



National Action Plan for Health Security (NAPHS)

Bangladesh

2020-24

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Ministry of Health & Family Welfare
Government of the People's Republic of Bangladesh

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Executive Summary

Introduction

Improving public health is a constitutional obligation for Bangladesh. The first objective of Health policy 2011 stresses importance to ensure primary health care and emergency health care. Responding to public health emergency is an integral component of Emergency health care. Bangladesh made significant progress in achieving many of the MDGs, and on track for achieving many of the SDGs. Still we have to go a long way. We have to endeavour for improving our capacity to respond public health emergency like disease outbreaks, including those with pandemic potential.

Vision

A resilient nation that earn its ability to prepare for, detect, prevent and respond to any adverse public health event to protect all health (human and animal and environment) and mitigate against adverse impacts on the socio-economic-ecological conditions.

Mission

To build upon national strengths and continue to develop systems for sustainable health security in line with International Health Regulation and Global Health Security Agenda

Goal

To reduce morbidity, mortality, disability and socio-economic-ecological disruptions due to adverse public health threats and contribute to universal health coverage

Objectives of NAPHS

(a) To strengthen and sustain the national capacity to prevent public health emergencies; (b) to strengthen and maintain capacity to prepare for emergency adverse public health events; (c) to strengthen and sustain the national capacity to promptly detect and confirm adverse public health events; (d) To strengthen and sustain the national capacity to promptly respond to and recover from the adverse effects of public health emergencies; (e) to build, strengthen and maintain strategic partnership with the “One Health Approach” and a broader health system strengthening with whole of government and society approach; (f) to map existing and potential domestic and external resources to support the delivery of the national action plan for health security; (g) to strengthen institutional framework to support Health Security and One Health implementation

Principles of NAPHS

(1) Country Ownership; (2) People’s ownership; (3) WHO partnership; (4) Active and Sustained Multisectoral Partnerships; (5) Gender and human rights; (6) Equity; (7) Evidence based

Shared responsibility; (8) Transparency; (9) Sustainability; (10) Resilience

Major strategic actions

(a) Intra and inter-ministerial coordination: institutional framework; (b) Coordination across 19 technical areas: institutional framework; (c) Developing legal and administrative instruments, strategy, action plans, standard operating procedure (SOPs), monitoring tools for areas where documentation is needed; (d) Building professional risk communication practice

Way to NAPHS,B

Evaluation of our capacity to prevent, detect and response public health emergency was done by Joint External Evaluation (JEE) team in 2016. Bangladesh Self-assessment annual reporting 2018, 2019.

National Bridging Workshop on the International Health Regulations (IHR) and the OIE Performance of Veterinary Services (PVS) Pathway, February 2019. Multi hazard exposure and risk assessment (health included) by Dept of Disaster Management, latest data of health of 2013. Antibiotic use and resistance in Bangladesh: Situation analysis and recommendations on antibiotic resistance, DGDA 2018. The next process scheduled after the JEE was the development of a strategic National Action Plan for Health Security (NAPHS). Bangladesh has initiated the process with the technical support of World Health Organization.

Methods

Three Committees were formed to consult for drafting. (A) High **Policy** Level Committee (Policy Makers) meeting approved the initiation and will approve the NAPHS document; (B) **Expert** meeting (Subject matter Expert): met to review the documents for NAPHS; (C) Technical Working Group: meeting prepared the framework and developed outline of NAPHS,B document

Duration

The Plan will commence on 2020 and will end on 2024.

Participating partners and stakeholders

(1) Prime Minister's Office (Cabinet Division); (2) Ministry of Health & Family Welfare; (3) Ministry of Livestock and Fisheries; (4) Ministry of Environment & Forestry; (5) Ministry of Defence; (6) Ministry of Home Affairs; (7) Ministry of Food; (8) Ministry of Disaster Management and Relief; (9) Ministry of Labour; (10) Ministry of Planning; (11) Ministry of Finance; (12) Ministry of Industries; (13) Ministry of Science & Technology; (14) Ministry of Civil Aviation and Tourism; (15) Ministry of Shipping; (16) Ministry of Information; (17) World Health Organization (WHO); (18) UNICEF; (19) Food and Agriculture Organization (FAO); (20) World Bank; (21) icddr,b.

