DOCUMENTING PROGRESS FOLLOWING
THE JOINT EXTERNAL EVALUATION (JEE)
AND IMPLEMENTATION OF
THE NATIONAL ACTION PLAN FOR HEALTH
SECURITY (NAPHS)
IN SRI LANKA
Mission Report: 05-08 August 2019

World Health Organization

Contents

Acknowledgement

Acronyms

AAR	**After Action Review**
AASL	Airport and Aviation Services (Sri Lanka)
AFC	Anti Filariasis Campaign
AMC	Anti Malaria Campaign
AMOOH	Assistant Medical Officer of Health
AMR	Antimicrobial resistance
BIA	Bandaranaike International Airport
BSE	Bovine Spongiform Encephalopathy
BSS	Biosafety and Biosecurity
CAPP	Chemical Accidents Prevention and Preparedness
CAA	Consumer Affairs Authority
CAASL	Civil Aviation Authority of Sri Lanka
CEA	Central Environmental Authority
CPD	Continuous Professional Development
D/AH	Director/Animal Health
DAPH	Department of Animal Production and Health
DF	Department of Fisheries and Aquatic Resources
DoA	Department of Agriculture
DPRD	Disaster Preparedness and Response Division
EMP	Emergency Management Plan
EOC	Emergency Operations Center
E & OH	Environmental and Occupational Health
E&OH&FS	Environmental and Occupational Health and Food Safety
FAC	Food Advisory Committee
FAO	Food and Agriculture Organization
FBO	Food Business Operators
FCAU	Food Control Administrative Unit
FETP	Field Epidemiology Training Program
GHP	Good Hygiene Practice
GMP	Good Manufacturing Practice
HAB	Harmful Algal Blooms
HACCP	Hazard Analysis Critical Control Point
HCAI	Healthcare Associated Infections
HH	Human Health
HPAI	Highly Pathogenic Avian Influenza
HPB	Health Promotion Bureau
HR	Human Resource
IAEA	International Atomic Energy Agency
IDH	Infectious Disease Agency
IEC	Information, Education, and Communication
IHR	International Health Regulations
IPC	Infection Prevention and Control
ITI	Industrial Technology Institute
JE	Japanese Encephalitis
JEE	Joint External Evaluation
LA	Local Authority

Met Dpt	Department of Meteorology
MoA	Ministry pf Agriculture
MoE & NR	Ministry of environment and Natural Resources
MoFAR	Ministry of Fisheries and Aquatic Resources
MOH	Ministry of Health
Mo LS & RCD	Ministry of Livestock and Rural Community Development
Mo MD & E	Ministry of Mahaweli Development and Environment
MOOH	Medical Officer of Health
MOU	Memorandum of Understanding
MSD	Medical Supplies Division
NACWC	National Authority for Chemical Weapons Convention
NBRO	National Building Research Organization
NAPHS	National Action Plan for Health Security
NFA	National Food Authority
NFP	National Focal Point
NIC	National Influenza Center
NIID	National Institute of Infectious Diseases
NISC	National IHR Steering Committee
OH	One Health
OIE	World Organization for Animal Health
PDAPH	Provincial Department of Animal Production and Health
PDHS	Provincial Director of Health Services
PGIS	Postgraduate Institute of Science
PHC	Primary Health Care
PHI	Public Health Inspector
PHEOC	Public Health Emergency Operation Centre
PoE	Point of Entry
PVS	Performance of Veterinary Services
QHRMS	Quarantine health Record Management and Surveillance System
PPE	Personnel Protective Gears
RDHS	Regional Director of Health Services
RE	Regional Epidemiologist
RMSD	Regional Medical Supplies Division
SAFETYNET	South Asia Field Epidemiology and Technology Network,Inc.
SEARO	South East Asia Regional Office
SLAB	Sri Lanka Accreditation Board
SLAERC	Sri Lanka Atomic Energy Regulatory Council
SLCM	Sri Lanka College of Microbiologists
SLPA	Sri Lanka Port Authority
SimEx	Simulation Exercises
SOP	Standard Operating Procedure
SPC	State Pharmaceuticals Corporation
UDA	Urban Development Authority
VIC	Veterinary Investigation Center
VIO	Veterinary Investigation Officer
WHO HQ	World Health Organization Head Quarters

Executive Summary

Background

Sri Lanka completed a Joint External Evaluation (JEE) in June, 2017[1]. The findings demonstrated that there were several strong capacities as well as areas for improvement in order for the country to prevent, detect and respond to threats and events. A National Action Plan for Health Security (NAPHS) was developed following the JEE recommendations and launched in 2018[2]. This is a 5-year plan (2019-2023), which aims to reduce morbidity, mortality, disability and socio-economic disruptions due to public health threats. The plan is aligned with all activities using a "One Health approach" and it encompasses broader health system strengthening with full government and society involvement. It is also based on mapping and mobilizing of both existing and potential domestic financing and some external financing to support the implementation.

Objectives of the documenting process mission

1. To document the progress made following the JEE recommendations and implementation of the NAPHS
2. To identify best practices, challenges and lessons learned for the IHR capacity building
3. To identify priority areas of continued strengthening for countries, WHO and partners.

Mission details

The mission involved a wide range of national health authorities from Sri Lanka providing an overview and series of expert presentations to WHO on the progress that has been made in strengthening IHR capacities following the implementation of the country's JEE and development of its NAPHS.

Mission members from WHO HQ and a consultant from the South Asia Field Epidemiology and Technology Network (SAFETYNET)[3] reviewed relevant assessment reports, plans, presentations and other relevant documents. The team met with the WHO Representative to Sri Lanka, a team of the Quarantine Unit and Epidemiology Unit of Ministry of Health, Nutrition and Indigenous Medicine (Co-National IHR Focal Points) and then participated in a two-day workshop hosted by the government of Sri Lanka and WHO country office. The workshop involved a series of expert technical presentations with national stakeholders and focal points for the 19 technical areas.
All stakeholders discussed progress, best practices, lessons learned and challenges across all 19 JEE technical areas. Here we highlight the high-level observations and key findings, on the progress to date, challenges, best practices and lessons learned.

