4. Identify the OH threat and develop the scenarios 5. Implementation of simulation exercise 6. Communicate Simex output with decision makers, partners and stakeholders
13.2. Undertake after action review and reporting	After events	**+++**	**++**	DRM-MOPH-MOA-MOE with support of NOGs, WHO-WOAH-IOM	1. Plan and implement an AAR on selected events

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

WORKSHOP EVALUATION

An evaluation questionnaire was completed by 25 participants to collect feedback on the relevance and utility of the workshop.

Workshop evaluation	'Satisfied' or 'Fully satisfied'	Average score (/4)
Overall assessment	**96%**	**3.7**
Content	100%	3.6
Structure / Format	100%	3.6
Facilitators	84%	3.5
Organization (venue, logistics, …)	88%	3.5

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

Impact of the workshop on…	'Significant' or 'Major'	Average score (/4)
Your technical skills / knowledge	84%	3.2
The work of your unit/department	76%	3.0
The intersectoral collaboration in the country	88%	3.3

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	63%
Probably	42%
Likely not	0%
No	0%

APPENDIX

ANNEX 1: WORKSHOP AGENDA

DAY 1	
08:30 – 08.45	Registration of participants and security briefing
08:45 – 09.00	Security briefing
09.00 – 10.30	**Opening Ceremony** • **Representative of the Ministries - (20')** • Dr Atika Berry – representing H.E the Minister of Public Health • Dr Elias Ibrahim/Mrs Abeer Sirawan – representing H.E the Minister of Agriculture • **Representative of UN agencies (20')** • Dr Amgad El Kholy – representing the Quadripartite (WHO) • Dr Yehia Ghazi – representing the Quadripartite (WOAH) • Mr Etienne Careme – FAO Lebanon • Dr Alissar Rady – representing Acting WHO Representative Lebanon Dr Abdinasir Abubakar • **Introduction of participants (10')** • **Group Picture (10')** Coffee break (30')
10.30 – 12.00	**Session 1: Workshop Objectives and National Perspectives** The first session sets the scene by providing background information on the One Health concept and the subsequent tripartite OIE-WHO-FAO collaboration. It is followed by comprehensive presentations from both Ministries on the national public and animal health services. A second documentary provides concrete worldwide examples of fruitful intersectoral collaboration, showing how the two sectors share a lot in terms of approaches, references and strategic views. • Workshop approach and methodology – PPT – Dr Guillaume Belot (12') • Quadripartite One Health collaboration and vision – PPT – Dr Heba Mahrous and Dr Asma Saidouni (15') • Veterinary Services and One Health – PPT – Mrs Abeer Sirawan (12') • Public Health Services and One Health – PPT – Dr Atika Berry (12') • Public Health Services and One Health – PPT – Dr Nada Ghosn (12') • Environment Services and One Health – PPT – Mr Youssef Naddaf (12') • MOVIE 2: Driving successful interactions - Movie (15')
	Lunch (12:00-13:30)
13.30 – 17.00	**Session 2: Navigating the road to One Health** Session 2 divides participants in working groups and provides an opportunity to work on the presented concepts. Each group will have central and provincial representatives from both sectors and will focus on a fictitious emergency scenario.

	Using diagrammatic arrows to represent the progression of the situation, groups will identify joint activities and areas of collaboration and assess their current functionality using one of three color-coded cards (green, orange, red).
	• Presentation and organization of the working group exercise – PPT (15') • Case study - Working groups by disease (120') • Restitution (75')
17.00 – 18.30	**Facilitators and moderators only:** Briefing Session 3-4-5 and compilation of results from Session 2

DAY 2	
08.30 – 11.20	**Session 3: Bridges along the road to One Health** Session 3 presents the tools from both sectors (IHR MEF, JEE, PVS) and uses an interactive approach to map activities identified earlier onto a giant IHR-PVS matrix. This process will enable to visualize the main gaps, to distinguish disease-specific vs systemic gaps and to identify which technical areas the following sessions will focus on.
	• MOVIE 3: IHR Monitoring and Evaluation Framework (25') • PVS status in Lebanon (goals, gaps, missions) – PPT – Dr Yehya Ghazi (20') • MOVIE 4: IHR-PVS Bridging (10') • Mapping gaps on the IHR/PVS matrix (50') + Coffee break (30') • Discussion – Plenary (35')
11:20 - 12:40	**Session 4: Crossroads - IHR MEF, JEE and PVS Pathway reports** 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.
	• Presentation and organization of the working group exercise (20') • Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (60')
Lunch (13:00-14:00)	
14:00 - 14:30	**Session 4 (continued)**
	• Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (continued, 30')
14:30– 17:15	**Session 5: Road planning** 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.
	• Presentation and organization of the working group exercise (15') • Identification of Activities (Working groups by technical topic) (150')
17.15 – 19.00	**Facilitators only:** Compilation of results from Session 5 (drafting of the road-map) and preparation of Session 6

DAY 3	
9:00 - 12:30	**Session 6: Fine-tuning the roadmap** 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.
	• Fine-tuning of the road-map: Objectives and filling out of Activity cards (90') Coffee break (15') • World Café (90') • Presentation of the prioritization vote (10') • Prioritization vote (during lunchtime)
Lunch (12:15-13:30)	
13:30 - 15:30	**Session 7: Way forward** 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. 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.
	• Results of the prioritization vote (15') • Integrating the action points into the IHR-MEF process (30') • Next steps (75') (lead by Ministry representatives)
15:30 - 16:30	**Closing Session** • Evaluation of the workshop (20') • Closing ceremony (40')
16.30 – 17.00	**Facilitators:** Video interview of some participants