Implementation Plan: National Health Security Coordination

- (a) Prime Minister's Office will approve the policies. Cabinet Division will direct the activities in this regard;
- (b) Inter-ministerial Coordination Committee is the highest policy making body
- (c) Inter-ministerial Steering Committee is the highest body for guiding policy implementation
- (d) Inter-Ministerial Technical Committee is the highest structure for technical input and decision
- (e) Lead Ministry will be decided by rotation among the partners, implement programs by day-to-day activities in coordination with other two lead ministries, formation and maintenance of a secretariat
- (f) Partner Ministries will work through One Health Secretariat, will provide policy input, implement respective part of the program, ensure representation through inter-ministerial committees at national and sub-national levels

Components of NAPHS,B and Prioritization

Among the 19 technical areas, high priority areas are: (i) IHR Coordination, Communication and Advocacy; (ii) Antimicrobial Resistance; (iii) Zoonotic Disease; (iv) Food Safety; (v) Biosafety and Biosecurity; (vi) Immunization; (vii) Real-Time Surveillance; (viii) Workforce Development; (ix) Preparedness; (x) Emergency Response Operations; (xi) Risk Communication; (xii) Points of Entry (PoE)

Medium priority areas are: (i) National Legislation, Policy and Financing; (ii) National Laboratory System; (iii) Reporting; (iv) Medical Countermeasures and Personnel Deployment; (v)

Low areas are: (i) Linking Public Health and Security Authorities; (ii) Chemical Events; (iii) Radiation Emergencies

Finance

The NAPHS,B is a country owned Plan. The Government of the People's Republic of Bangladesh (GoB) will provide funding for the national priority areas. This plan with costing will calculate the total funding required for implementing the Plan. The GoB will identify the areas where international assistance is required. Accordingly, development partners will be approached for technical assistance to implement the plan in full.

Role of Lead and Co-lead for Implementation

Lead organization/agency will take lead to draft the documents and initiate and complete the actions. The lead dept/agency will provide the budget and organize the technical resources to perform the activity, monitor the progress of implementation through a 6-monthly reporting process. Co-lead will share the responsibility with the lead dept/agency to provide technical support.

Monitoring and Evaluation

Monitoring and evaluation will be done according to the indicators and targets. Yearly self evaluation is being done by National Focal Point (NFP) of International Health Regulations (IHR). Next Joint External Evaluation (JEE) will be conducted after launching of NAPHS,B. Other human and animal health assessment will done by relevant agencies. Simulation exercise will also be a monitoring tool for assessing the capacities and system functionality. After action reviews (e.g., after a Public Health Emergency is over) will also be conducted.

Introduction

Over the last 48 years since independence, Bangladesh has made lot of strides in the Health Sector. The health service and infrastructure has developed to a commendable stage. According to article 15(A) of Bangladesh Constitution, the state has the responsibility to ensure basic requirements of human living including health; and according to article 18(1), ensuring improvement of nutritional status and public health is one of the primary obligations of the state. As a signatory to WHO Alma Ata declaration of Primary Healthcare, article 25(1) of UN Declaration of Universal Human Rights, article 12 of International Covenant on Economic Social and Cultural Rights, article 24 of Convention on the Rights of Child, article 12 of the Convention on the Elimination of all Forms of Discrimination Against Women – Bangladesh is committed to improve healthcare. Bangladesh is also committed to achieve Sustainable Development Goals within 2030.

The response capacity of Bangladesh to public health emergency has achieved significant development. Bangladesh successfully responded to pandemic H1N1 2009 influenza, is responding to other public health emergencies like, Nipah virus infection (NIV), Anthrax, Rabies, Dengue, Chikungunya outbreaks. Bangladesh also achieved world-class competency in responding to public health threats due to natural disasters. We are marching ahead to improve further to make Bangladesh safer from public health threats.

Bangladesh is among the 194 countries, who are guided by the World Health Organization's resolutions and guidelines in implementing health related interventions within their countries. In 2005, the World Health Assembly passed a resolution on International Health Regulations 2005. Under the resolution, countries are put under a legal obligation to fill itself by monitoring tool and do self-evaluation of progress of implementation of strengthening various capacities and submit these forms on an annual basis and ensure they build in-country capacities to detect, prevent and respond to national, regional and international Public Health Risks, including infectious disease threats, and chemical and radiological events.