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[1] https://apps.who.int/iris/bitstream/handle/10665/259266/WHO-WHE-CPI-REP-2017.33-eng.pdf?sequence=1
[2] https://extranet.who.int/sph/sites/default/files/document-library/document/NAPHS%20SRI%20LANKA%20-printed%20version.pdf
[3] https://www.safetynet-web.org/

Summary findings

Progress

A. Sri Lanka has made progress in most of the focus areas of the NAPHS:

1. The level of national commitment for health security and the role of high-level leadership is exceptional. This has greatly facilitated not only the mobilization of local resources but increased the confidence and motivation of staff. This was demonstrated by the launching of NAPHS one year after the JEE and adherence to its targets and activities such that many of the areas have completed their 2019 activities at the time of this mission.
2. The functional IHR technical group with representation from all relevant sectors is in place and provides strategic guidance for implementation.
3. Assessment of all relevant legislation references and proposed amendments are in process of being finalized. Actual enactment may take time but in the meantime, rules and regulations are being drafted.
4. Skills, knowledge and the confidence level of staff responsible for some of the technical areas is high. This can serve as a resource for neighboring countries and other member states.
5. Guidelines for various technical activities were developed and most were being implemented at the time of the mission
6. Development and the implementation of an Antimicrobial Resistance (AMR) action plan is in place with a regular monitoring and evaluation mechanism.
7. Development and implementation of an 'all hazard emergency preparedness and response plan'
8. Communication activities and innovative use of the media is being carried out to support IHR implementation. This includes the effective utilization of the TV and radio studios within the MoH to ensure rapid dissemination of health information

Best practices

1. There is a recognition that the voluntary external evaluation has created a platform for coordination and collaboration with other sectors, which was not a common practice in the past. The follow up activities in the country since the JEE have also facilitated the implementation of annual reporting of IHR capacities as part of the States Parties Annual Reporting (SPAR) process and this is done by sending the SPAR to stakeholders and conducting a one-day workshop with relevant parties.
2. Sri Lanka recognizes the value of investing in human resource capacity building and has been regularly maintaining and sustaining this effort through different educational and training programs relevant to IHR, One Health and emergency preparedness and response. A lot of curriculums, training materials and references could be useful for wider dissemination. The government and institutions have created an enabling environment to ensure that building capacity reaches subnational levels.
3. The functional IHR technical group (National IHR Steering Committee) with representation from all relevant sectors is in place and provides strategic guidance for the implementation.

4. Assessment of relevant legislation and proposed amendments are in the process of being finalized. Actual enactment may take time but, in the meantime, rules and regulations are being drafted.
5. Skills, knowledge and confidence level of staff responsible for some of the technical areas is high. This can serve as a resource for neighboring countries and other member states.
6. Development and implementation of various plans (AMR action plan, all hazards disaster preparedness and response plan, etc.) are in place with a regular monitoring and evaluation mechanism.
7. A national health TV channel was launched in January 2018 at the MOH, called "Life TV" to educate the public about non-communicable diseases and to create broad knowledge on family health, nutrition, sports, and family life. Sri Lanka's Health Promotion Bureau also mentioned the possibility of having a radio station to ensure rapid dissemination of health information.
8. The Health Promotion Bureau used social media for a wider reach of its messages and has achieved a "Blue Badge" status on social media, indicative of the reliability and credibility of its posts in Facebook.
9. Strategic communication activities are being used to accelerate implementation of priority actions. These activities are also enhancing awareness of the progress being made including the development of a documentary presentation of the country's IHR and NAPHS progress.
10. MOH has achieved excellence in the area of immunization but it continues to focus its effort in maintaining 100% immunization coverage.

2. Challenges

- Coordinating and synchronizing activities in the spirit of One Health practice for all aspects of health security requires additional efforts for sustainability.
- Sri Lanka has not faced major disease outbreaks in the past and this may lead to fatigue or complacency in continuous strengthening of preparedness against this threat
- There is moderate to high turn-over of staff in various units that creates the need for constant orientation and briefing for IHR and NAPHS.
- There is limited use of functional evaluation instruments to inform the review or updating of various plans, though some simulation exercises and after-action review have been conducted.

Way Forward

Immediate:
1. Formalize the One Health platform at the national and subnational levels with clear terms of reference, roles and responsibilities as well as monitoring and evaluation framework
2. Conduct a needs assessment for the functional evaluation of capacities and develop a plan for its implementation. (More after-action reviews or simulation exercises are required and relevant stakeholders need to be trained for conducting after-action reviews or simulation exercises in an organized manner and reporting through IHR Focal Points to WHO)

3. Develop a strategy and plan to review, revise and update the national action plan for health security.
4. Share the best practices (training curricula, various plans, education materials and tools) with WHO for further dissemination and use for other countries.

Medium to long term
1. Disseminate all the best practices and lessons learned through reports, publication and through various networks.
2. Conduct a human and animal bridging workshop with the involvement of human and animal sectors
3. Demonstrate the outcomes and impact associated with investment in the NAPHS to the Ministry of Finance to secure sustainable domestic financing.
4. Prioritize implementation of recommendations of the after-action reviews and simulation exercises and incorporate finding into NAPHS for continuous improvement
5. Strengthen surveillance by encouraging active reporting. Link surveillance systems of the different units, including laboratory units, with each other.
6. Continue and sustain a mechanism to map and forecast required skillsets and training needs for health security and establish a link with the overall workforce development strategies.
7. Develop a surge capacity plan, Standard Operation Procedures (SOPs), training needs and policies for emergency preparedness and response. (some SOPs, contingency plans are available, need to update)
8. Strengthen capacities (detection and control) of chemical events at the national and sub-national levels.

Background

Sri Lanka was one of the first countries in the WHO SEARO region to volunteer and undergo the Joint External Evaluation (JEE) on June 19-23, 2017, supported by WHO. The process involved an assessment of the country's IHR capacity across 19 Technical Areas. The findings demonstrated that although there was significant strength in many areas, gaps still exist in key core capacities for the country to prevent, detect and respond to Public Health Emergencies (PHE). No core capacity other than immunization has attained sustainable capacity (score 5), and the majority lies between limited to developed capacity (score 2 to 3). The cross-cutting recommendations of JEE include the following:

1. Strengthen multi-sectoral engagement and foster a true One Health approach by establishing or enhancing mechanisms to promote systematic collaboration among the human health, animal health, and other relevant sectors on technical and policy areas.

2. Enhance surveillance by integrating the efforts of human and animal health sectors at the national and sub-national levels and improve the quality and management of data.

3. Ensure sustainable and scalable health security through improved documentation by developing, finalizing and approving national plans, MOUs, SOPs, and other administrative mechanisms that will facilitate implementation.

A planning meeting was held as a follow up to the JEE to develop a 5-year National Action Plan for Health Security (NAPHS) which was finalized in March 2018. This plan aimed to address the recommendations of the JEE with specific objectives:

1. To build and sustain multi-stakeholder engagement and attain IHR core capacities through consultation and consensus

2. To ensure comprehensive risk assessment to support decision-making before incidents and during response and recovery operations

3. To strengthen and maintain national core capacities and contribute to the achievement of sustainable development goals

4. To align activities among stakeholders adopting a One Health (OH) approach

5. To assimilate results based monitoring and evaluation for national health security

The implementation of the plan considered a set of guiding principles and core values such as country ownership and leadership; evidence-based practice; strengthening partnerships; and gender equity and human rights. Funding for NAPHS would be mainly through the concerned government agencies and selected projects would be externally funded.