ANNEX 2: LIST OF PARTICIPANTS

№	Name	Organization
1	Dr Nada Ghosn	MoPH, Epidemiological Surveillance Unit, Head
2	Mr Maryo Baaklini	MoPH, Epidemiological Surveillance Unit, One Health focal point
3	Mrs Lina Chaito	MoPH, Epidemiological Surveillance Unit, Senior Epidemiologist
4	Dr Jalal Haydar	MoPH, Public Health Department, South
5	Dr Lara Barrak	MoPH, Public Health Department, Bekaa
6	Dr Bachar Chamissany	MoPH, Public Health Department, Nabatiyeh
7	Mrs Zeina Farah	MoPH, Surveillance Coordinator, Bekaa
8	Dr Jamil Tadros	MoPH, Public Health Department, North
9	Dr Nadine Yared	Communicable Diseases Committee
10	Dr Pierre Abi Hanna	Communicable Diseases Committee
11	Dr Madonna Matar	Society of Infectious Diseases
12	Dr Salim Adib	Epidemiologist
13	Dr Atika Berry	Head of Preventive Medicine
14	Dr Fatima Awada	Preventive Medicine
15	Mr Mohammad Noureddine	Preventive Medicine
16	Mrs Dalia Allam	Preventive Medicine
17	Mrs Hikma Choaeib	PHEOC- Data Analyst
18	Mrs Mona Haddad	Infection Prevention Control
19	Dr Rita Feghali	Central Public Health Laboratory
20	Dr Zeina Mohsen	Central Public Health Laboratory
21	Mr Youssef Naddaf	Head of Department of Environmental Monitoring & Statistics, Ministry of Environment
22	Mr Ali Jaber	Ministry of Environment - Statistician
23	Eng. Abeer Sirawan	Head of Poultry Husbandry Department- IHR veterinary focal point
24	Eng. Ave El Khoury	Head of Economy processing & Marketing Service
25	Dr Yehya Khattar	Head of Veterinary Quarantine and Import Export Service
26	Dr Bassel El Bazzal	Head of Animal Health Service
27	Dr Akram Wehbe	Head of Quarantine Department
28	Dr Yvonne Aoun	Veterinarian -Veterinary Drugs Office
29	Mrs Rana Kfoury	Head of ARD Administration Department
30	Eng. Samar Harkous	Head of Field Crop Department

31	Dr Rifaat Ghanem	Head of Animal Resources Department- Mount Lebanon
32	Dr Rami Rifi	Head of Animal Resources Department- Akkar
33	Dr Youssef Saad	Head of Animal Resources Department- Nabatiyeh
34	Dr Omar Rifai	Head of Animal Resources- Bekaa
35	Dr Nader Sleiman	Head of Animal Resources Department- North/ Aboudiyeh & Tripoli Quarantine Office
36	Dr Imad Sawan	Head of Animal Resources Department- Baalbeck
37	Dr Jaafar Harb	Veterinarian- Airport Quarantine Office
38	Dr Dani Touma	Veterinarian- Masnaa Quarantine Office
39	Dr Mohammad Younis	Veterinarian- Port of Beirut Quarantine Office
40	Dr Rima El Hage	Director of Fanar station- Head of Food Microbiological Lab
41	Dr Jeanne El Hage	Head of Animal Health Lab
42	Eng. Salam Jabbour	Fish sector- Head of forest wealth
43	Dr Riham Bassam	Head of Animal Protection Department
44	Dr Mouhieddine Jalloul	Beirut Municipality- Head of Health committee
45	Major Khaled Ghalayini	Supreme Council of Relief
46	Major Mohamad Eid	Ministry of Interior
47	Mr Walid Kamal	Border Control Committee
48	Mrs Maria Eid	Border Control Committee
49	Mrs Rawan Shehade	Rafic Hariri University Hospital- Nursing supervisor
50	Dr Anthony Nasr	Lebanese Red Cross
51	Mrs Mona El Khoury	FAO Lebanon
52	Dr Lina Farah	FAO- Field Engineer
53	Eng. Christelle Rached	FAO- National Agriculture Field Engineer
54	Mr Etienne Careme	FAO Lebanon
55	Mrs Yara El Habre	UNEP- Programme management assistant
56	Mrs Geetha Nayak	UNEP Lebanon
57	Ms Lama Aridi	UNEP Lebanon
58	Mrs Farah Asfahani	World Bank Lebanon, Health Specialist
59	Mrs Rana Amer	IOM, Health Specialist
60	Dr Heba Mahrous	WHO EMRO, CPI
61	Dr Asma Saidouni	WHO EMRO, CPI
62	Dr Mahmoud Sadek	WHO EMRO HIM
63	Dr Yehya Ghazi	WOAH, Regional Representative for the Middle East at World Organization for Animal Health

64	Dr Tariq Taha	WOAH HQ, Technical officer
65	Dr Guillaume Belot	WHO HQ, Technical officer
66	Dr Amgad Elkholy	WHO EMRO, CPI, Team Lead
67	Dr Alissar Rady	WCO Lebanon, Team Lead
68	Mr Moubadda Assi	WCO Lebanon, PIP
69	Dr Christine Azar	WCO Lebanon, Epidemiologist