The Joint External Evaluation (JEE) (<https://www.who.int/ihr/publications/WHO-HSE-GCR-2016.23/en/>) helps to identify the most urgent needs within national health systems, prioritize opportunities for enhanced preparedness, prevention, detection and response ~~and action~~. In May 2016, Bangladesh had the JEE evaluation, 19 Technical Areas were assessed by independent global experts. Following the assessment, key priority areas were identified and recommendations provided by expert evaluation team.

The next process after the JEE is the development of a Strategic National Action Plan for Health Security (NAPHS). Bangladesh has already initiated developing the NAPHS with technical support from WHO-Bangladesh. Once the NAPHS document is developed with identified needs and gaps costing will be estimated to work on those. Based on the Cost- estimation of National

Plan (NAPHS), a national financing forum will map and match priority needs with the existing and new donors and health stakeholders.

Global health security is the public health capacity to identify health threats, stop outbreaks from becoming epidemics, risk communication and save lives. Many factors threaten our health safety and economy, including emerging & re-emerging infectious diseases, bioterrorism threats, natural or man-made disasters, and the growing burden of non-communicable diseases.

A disease threat anywhere can be a threat everywhere. Developing the health security capacity needed to manage emerging & re-emerging infectious disease outbreaks is a challenge for many countries. The Joint External Evaluation (JEE) and National Action Plan for Health Security (NAPHS) processes are parts of a voluntary whole-of-government multisectoral approach involving relevant sector to identify gaps in health security under Global Health Security Agenda (GHSA). NAPHS is a country owned, multi-year, planning process of nineteen (19) technical areas of core capacity for public health and emergency response contains Prevent, Detect and Respond action packages. The NAPHS also provides an overarching process to capture all ongoing preparedness initiatives in a country, it helps in Prioritization of areas of action. After NAPHS is developed a National Financial Plan is needed to implement activities and address them. Collectively, these tools help governments to

- Strengthen their health security capacity
- Gain domestic support from the highest political levels for health security activities
- Direct development partners to areas where more support is needed

The way to NAPHS

WHO Bangladesh Country Office is providing technical support to Institute of Epidemiology, Disease Control & Research (IEDCR) through a Direct Financial Cooperation (DFC) to prepare NAPHS. A national consultant was recruited to accomplish the task. Consultant from WHO Headquarter has been assigned to support the costing work of the NAPHS.

The process to develop NAPHS formally started with a high level meeting on 09 July 2019. The meeting presented the concept of NAPHS, the procedure of drafting. The high officials of IHR-concerned ministries were requested to cooperate and get involved in the process of drafting of NAPHS. Another and the last high level meeting will be held at the last end of DFC period to approve the NAPHS.

At the inception phase, two meetings of Technical Working Group (TWG) were held on 19 May and 07 July 2019. The meetings collected the documents from stakeholders to review the existing core capacities of public health system and emergency response keeping the view of One Health Approach. After the high-level meeting, the TWG also met on 17 & 28 July, 07 & 21 August, 03 Sept and 12 October. Another meeting of TWG will be held after last high level

meeting. These meeting populated NAPHS matrix with summary and detailed activities intended to meet the objectives of NAPHS. They reviewed the JEE report, Country self-assessment, PVS Bridging report and other documents. Accordingly, the gaps were identified, and the activities and responsible agencies for implementation were specified.

Two workshops of Expert Committee was held on 18 and 31 July 2019. The last Expert Committee meeting will be held to finalize the NAPHS narrative and costed plan. The Expert Committee members reviewed the work done by TWG and provided important inputs and recommendations.

Participating partners and stakeholders

- Prime Minister's Office
- Cabinet Division
- Ministry of Health & Family Welfare
- Ministry of Fisheries and Livestock
- Ministry of Environment & Forestry
- Ministry of Defence
- Ministry of Home Affairs
- Ministry of Local Government, Rural Development and Co-operatives
- Ministry of Food
- Ministry of Disaster Management and Relief
- Ministry of Labour
- Ministry of Planning
- Ministry of Finance
- Ministry of Industries
- Ministry of Science & Technology
- Ministry of Civil Aviation and Tourism
- Ministry of Shipping
- Ministry of Women and Children Affairs
- Ministry of Information
- World Health Organization (WHO)
- UNICEF
- Food and Agriculture Organization (FAO)
- World Bank
- icddr,b