WHO initiated a visit to understand the progress made following the JEE recommendations and implementation of the NAPHS.

Methodology

A three (3) member WHO mission team, composed of two members from WHO HQ and one from SAFETYNET, reviewed evaluation and assessment reports, progress reports and the National Action Plan for Health Security. The team met with the WHO Representative to Sri Lanka and the Quarantine unit and Epidemiology Units of the Ministry of Health, Nutrition and Indigenous Medicine and visited the Bandaranaike International Airport as one of the country's designated PoE. It was emphasized during the various contact meetings that this mission was not a mini-JEE and should not be treated as one. In the interest of time, national focal points for each of the technical areas participated in a 2-day workshop wherein each of them presented progress made, challenges, and how they envision the way forward.

Results

The IHR focal persons per technical area presented the progresses, challenges, and recommendations made in their area from the implementation of the NAPHS. These are summarized in tables 1-19 which are grouped according to the thematic areas agreed upon in the NAPHS. The targets per technical area set by the NAPHS were based on multi-sectoral discussions and agreed upon to increase the possibility of improving capacity to implement IHR.

Prevent

National legislation, Policies, and Financing

Target:
- Update the Quarantine and prevention of Disease Ordinance with amendments recently approved by Sri-Lanka's cabinet in order to bring the legislation up to date with IHR requirements.

- Formalize, through regular meetings and established terms of reference, coordination between IHR focal points within the various line ministries as an administrative requirement for IHR implementation.

- Establish a multi-sectoral technical working group to further assess the legal system and administrative arrangements in relation to the IHR , and, where necessary, adjust laws, regulations, and administrative practices.

- Document and publish administrative arrangements and policies from various sectors in order to further encourage collaboration.

TABLE 1. National legislation, Policies, and Financing

PROGRESS	CHALLENGES	WAY FORWARD
• Assessment of legislation, references and amendment in process • Secured commitment for health security • IHR NFP roles were proposed in the legislation amendment • Attorney General's representation in IHR Technical Working Group (TWG) • Funds mobilized for emergency response • Resources, national and local, were mapped and mobilized for health security activities	• Laws are governed by different agencies hence it is difficult to consolidate information. • Guidelines and SOPs of the reviewed laws are yet to be developed • Many bills are pending enactment. It takes about a year for them to pass, and the various programs cannot start implementation without the law. • It is not clear how much of funding (national, local and external) goes to actual implementation of IHR. Stakeholders were given the responsibility of getting funds when preparing the Annual Action Plans. Mainly the Government funds to be unitized. IHR activities are recognized in 2020-2021 biennium plan and relevant stakeholders of Ministry of Health need to apply. Other Ministries should request for funds from their funding sources	• The SOPs are to be transformed into law by regulations • The amendment to the Quarantine and Prevention ordinance need to be finalized • Need to establish multi - sectoral technical working group to further review the legal system and adjust laws regulations practices needs to be done. • Awareness should be done systematically. • RRT in respect of each sector maybe given statutory powers • Other laws on food, animal health, radiation , chemical events, antimicrobial resistance and laws of environment are to be revisited. • Consider updating the plan using bottom up approach • Develop the investment case based on the impact of implementation of the NAPHS

IHR Coordination and Advocacy

TARGET:

- Draft and formalize terms of reference for the National IHR Steering Committee (NISC), including roles and responsibilities and frequency of meetings, and formulate an action plan for the committee.

- NISC should participate fully in completing the IHR annual questionnaire.

- Hold annual NISC meetings to update members on status of IHR implementation.

TABLE 2. IHR Coordination and Advocacy

PROGRESS	CHALLENGES	WAY FORWARD
• National IHR Focal Points were identified • A National IHR Steering Committee was established in 2016 to improve the coordination of IHR-related activities. • IHR strengthening activities were included in the Ministry of Health, Nutrition and Indigenous Medicines Master Plan 2017-2025 • A multisectoral avian influenza committee convenes every month. This provides an effective platform through which to discuss influenza and other emerging health threats.	• Operationalization of the One Health strategy is still weak both at national and the subnational levels. • Rapid turnover of staff in Health and other sectors • Different priorities in different sectors	• Share the best practices of formal evaluation of NFP function • Consider developing establishment of IHR TWG at the regional levels • Develop a regular refresher training for technical staff of NFPs and orientation/training for new staff

Antimicrobial resistance and IPC Activities

TARGET:
- Conduct systematic awareness on AMR in all sectors concerned
- Establish and expand the national surveillance system to cover all priority pathogens in Human Health (HH) and Animal Health (AH)
- Expand HCAI surveillance to include at least one additional HCAI e.g. surgical site infections or ventilator assisted pneumonia.
- Establish antibiotic stewardship programmes and strengthen legislation against unauthorized prescriptions in HH and AH sectors.

TABLE 3. Antimicrobial resistance and IPC Activities

PROGRESS	CHALLENGES	WAY FORWARD
• The National Strategic Plan on AMR launched and implemented in 2017 • National Advisory Committee for Antimicrobial Resistance (NAC-AMR) established, meetings done. • Launched campaign to create AMR awareness in communities, hospitals, veterinary professionals, and among media • Incorporation of AMR in curriculum of medical and nursing schools • For HH, initiation of National Antibiotic Consumption Surveillance (2019) using databases from Medical Supplies Division, State pharmaceuticals Corporation, antibiotic imports data, antibiotic manufacturers data. • For AH, established efficient monitoring system of	• Need for dedicated AMR program manager working full time on AMR activities including rational use of antibiotics and infection prevention and control • No specific budget allocated for AMR activities in spite of being recognized as a national program • AH Laboratory facilities not up to the same standard as HH laboratories • No common laboratory for human and animal health sectors • Inadequate funds to initiate national surveillance program in veterinary and aquatic sectors • Difficulties in obtaining 'clean' data that could be easily analysed • Requirement of dedicated staff for National Coordinating Center for AMR surveillance • Inadequacy of isolation facilities at health care settings	• Expand capability for AMR surveillance at veterinary laboratories • Designate laboratories to conduct detection and reporting of all priority AMR pathogens regularly • Establish national surveillance system on antimicrobial resistance for human sector and sustain it. (Shigella has been included as a priority pathogen) • Establish national surveillance system on antimicrobial resistance for animal (veterinary and fisheries)

antimicrobial importation initiated in 2017 • Regulated antibiotic utilization in veterinary sector • Systematic monitoring and evaluation programme with onsite training for sentinel site staff, in 2019	• Inadequate human resource for monitoring antibiotic prescription	

Zoonosis

TARGET:

- Establish a veterinary public health team within the DAHP with appropriate allocation of human, physical, and operational resources at both the central and field levels.