Principles of NAPHS

1. **Country Ownership:** Government of the People's Republic of Bangladesh will lead the whole implementation process. Government will seek external co-operation in line with national policies and guidelines
2. **People's ownership:** People will participate through their elected representatives, community organizations, civil society and non-government sectors. Community partnership in public health system is already in practice in Bangladesh
3. **WHO partnership:** World Health Organization (WHO)'s primary role is to direct the international health within the United Nation's system and to lead partners in global health response. The WHO has taken initiative to develop NAPHS as a follow up of Joint External Evaluation (JEE) of public health core capacities of Bangladesh in 2016
4. **Active and Sustained Multisectoral Partnerships:** Health security is a shared responsibility, and it cannot be achieved by government alone. Strong partnership between sectors, disciplines, agencies, non-government sector, private sector, researchers, academia are essential.
5. **Gender and human rights:** The Plan will be in line with International Health Regulation (IHR) to protect the human rights and gender equality. The policies and guidelines will be non-discriminatory as envisaged in the Constitution of Bangladesh.
6. **Equity:** Public health response and clinical services will be accessible to all people, irrespective of gender, religion, geographic location, ethnic origin. It will focus on highly vulnerable population groups and under-served areas.
7. **Evidence based:** The NAPHS will be built upon research evidence, statistics from the government and academic institutions. Evidence and data will be shared with sub-regional, regional and other international partners.
8. **Transparency:** Rapid response to public health emergencies will be effective if management people maintain transparency and accountability. Any public health emergency should be announced early to the affected people by the competent authority.
9. **Sustainability:** Capacity development of public health system and rapid response capacity should be institutional and sustainable. Enactment of appropriate law and legal instruments are prerequisites of sustainability.
10. **Resilience:** Building and strengthening public health capacity should be tested against any predictable and unpredictable challenges. Varieties and differences in human resources, programmes, disciplines, sectors, contexts may also throw a challenge. The Plan should be resilient against such challenges.

Vision

A resilient nation that earn its ability to prepare for, detect, prevent and respond to any adverse public health event to protect all health (human and animal and environment) and mitigate against adverse impacts on the socio-economic-ecological conditions.

Mission

To build upon national strengths and continue to develop systems for sustainable health security in line with International Health Regulation and Global Health Security Agenda

Goal

To reduce morbidity, mortality, disability and socio-economic-ecological disruptions due to adverse public health threats and contribute to universal health coverage

Objectives of NAPHS

- To strengthen and sustain the national capacity to prevent public health emergencies
- To strengthen and maintain capacity to prepare for emergency adverse public health events
- To strengthen and sustain the national capacity to promptly detect and confirm adverse public health events
- To strengthen and sustain the national capacity to promptly respond to and recover from the adverse effects of public health emergencies
- To build, strengthen and maintain strategic partnership with the “One Health Approach” and a broader health system strengthening with whole of government and society approach
- To map existing and potential domestic and external resources to support the delivery of the national action plan for health security
- To strengthen institutional framework to support Health Security and One Health implementation

Major strategic actions

- Intra and inter-ministerial coordination: institutional framework
- Coordination across 19 technical areas: institutional framework
- Developing legal and administrative instruments, strategy, action plans, standard operating procedure (SOPs), monitoring tools for areas where documentation is needed
- Building professional risk communication practice

Existing national directions

Strengthening health security will be done along with existing national workplans, strategies, etc. vis-à-vis NAPHS

- 4th Health Nutrition Population Sector Programme (HNPSPP)
- National Action Plan Antimicrobial Resistance Containment in Bangladesh 2017-2022
- Health Sector Contingency Plan for Earthquake Preparedness and Response
- Pathogen specific national guidelines (Anthrax, Nipah virus, Dengue etc.)
- National Plans to Fight Epidemics (TB, Influenza, etc.)
- Hospital Preparedness against Earthquake Guideline
- Guidelines for the management of snakebite

Gaps identified by past assessments

This plan has been built upon the assessment done by

- IHR JEE Report (Bangladesh 2016 report)

- Bangladesh Self-assessment annual reporting 2018
- IHR-PVS Bridging workshop (Feb 2019 report)
- Health risks mapping (VRAM by Dept of Disaster Management)
- Veterinary services assessment by OIE in Animal Health sector (PVS Gap analysis report Bangladesh 2015)
- Other evaluations (Ex: CCDEP AMR 2018 report, etc.)