- Establish a formal OH platform, bringing together the four (4) key ministries and agencies (Health, Animal Health and Production, Fisheries and Environment/Wildlife) with local government and the private sector to deliver a national zoonotic disease control strategy.

- Design, implement, and annually evaluate zoonotic disease control plans for rabies, brucellosis, tuberculosis, and leptospirosis.

TABLE 4. Zoonosis

PROGRESS	CHALLENGES	WAY FORWARD
- Increase in reported cases even on suspicion - Increased number of samples to the laboratories - Increase in number of confirmed cases - More support from private organizations	- One Health approach is not fully appreciated at the subnational levels - Inadequate staff, especially at subnational levels, and inadequate training on OH related disciplines - Rolling out of subnational guidelines and SOPs remain unresolved - Funding for OH and for animal health remains low and not prioritized	- Mapping of required skillset and setting out workforce development strategies and plan - Additional effort is required to strengthen multisectoral involvement at the national and subnational levels. - Development of guidelines and SOPs related to OH - Train staff of human, animal (domestic animals and wildlife), and environmental health sectors

Food Safety

TARGET:

- Strengthen collaboration between Sri Lanka's various agencies and ministries, aspiring to a "farm-to-plate" approach.

- Carry out a risk profiling assessment and use the results to revise inter-agency responsibilities and the overall food safety strategy.

- Upgrade capacities and guidelines, particularly laboratory capacity in areas such as on-site testing and testing on chemical residues.

TABLE 5. Food Safety

PROGRESS	CHALLENGES	WAY FORWARD
• Food safety policy and strategy has been identified in workplan 2019 • Established Food safety program subcommittee under the Food Advisory Committee (this is represented by all relevant departments DoA, DAPH, DF, CAA, Customs, at all levels) • The Food Advisory Committee (FAC) has invited DoA and DF representatives as members to FAC until Food Act is amended • Food Safety Week was observed in 2018 and 2019 to raise awareness on hygienic practices for food preparation and handling, as well as consumer protection. • Food laboratory at Anuradhapura equipped with trained staff to do heavy metal analysis in food and water in 2018	• Inadequate human resources at FCAU • Poor monitoring of food and safety activities • Inadequate human resources for border control • Poor coordination of DoA, DAPH, CAA and Health Sector at all levels • Modern food safety principles not being practiced • Low motivation of frontline workers	• Define a food safety strategy and amend regulations accordingly. • Ensure that annual action plans are agreed upon between HH and AH • Improve and enforce hygiene practices in establishments handling, preparing or producing products of animal origin. • Upgrade laboratories to be able to test, for example, heavy metals and pesticides. • Train food safety workforce • Follow up on review of national health policy which will include issues of food safety .

• Training of food inspectors and SPHI trained on risk-based principles • 6 Training programmes covering 480 PHIs was conducted by The Institute of Food Science and Technology Sri Lanka (IFSTSL) in 2019 January • 26 Food Inspectors/SPHIDs National and Provincial level trained by Mahidol University, Thailand in 2018 with HSDP funds		

Biosafety and Biosecurity (BSS)

TARGET:

- Develop a comprehensive, multisectoral BSS strategy with accompanying legislation

- Based on the strategy, develop an action plan for implementation at the national level for both public and private sectors:

    - BSS training programme that includes professional awareness training

    - Measures to update the inventory of dangerous pathogens and toxins

- Update the laboratory licensing accreditation process to include BSS requirements

- Identify how sustained funding can be ensured for BSS programmes.

TABLE 6. **Biosafety and Biosecurity (BSS)**

PROGRESS	CHALLENGES	WAY FORWARD
• Established national advisory committee and national steering committee on biosafety and biosecurity • Established national committees on policy development and list of deadly pathogens • National Policy on Biosafety and Biosecurity was drafted with identified strategies • National biosafety and biosecurity administrative structure was identified for all sectors. • Guidelines on pathogen control measures and standards for physical containment and	• No dedicated staff for BSS. • No master plan to implement the policy • HH has guidelines, but not the other sectors • No dedicated budget: HH is supported by WHO but other sectors do not have external funding • Legislation takes about a year for any bill to be enacted	• Expedite the promulgation of BSS legislation and policy • Implement the strategic plan. • Improve funding for BSS • Implement laboratory licensing and accreditation process for state sector laboratories

operational handling in the HH laboratories was developed. • Establishment of BSL3 laboratory is in progress. • National level awareness was done in 5 provinces • Started the inventory for the national dangerous pathogens • Almost all of major HH laboratory staff were trained		

Immunization

TARGET:

- Introduce the Immunization Act, which will provide legal backing for the full implementation of the National Immunization Policy.

TABLE 7. Immunization

PROGRESS	CHALLENGES	WAY FORWARD
• Achieved Measles Elimination status – 2019	• Sustain 100% immunization coverage for all vaccines in Expanded Programme on Immunization	• Develop/revise national norms for primary health care (PHC) workers
• Achieved controlled status for Measles and Rubella – 2018	• Rapid turnover of all public health workers.	• Identify training needs of these PHC workers for the next 5 years
• Introduced Human Papillomavirus vaccine (HPV) vaccine into the National Immunization schedule -2017	• Increased public demand for new vaccines and combined vaccines	• Ensure the fair distribution of PHC staff
• First country which introduced country-wide fractional dose of IPV (fIPV) into the National Immunization Programme – 2016	• Increased cost of vaccines • Inflation (local currency): devaluation of the rupee against US dollar	• Introduction of the Immunization Act •
• Introduced National Immunization policy – 2014	• Early signs of emergence of vaccine hesitancy	
• Introduced web-based vaccine safety surveillance system in 2019		
• Country has separate budget line for vaccine procurement		

Detect

Laboratory Capacity

TARGET:

- Develop a national SOP for safe and efficient specimen transport to reference laboratories

- Develop a quality management system for laboratories including national reference laboratories in the human and animal heath sectors

- Increase the number of laboratories that participate in quality assurance programmes

- Strengthen multisectoral collaboration by sharing laboratories and data for HH and AH

- Expand the number and scope of agreements with regional laboratories for specialized or advanced diagnostics such as for emerging diseases.

TABLE 8. Laboratory Capacity

PROGRESS	CHALLENGES	WAY FORWARD
• MRI established voluntary external quality assurance programs in bacteriology (1997), chemical pathology and hematology. • MRI participated in several pathogen-specific international quality assurance programs and has international certification for polio, measles, rubella, Japanese encephalitis, and influenza. • MRI food laboratory has ISO 17025 accreditation	• Limited human resources • Inadequate funding • Inadequate intersectoral collaboration • Frequent replacement or fast turnover of key responsible personnel	• Expedite establishment of legislation for lab BSS • Provide adequate supplies and reagents for EQA • Provide adequate funding for lab services • Fill human resource gaps in lab system • Establish accreditation body • Establishment of laboratory information management system (LIMS) at Medical Research Institute with connectivity to serving hospitals

• The National Blood transfusion Service has ISO 15189 accreditation • In animal health: the VRI participates in the External Quality Assessment (EQA) for avian influenza , ornamental fish disease , foot-and-mouth disease, Brucella.		• Strengthening of Primary Health Care Services to prevent by passing of resources

Surveillance

TARGET:

- Expand the web-based surveillance system so that it includes hospitals.
- Increase capacity for incorporating laboratory data in the surveillance system by, for example, establishing a public health laboratory.
- Formalize and implement structures for sharing data between the human and animal health sectors.
- Develop formal structures, based on existing collaboration practices, for the joint analysis of surveillance data from the animal and human heath sectors at all levels.