IHR Joint External Evaluation

In May 2016, Bangladesh underwent a voluntary assessment for IHR country core capacities using JEE tools developed by WHO in collaboration with partners including Global Health Security Agenda (GHS). The findings show that although there is significant progress, gaps still exist in key core capacities for the country to prevent, prepare, detect and respond to public health emergencies. No core capacity has attained sustainable capacity, while majority lies between limited to developed capacity.

Table 1. JEE Evaluation in summarized form

No capacity (score 1)	Limited Capacity (score 2)	Developed Capacity (score 3)	Demonstrated capacity (score 4)
Emergency response operations	Antimicrobial resistance	National legislations, policy and financing	Immunization
Linking public health and security authorities	Preparedness	IHR coordination, communication and advocacy	Real time surveillance
Chemical events	Medical countermeasures and personnel deployment	Zoonotic diseases	Reporting
	Points of entry	Food safety	
	Radiation emergencies	Biosafety and biosecurity	
		National laboratory system	
		Workforce development	
		Risk communication	

Bangladesh Self-assessment annual reporting 2018

After Joint External Evaluation (JEE) Bangladesh performed a self-evaluation as a part of annual exercise for developing core competencies and core capacities of public health and emergency response. The score of the evaluation conducted in 2018 are provided below:

Table 2: Bangladesh self-assessment of IHR Core Capacity 2018

No capacity (score 1)	Limited Capacity (score 2)	Developed Capacity (score 3)	Demonstrated capacity (score 4)
	Food safety	Legislation and financing	IHR coordination and NFP function
	Human resources	Health service provision	Zoonotic events and the human-animal interface
	National health emergency framework	Risk communication	Laboratory
	Chemical events	Points of entry	Surveillance
	Radiation emergencies		

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

This workshop was held in 26-27 February 2019 at Dhaka to provide an opportunity to the human and animal health services of Bangladesh to build on the reviews of performance, gaps and discussions for improvement conducted in human and animal sectors, and to explore options for improved coordination between sectors, to jointly strengthen their preparedness for, and control of the spread of zoonotic diseases.

The participants assessed the level of collaboration for 16 technical areas using experiences from outbreaks of four zoonotic diseases, e.g., anthrax, rabies, high pathogenic avian influenza, salmonellosis. The scores were (lowest 0-highest 8):

Table 3: Levels of collaboration between human and animal health in summarized form

Technical areas	Score
Emergency funding	8
Risk assessment	7
Joint surveillance	7
Legislation/ Regulation	6
Finance	6
Communication with media	6
Field investigation	6
Coordination at local level	5
Laboratory	5
Response	5
Human resources	5
Coordination at high level	4
Communication with stakeholders	4

Technical areas	Score
Coordination at technical level	3
Education and training	3

Multi hazard exposure and risk assessment (health included)

Risk mapping of natural disaster has been done, health risk mapping has been done as a part of it. A full map is needed for health risks. Health hazard maps done by Department of Disaster Management represents number of population affected to 9 diseases (Arsenicosis, Dengue, Diarrhea, Encephalitis, Filariasis, Kalaazar, Leprosy, Malaria, Tuberculosis (Pulmonary)) are shown at national level and division level for 2011, 2012 and 2013, which represents the exposure of population to health hazard.

Antibiotic use and resistance in Bangladesh: Situation analysis and recommendations on antibiotic resistance

Report 2018 (GARP-Bangladesh & CDDEP)

The report analyses the major phenomena driving the evolution and multiplication of AMR microbes, the spread of which is being accelerated by misuse, overuse, and the inappropriate use of antimicrobial agents. The report also identified the most important factors contributing to the occurrence and spread of AMR in Bangladesh that included: the availability of counterfeit or poor quality of antimicrobial medicines; weak laboratory capacity; inadequate drug monitoring and surveillance system; inadequate execution of drug regulations; poor treatment adherence; non-therapeutic use of antibiotics for growth promotion in farm animals; use of self-medication and collection of antibiotics through over-the-counter; and non-existent programs for infection prevention and control.