TABLE 9. Surveillance

PROGRESS	CHALLENGES	WAY FORWARD

- Communicable disease notification is mandatory by law - National network covering whole island - Established monitoring and evaluation system at each level - Control measures carried out at field level - National avian influenza surveillance serves as the platform for joint surveillance. Sri Lanka has a robust indicator-based surveillance system at health facilities and community level - Disease surveillance and outbreak investigation modules are incorporated in the medical and veterinary undergraduate curricula - Field Epidemiology Training Program (FETP) has practical sessions on disease surveillance and outbreak investigation Subnational surveillance activities are regularly reviewed by an expert team	- Lack of formal mechanism to share laboratory data and animal health data with relevant stakeholders - Surveillance data mainly limited to inward cases; minimum contribution from OPD / Private sector - Underreporting and untimely reports - Mainly passive Surveillance	- Strengthen event-based surveillance at national, intermediate, health facility and community level using current guidance from WHO - Introduction of web-based communicable disease notification from health care units to MOH offices - Establish a web-based mechanism to monitor and evaluate the completeness and timeliness of surveillance reports at all levels. - Strengthen data sharing between laboratory and communicable disease programs of HH and AH - Provide in-service training on communicable disease notification for medical officers - Develop efficient information sharing mechanism among partners

Reporting

TARGET:

- Develop and establish protocols, processes, regulations, and if necessary, legislation on reporting for implementation within one year

- Develop a collaboration mechanism between HH and AH sectors that is aligned with the IHR and World Organization for Animal Health standards

TABLE 10. Reporting

PROGRESS	CHALLENGES	WAY FORWARD
• The country has a clear mechanism and SOPs for reporting from the peripheral level to intermediate level to national level. • Reporting systems have been integrated into the Emergency Operation Center (EOC) operations and Virtual EOC • Some NFP staff have been trained on NFP functions	• Instability of electronic system due to network problem and outdated technology • Lab data is not yet linked to electronic system • Lack of a framework of sharing information between OIE, chemical, radio nuclear, food and all other events.	• Operationalize the formal mechanism for systematic sharing and review of information between the NFP, the OIE delegate and focal persons in other sectors • Develop necessary protocols, processes, regulations and legislation

Workforce Development

TARGET:

- Review the draft workforce strategy

- Develop strategies for joint training programmes with other sectors to improve coordination and collaboration between HH and AH

- Expand the current public health and FETP to include: refresher courses, induction programme for field epidemiologists, regular and continuous professional development for Veterinary Public Health (VPH).

TABLE 11. Workforce Development

PROGRESS	CHALLENGES	WAY FORWARD
• Developed National Action Plan for Health Security (NAPHS) in 2018 • Established the Human Resource (HR) unit in the Ministry of Health in 2018 by cabinet approval. • Provided masters degree in epidemiology under a collaborative program with epidemiology unit, MOH, DAPH and Massey University Training Programs	• Inadequate or weak coordination between human and animal health sectors where training is concerned • No established partnership among universities, government agencies and other stakeholders regarding One Health • In-service training programs related to International Health Regulations are not available for all categories of staff • IHR is not incorporated in the basic curricula of all professions supplementary to medicine (PSM) and paramedical categories (Public Health Lab Technician(PHLT), Public Health Field Officer (PHFO), Medical Lab Technologist (MLT), Entomology Assistant, Supervisory Public Health Midwife (SPHM), Public Health Nursing Sister (PHNS),	• Develop HR national strategy following a training needs assessment and skill set mapping • Develop strategy to guide workforce need for all levels and sectors • Due to inadequate number of trainees, it is suggested to carry out a strong social marketing campaign or to recruit from lower qualifications

	Public Health Nursing Officer (PHNO), Public Health Midwife (PHM)	
	• Incapacity of PSM & Paramedical schools to accommodate adequate number of trainees (in a short period) according to the cadre projections	
	• Low number of applicants	

Respond

Emergency Preparedness

TARGET:

- Identify and map the country's main risks

- Develop and disseminate the national emergency preparedness and response plan among stakeholders

TABLE 12. Emergency Preparedness

PROGRESS	CHALLENGES	WAY FORWARD
• All-hazards emergency response plan at national and subnational levels. Handbooks available and specific to region/province • Risk assessments completed and published in Western, Southern and Sabaragamuwa Provinces. Risk assessments completed, but yet to be published in Northern Province • Circa 15-20 drills conducted for mass casualty, infectious disease, chemical and nuclear incidents • Developed simulation guidelines • Simulation Exercise (SimEx) management team established with SimEx plan for 2019 • Trained EOC on Incident Management System (IMS) • Developed a list of commodities and countermeasures for priority risks currently on progress	• Inadequate trained human resources for public health emergency management • Personnel deployment plan not yet developed	• Completing risk assessment and plan in 26 districts • Conduct national consultative workshops for dissemination of joint national emergency preparedness and response plan • Increasing preparedness of health sector and other partners • Sharing of information and mapping • Joint trainings on risk assessment methodology needs to be done for the staff from health and other sectors. • Designate, assign, or create a dedicated post for preparedness and disaster management.

Emergency Response Operations

TARGET:

- Develop the PHEOC handbook that will include:

  - Procedures for daily 'watch mode' operations, to include triage of information from surveillance, laboratory, and other information sources, as well as keeping public health leaders informed of emerging public health situations in a timely manner;

  - Criteria and authorities for declaration of a public health emergency;

  - Procedures for activation and deactivation of the national PHEOC;

  - A concept of operations for the national PHEOC within the national disaster management system, and;

  - Procedures for post-response (and post-exercise) review and corrective action planning.

- Develop an integrated public health emergency training and exercise programme

- Expand the cadre of trained personnel for both core and surge staff for national and sub-national PHEOCs

TABLE 13. Emergency Response Operations

PROGRESS	CHALLENGES	WAY FORWARD
• Well-capacitated EOC that is used frequently in natural and man-made disasters • High-level support for emergency response • Emergency exercises completed for Ebola • Introduced the "traffic light" method of classifying the status of support and response needed (4 levels covering local, regional, national, and international)	• Space and establishment of subnational EOCs in priority regions • Human resource development (capacity building) and sustainability of financial support for EOC staff, systems, and space • Further development of hazard management (isolation facilities) • Need better understanding of SimEx and AAR among partners	• Organize series of meetings to develop the PHEOC handbook • Further develop simulation exercises and AARs that inform national action plan revisions • Develop emergency response capacity at subnational level, prioritizing high-risk regions. • Identify domestic financing to support recurring costs related to emergency

• Reserve funds available which can be accessed within 24 hours	• Contingency funding for RRT Deployment & Human resources • Need to establish better communication with 24/7 hotlines such as 1990.117 and 119 with regards to health response. •	response, including staff and systems support • Document and share experiences and lessons learned.

Linking Public Health and Security

TARGET:

- Expand mechanisms for information sharing and joint operations between the security and health sectors

- Perform regular joint exercises with at least one simulation exercise (SIMEX) conducted annually

TABLE 14. Linking Public Health and Security

PROGRESS	CHALLENGES	WAY FORWARD
• Members of defense forces and protocol for collaboration have been established at high levels • IHR TWG has members from law enforcement agencies • Identified areas of collaboration which include Chemical, Biological, Radiological and Nuclear (CBRN) Emergencies and Emergency Medical Teams • Disaster Management Center – National Emergency Operation Center 24/7 – coordinates overall linkage with the security forces. • Health sector being regularly contacted during pre-disaster and disaster along with security forces	• No guidelines for joint risk assessment/investigation • Poor mechanism for sharing information and coordination • No formal procedures to detect potential biological events or PHE that are deliberate or malicious in nature • Armed forces are hierarchical and complicated structures. • Joint operation mechanisms still need to be improved. • No joint SIMEX between health and armed forces • Lack of training and equipment (PPE) for both public health experts and law enforcers in emergency response exercises	• Develop SOPs and formalize linkages and communication (e.g. Information sharing) • Develop joint investigation guidelines and train for them • Conduct SimEx annually

Medical Countermeasures and Personnel Deployment

TARGET:
- Revise and formalize policy guidelines for receiving or sending medical countermeasures during an emergency.

- Draft a national plan and associated guidelines for deploying national and receiving international personnel during emergencies, including capacity-building for these personnel in collaboration with health and non-health stakeholders such as the Ministries of Defence, Disaster Management, Finance and Foreign Affairs.

TABLE 15. Medical Countermeasures and Personnel Deployment

PROGRESS	CHALLENGES	WAY FORWARD
• Ministry of Health has supported classification process of the Sri Lanka Army International Emergency Medical Team • Pre-positioned Field Hospitals with the RDHS Gampaha (1). RDHS Kalutara (1), Sri Lanka Army (2) and Air Force (1) to be deployed in emergencies. • Ad hoc mechanism is in place for receiving countermeasures	• Personnel not adequately trained and classification of local emergency medical teams need to be established • Still a need to advocate for coordinated deployment of medical counter measures and emergency medical teams. • No deployment plan as of the moment	• Develop and finalize the personnel deployment plan • Develop a national plan to send, receive and stockpile medical and other relief items • Develop and implement SOPs and guidelines on emergency medical team and receiving teams from outside

Risk Communication

TARGET:

- Develop a consolidated risk communications plan that brings together existing policies, protocols and procedures.

- Increase monitoring and outreach through social media (which could include the establishment of government social media accounts).

- Develop a sector-wide training programme that includes regular seminars and refresher courses for risk communications and standard trainings for staff, including surge capacity staff.

- Review the feasibility of developing a formal network for risk communications that includes stakeholders, partners and surge capacity staff from all sectors.

TABLE 16. Risk Communication

PROGRESS	CHALLENGES	WAY FORWARD
- Documentary video on IHR implementation - Blue tag verification for Facebook page - Getting feedback and needs assessment from partners to upgrade the service of HPB, including risk communication - Established the "Suwasariya" which is a 24-hour hotline service in 3 languages - Establishment of social mobilization subcommittees at national and subnational level and improvement of coordination at subnational levels through capacitated Health Promotion Coordinators from high-risk regions.	- Risk communication strategy not finalized - Sub-committee at subnational levels meets irregularly - Minimal partner engagement at subnational level - Lack of training among community health workers/volunteers in risk areas - Inadequate IEC materials for high risk areas	- Operationalize risk communication strategy (equipment, vehicles, refurbish offices) - Map risk communication stakeholders - Conduct training in communications for press - Explore new methods of communication: mobile app?/ SMS alerts / radio station - Rumor identification mechanism

• Engagement of partners in all types of media • Risk communication is included in the curriculum of post graduate training; MSc com med, Msc and MD admin • Risk communication included in MOH training and communication skill development trainings for other staff categories		

Other IHR-related Hazards and Point of Entry

Points of Entry

TARGET:

- Enhance facilities, in terms of space and equipment, at PoE for the inspection, isolation, and treatment of passengers who are suspected to be ill.
- Develop a regular capacity building programme for health officials for how to carry out conveyance inspection and quarantine procedures
- Develop a health information system for points of entry to include real-time surveillance for HH and AH
- Establish an integrated vector surveillance mechanism for all medically important vectors at PoE
- Conduct regular SIMEX on public health contingency plans at PoE and publish the assessment reports.

TABLE 17. Points of Entry

PROGRESS	CHALLENGES	WAY FORWARD
• Contingency plan for PoE developed and tested through table top exercises • Communication coordination plan documented and tested (SIMEX in 2018) • Good coordination with sectors concerned • PPE training conducted, with WHO assistance and PPE available in PoE	• Limited capacity-building opportunities e.g. ship sanitation certification, cruise ship inspection, and craft inspection • Facilities for assessment, care, and isolation of ill passengers need to be further developed at PoE, especially at Colombo port • Integrated vector surveillance is available for mosquito vectors and this should be available for all medically important vectors (e.g. rodents etc.)	• Functional assessment required (testing of facilities) and purchase of necessary equipment • Consider establishing a formal mechanism to link PoEs with the national surveillance system • Regional training by WHO on issuance of ship sanitation certificates, flight inspection, surveillance and control of medically important vectors at PoE • Operationalize WHO guidelines on vector control in PoEs. Purchase equipment to update the information management system

Chemical Emergencies

TARGET:

- Create a national, multi-sectoral coordinating body to:

    - Establish an integrated chemical surveillance system

    - Strengthen laboratory capacity for chemical detection and identification

    - Establish SOP for environmental and occupational health monitoring

    - Implement standards for classification and labeling of chemicals

    - Facilitate sharing and integration of chemical-relevant data from concerned sectors

- Develop SOP for chemical surveillance and risk assessment of chemical events

- Develop a national chemical events response plan based on risk assessment of chemical threats