The total livestock disease burden remains complex and is not clearly understood and not properly documented owing to the general lack of diagnostic and disease recording system causing economic impacts analysis rather limited. The DLS has mostly engaged with treatment of sick animals, while the preventive care has been grossly neglected. Consequently, the high mortality of the food animals as a result of epidemics like anthrax, haemorrhagic septicaemia, blackquarter and foot and mouth diseases imposes huge losses to farmers. The antibiotics are used for treatment of diseases as therapeutic reasons, prophylactic reasons for prevention and control of diseases, and growth promotion for livestock animals. Despite the widespread use of antibiotics in food animals, reliable data about the quantity and patterns of use.

Fish and crustaceans are being attacked by a number of bacteria, virus, fungus and parasites. They suffer from nutritional diseases also. As the aquaculture is being intensified day by day, the use of aquaculture drugs and chemicals along with antibiotic are increasing alarmingly. Despite the limited use of antibiotics and antifungal drugs in fish, reliable data about quantity and pattern of use, e.g., dose, frequency and duration are not available in Bangladesh because of the lack of availability of systematic data.

Components of National Action Plan

Priority areas identified by TWG and Expert Group

For priority setting, the following issues were considered

- Time constraints
- Budget constraints
- Impact of activities

The partners and stakeholders of NAPHS felt that it should contribute to both capacity building and maintenance of health security in the context of sustainable health system strengthening. Priority actions were also considered by reviewing reports of

1. IHR JEE Report (Bangladesh 2016 report)
2. PVS Bridging workshop (Feb 2019 report)
3. Health risks mapping (Ex: by Dept of Disaster Management)
4. Other evaluations (Ex: CCDEP AMR 2018 report, etc)

The following criteria was considered for priority setting:

- Is the action rapidly and easily implemented with available resources?
- Is this the Technical Area main priority?
- Is there a committed and engaged national structure motivated to implement?
- Are the detailed activities implementable in the workplan?
(which activities should be implemented first if there is insufficient budget?)
- Is the activity sustainable and contributing to health system strengthening
(with health security focus)
- Harmonised activities with existing workplans, national strategies? (Ex: Bangladesh NAP AMR)
- Multi-sectoral collaboration with cross-cutting objectives?

Priority setting process

Review inputs

Joint External Evaluation (JEE):

- Review recommendations for priority actions, prioritise these recommendations
- Review
 - i. strengths/best practices
 - ii. areas to strengthen and challenges; confirm completeness (all challenges have been considered and are up to date).

Annual IHR Self-Assessment:

- Provide insight on up to date strengths and challenges

Review latest reports/evaluations:

- NAPHS development incorporates latest available and pertinent information
- Ensure multisectoral approach to development and implementation of NAPHS
- Health risks mapping: VRAM (Ex: Vulnerability and Risk Analysis & Mapping)
- IHR-PVS Bridge report (Ex: Bangladesh Feb 2019)

- After-action review (AAR) : evaluation reports of preparation and response to outbreaks or natural catastrophes
- Simulation exercises : incorporate relevant recommendations for appropriate technical area(s)

Existing national workplans, strategies, etc:

- 4th HNPSP
- National Action Plan Antimicrobial Resistance Containment in Bangladesh 2017-2022
- Health Sector Contingency Plan for Earthquake Preparedness and Response
- Pathogen specific national guidelines (anthrax, Nipah virus, etc)
- National Plans to Fight Epidemics (TB, Dengue, etc)
- National Fish Health Management Strategy (Final draft)
- Fisheries Quarantine Act, 2018
- Other etc

Table 4. Priority areas for NAPHS

Number	High	Medium	Low
P 1		National Legislation, Policy and Financing	
P 2	IHR Coordination, Communication and Advocacy		
P 3	Antimicrobial Resistance		
P 4	Zoonotic Disease		
P 5	Food Safety		
P 6	Biosafety and Biosecurity		
P 7	Immunization		
D 1		National Laboratory System	
D 2	Real-Time Surveillance		
D 3		Reporting	

Number	High	Medium	Low
D 4	Workforce Development		
R 1	Preparedness		
R 2	Emergency Response Operations		
R 3			Linking Public Health and Security Authorities
R 4		Medical Countermeasures and Personnel Deployment	
R 5	Risk Communication		
PoE	Points of Entry (PoE)		
CE			Chemical Events
RE			Radiation Emergencies