PROGRESS	CHALLENGES	WAY FORWARD
• Development of a draft policy on chemicals management • Proposed a licensing system for chemical storage facilities • Core group identified to work on chemical accident prevention and preparedness • International training conducted on CBRN Emergencies	• No sentinel surveillance system to detect hazardous chemical exposures. • Inadequacies in risk assessment procedures to trigger a response to a chemical event. • Inadequate capacity to respond to chemical emergencies • Inadequacies in feedback or reporting mechanisms for inter-sectoral sharing of information about chemical response activities • Land use planning does not always take into consideration siting of chemical threats or disposal facilities. • Inadequacies in coordination of chemical safety issues • Inadequate laboratory capacity at national and subnational levels	• Environmental and Occupational Health Steering committee formation at the Ministry of Health • Formation of a platform at the Central Environmental Authority on Chemical Accident Prevention and Promotion Programme • Capacity development of first responders in chemical events • Streamlining of import of chemicals by strengthening import/export regulations

Radiation emergencies

TARGET:

- Develop risk assessment guidelines for radiation emergencies

- Finalize and secure approval for radiation emergency documents that are currently in draft form

- Incorporate the radiation Emergency Management Plan with the detection guidelines and the monitoring mechanism.

- Develop an information sharing system for radiation-relevant information among all sectors

- Create an integrated multi-sectoral radiation emergency training and exercise programme.

TABLE 19. Radiation emergencies

PROGRESS	CHALLENGES	WAY FORWARD
• Radiation EMP was finalized in June 2019 and awaiting approval from the DMC • Continuous participation in the IAEA Convex exercises • Capacity development of EPR which included training CBRN groups, technical organizations, acquiring of equipment, etc. • Effective regulatory control of radiation sources	• Inadequate and untrained human resources • Lack of equipment for first responders • Lack of coordination and understanding with concerned agencies resulting in "questions" regarding training and exercises • Lack of funding for capacity building of EPR	• Create a formal structure for inter-agency information sharing and collaboration for radiation emergencies • Finalization of national plan • Include radiation emergencies in SIMEX • Continue participating in the IAEA convex exercises and prepare to host the international exercise

Conclusion

Following the JEE in 2017 and using other findings of IHR monitoring and evaluation instruments, Sri Lanka embarked on a 5-year NAPH, approved in June 2018, in an effort to further develop its national IHR capacities. A little over a year later, Sri Lanka has made progress in building its capacity to prevent, detect, and respond to emerging disease, public health emergencies and health security. The cross-cutting gaps identified in the 19 technical areas include:

- Coordinating and synchronizing activities in the spirit of One Health practice for all aspects of health security requires additional efforts to formalize its sustainability.
- Sri Lanka has not faced major disease outbreaks in the past, and this may lead to fatigue or complacency regarding continuous strengthening of preparedness.
- There is a turn-over of staff in various units that necessitate constant orientation and briefing for IHR and NAPHS.
- There is limited use of functional evaluation instruments to inform the review or updating of various plans, though some simulation exercises and after-action reviews have been conducted.

Continued progress requires sustainable domestic funding, investments in human resources and critical health infrastructure, multi-sector collaboration, and networking with development partners and other countries. While the technical areas adhered to the targets stipulated in the NAPH, below is the summary of activities planned moving forward:

Immediate:
1. Formalize the One Health platform at the national and subnational levels with clear terms of references, roles and responsibilities and a monitoring and evaluation framework
2. Conduct a needs assessment for the functional evaluation of capacities and develop a plan for its implementation. (More after-action reviews or simulation exercises are required)
3. Develop a monitoring and evaluation mechanism and plan to review, revise and update the National Action Plan for Health Security.
4. Share best practices (training curricula, various plans, education materials and tools) with WHO for further dissemination and use for other countries.

Medium to long term

5. Disseminate best practices and lessons learned through reports, publications and through various networks.
6. Demonstrate the outcomes and impact associated with investment in the NAPHS to the Ministry of Finance to secure sustainable domestic financing.
7. Prioritize implementation of recommendations of the After-Action Reviews and Simulation Exercises and incorporate finding into NAPHS for continuous improvement
8. Strengthen surveillance by encouraging active reporting and link the surveillance systems of different units, including laboratory, with each other.
9. Continue and sustain a mechanism to map and forecast required skillsets and training needs for health security and establish a link with the overall workforce development strategies.
10. Develop a surge capacity plan, SOPs, training needs and policies for emergency preparedness and response.
11. Strengthen capacities (detection and control) of chemical events at the national and sub-national levels.

Appendix A: List of Attendees

SNO	Name	Designation/Unit
1	Dr. L. Somatunga	Additional Secretary/Public Health Services (PHS)/ Ministry of Health
2	Dr. Paba Palihawadana	Deputy Director General-PHS-1/ Ministry of Health
3	Ms. Shehara Weerakoon	Deputy Legal Draftsman, Legal Draftsman's Department
4	Mr. M.J.M.U.P. Jayawardene	Assistant Legal Draftsman, Legal Draftsman's Department
5	Dr. Alan Ludowyke	Director/ International Health/ Ministry of Health
6	Dr. S. Dhanapala	Director/Environment, Occupational Health & Food safety. Ministry of Health
7	Dr. R. Jayasuriya	Consultant Microbiologist/Food Lab/National Institute of Health Sciences/ Kalutara
8	Dr. Sujatha Pathirage	Consultant Microbiologist/Food lab/ Medical Research Institute
9	Dr. Inoka Suraweera	Consultant Community Physician/Environment, Occupational Health & Food safety / Ministry of Health
10	Mrs A. R. Ahamad	Chief Legal Officer/ Legal Unit/Ministry of Health
11	Dr. Eshani Fernando	Director-Planning/ Management Development and Planning Unit/ Ministry of Health
12	Dr. Palitha Karunapema	Director/Health Promotion Bureau/ Ministry of Health
13	Dr. Priyanga Ranasinghe	Consultant Community Physician/Health Promotion Bureau/
14	Dr. Sherine Balasinham	Consultant Community Physician/ Health Promotion Bureau/ Ministry of Health
15	Dr. Buddhika Sudasinghe	Senior Registrar/Health Promotion Bureau/ Ministry of Health
16	Dr. S. M. Arnold	Director/ Quarantine Unit/ Ministry of Health
17	Dr. S. Dilhani Samarasekera	Consultant Community Physician/ Quarantine Unit/ Ministry of Health

18	Dr. Sudath Samaraweera	Deputy Director General-Education, Training & Research/ Ministry of Health
19	Dr. Vajira Nanayakkara	Director/Training/-Education, Training & Research/ Ministry of Health
20	Dr. Indrani Malwanna	Deputy Director/ National Institute of Health Sciences/ Kalutara
21	Dr. Samitha Ginige	Consultant Epidemiologist/ Epidemiology Unit/ Ministry of Health
22	Dr. H. Beneragama	Deputy Director General-Laboratory Services/ Ministry of Health
23	Dr. R. Bellana	Director- Lab Services/ Ministry of Health
24	Dr. Malika Karunarathne	Consultant Microbiologist/ Medical Research Institute
25	Dr.Jayaruwan Bandara	Director/ Medical Research Institute
26	Dr. Lilani Karunanayake	Consultant Microbiologist/ Medical Research Institute
27	Dr. Jude Jayamaha	Virologist/Medical Research Institute
28	Dr.Janaki Abeyrathne	Virologist/Medical Research Institute
29	Dr. Novil Wijesekera	Acting Consultant Community Physician/ Disaster Management Response Unit/Ministry of Health
30	Dr. Usha Perera	Consultant Community Physician/ Disaster Management Response Unit/ Ministry of Health
31	Dr. Asanka Wedamulla	Medical officer/ Disaster Management Response Unit/Ministry of Health
32	Dr.K.C. Kalubowila	Medical officer/ Disaster Management Response Unit/Ministry of Health
33	Dr. Thusitha Sudarshana	Director/Medical Supplies Division/ Ministry of Health
34	Dr. Hashan Kulasiri	Medical Officer/Medical Supplies Division/ Ministry of Health

35	Ms.L.C. Wanniarachchi	Assistant Director/Quality Assurance, Medical Supplies Division/ Ministry of Health
36	Ms.N.S.Kodikaraarachchi	Medical Supplies Division/ Ministry of Health
37	Dr. Hasitha Attanayaka	Director/National Institute for Infectious Diseases
38	Mr.D.A.A.K Amaradeva	National Authority of Chemical Weapon Convention (NACWC). Ministry of Defence
39	Ms.Radika Madupani	National Authority of Chemical Weapon Convention (NACWC). Ministry of Defence
40	Kapila Wanigasooriya	Air Commodore/ Office of the Chief of Defence staff, Ministry of Defence
41	Commander Anjana Premaratne	Senior Staff Nuclear. Biological, Chemical Defence officer, Sri Lanka Navy Head Quarters
42	Lt. Col. D.N.T de Silva	Officer in Charge/ CBRN First Respondent team/Sri Lanka Navy
43	Dr. Lakmini Priyantha	Additional Director Seed Certification Service/ Department of Agriculture
44	Dr. Vindya Basnayake	Deputy Director/Research, Department of Agriculture
45	Dr. Malitha Rupasinghe	Medical officer/ Office of Deputy Director General-Laboratory Services
46	Dr. Ranjani Hettiarachchi	Additional Director General/Department of Animal Production & Health
47	Dr.V.R.N Munasinghe	Director - Veterinary Regulatory Affairs/Department of Animal Production & Health
48	Dr.G.G.I.A Jayawickrama	Veterinary Surgeon/Department of Animal Production & Health
49	Dr. Nimal jayaweera	Registrar/ Veterinary Drug Control/Department of Animal Production & Health

50	Dr.D.B.N Pushpakumara	Veterinary Surgeon, Department of Wildlife Conservation
51	Dr. L. D. Kithsiri	Director/ Public Health Veterinary Services, Ministry of Health
52	Dr. Sriyalatha Menike	Chief Veterinary Officer/Animal Quarantine Unit/Department of Animal Production & Health
53	Mr. Chathura Liyanaarchchi	Assistant Director/Preparedness & Planning/Ministry of Disaster Management
54	Mr. T. D. A. Gamage	Assistant Director/Central Environment Authority
55	Mr. K.K.P.I.K. Kadadunna	Deputy Director/ Sri Lanka Atomic Energy Regulatory Council
56	Dr.D.M.J.B.Senanayake	Director (Rice Research & Development) Rice Research & Development Institute, Department of Agriculture
57	Ms.M.H.A.D Subhashini	Research Officer/National Plant Quarantine Service / Department of Agriculture
58	Mr. R. N. Priyadarshana	Assistant Manager, Marine Environmental Protection Authority (MEPA)
59	Dr. Bimal Dias	Senior Aviation Officer/ Civil Aviation Authority
60	Ms. Pramuditha Manusinghe	Assistant Director /UN Division/ Ministry of Foreign Affairs
61	Mr. H. H. Madhusiri	Assistant Chief Fire officer/Fire Brigade
62	A.N. Lokuvithana	Station officer/Fire Brigade
63	Mr. P.W.C Jayanath	Section Officer/Fire Brigade
64	Dr. S. D. A. S. Nishantha	Company Medical Officer/Airport Medical Centre/ Airport Aviation Sri Lanka
65	Dr. Anoma Jayasinghe	Group Medical Officer of Sri Lankan Airlines/BIA/ Katunayake
66	Dr. Roshan Sampath	Deputy Director/ Port Health Services (Quarantine Unit/ Ministry of Health)
67	Dr. W.M.C.B Wickramasuriya	Chief Medical Officer/ BIA/ Katunayake (Quarantine Unit/ Ministry of Health)

68	Dr.S.R Lalitha	Medical Officer/Airport Health Office/BIA/ Katunayake (Quarantine Unit/ Ministry of Health)
69	Dr. W.M.Wickramasinghe	Chief Medical Officer/ Colombo Port Health office/ (Quarantine Unit/ Ministry of Health)
70	Dr. Bernard Thewanayagam	Chief Medical Officer/ Trincomalee Port Health office (Quarantine Unit/ Ministry of Health)
71	Dr. J.P Sriyani	Chief Medical Officer/ Galle Port Health office (Quarantine Unit/ Ministry of Health)
72	Dr. Saman Hewavitharana	Chief Medical Officer/Assistant Port Health Office (Quarantine Unit/ Ministry of Health)
73	Dr.M.U.J Jayasekara	Deputy Chief Medical Officer, Medical center/ Sri Lanka Ports Authority
74	Dr. Menaka Ponnamperuma	Medical officer/ Quarantine Unit/ Ministry of Health
75	Dr. Sugie Perera	National professional officer/ WHO
76	Dr. Olivia Nieveras	Public Health Administrator/ WHO (On behalf of WR)
77	Dr.Nirmal Kandel	WHO Mission
78	Mr.Abbas Omar	WHO Mission
79	Dr.Maria Consorcia Quizon	WHO Mission
80	Ms.Sonali Silva	WHO
81	Dr. W.M.D.V.S. Wijekoon	Registrar in MD Community Medicine, Office of Medical officer of Health/ Battaramulla

Appendix B: References

a) International Health Regulations (2005) State Party Self-Assessment Annual Reporting Tool. Geneva: World Health Organization; 2018 as filled-out by Lao PDR on January 23, 2019.

b) Joint external evaluation tool: International Health Regulations (2005). Geneva: World Health Organization; 2016.

c) National Action Plan for Health Security of Sri Lanka 2019-2023