Table 5: Total costs by category

Category	Average JEE scores	Total (Taka)	Total (USD)
Prevent	3		
Detect	3		
Respond	2		
Other IHR-related hazards and points of entry	2		
Grand total			

Table 6: Cost breakdown by core component over years

Component	2020	2021	2022	2023	2024
Prevent					
Detect					
Respond					
PoE and other IHR-related hazards					
Grand total					

Cost drivers for the NAPHS

The main cost drivers per JEE thematic areas are as follows:

Core component	Cost drivers
Prevent	<ul style="list-style-type: none"> • Development of guidelines, SOPs • Training
Detect	<ul style="list-style-type: none"> • Development of guidelines, SOPs • Training
Respond	<ul style="list-style-type: none"> • Development of guidelines, SOPs • Training
Other IHR-related hazards and points of entry	<ul style="list-style-type: none"> • Development of guidelines, SOPs • Training

Source of Finance

The NAPHs is a country owned Plan. The Government of the People's Republic of Bangladesh (GoB) will provide funding for the national priority areas. This plan with costing will calculate the total funding required for implementing the Plan. The GoB will identify the areas where international assistance is required. Accordingly, development partners will be approached for technical assistance to implement the plan in full.

Table 7: Number of activities per year

	2020	2021	2022	2023	2024
Number of activities	393	2435	1212	608	531

Table 8: Risk appraisals and key challenges

Category	Risk/challenges	Way out
Management	Weak collaboration	Interministerial and intersectoral coordination committee, steering committee, task force
Finance	No operation plan for specific tasks of core capacity building Delay in getting funds Too much centralization	Specific operation plan Fund should be placed automatically for approved tasks Devolution of authority for decision
Human resource	Insufficient human resources for public health system and veterinary public health Few designated post for epidemiologist, human and veterinary public health disciplines No career planning for human and veterinary public health specialists	Human resources for public health system should be increases in proportion to human and animal population New posts should be created to meet the needs Progressive and dynamic career plan should be in operation
Social	Inequity Low level of social awareness	Enforcing Universal Health Coverage

Category	Risk/challenges	Way out
	about prevention of adverse public health events Lack of sense of ownership in public health measures	Strengthen risk communication Structured community participation
Governance	Inefficiency in resource utilization Weak political commitment	Good governance Strong political commitment
Technology	Not familiar/used to/oriented with digital technology	Training and refresher training
Disaster (natural/ man-made)	Unknown and unpredictable disaster	Adequate preparedness for instant response
Plan implementation	Weak commitment of the implementers Not aware about specific roles and responsibilities of the implementers	Motivation and awareness about legal and ethical bindings Monitoring and evaluation
Infrastructure	Weakness in supply and maintenance of infrastructure	Monitoring and evaluation

Table 9: National Health Security Coordination

Prime Minister's Office (Cabinet Division)
Inter-Ministerial Coordination Committee
Inter-Ministerial Steering Committee
Inter-Ministerial Technical Committee
Lead Ministry [Health and Family Welfare, Fisheries and Livestock, Environment Forest and Climate Change – by rotation]
Partner Ministries [Defence, Home Affairs, Food, Disaster Management and Relief, Labour and Employment, Planning, Finance, Industries, Science & Technology, Civil Aviation and Tourism, Shipping]
District inter-ministerial coordination committee

Upazilla inter-ministerial coordination committee

Table 10: Roles and responsibilities of Inter-Ministerial Structure

Government authority	Roles and responsibilities
Prime Minister's Office (Cabinet Division)	Policy approval
Inter-Ministerial Coordination Committee	Highest policy making structure
Inter-Ministerial Steering Committee	Highest structure for guiding policy implementation
Inter-Ministerial Technical Committee	Highest structure for technical input and decision
Lead Ministry by rotation	Implement programs by day-to-day activities in coordination with other two lead ministries, formation and maintenance of a secretariat
Partner Ministries	Provide policy input, implement respective part of the program, ensure representation through inter-ministerial committees at national and sub-national levels

Role of Lead and Co-lead for Implementation

Lead organization/agency will take lead to draft the documents and initiate and complete the actions. The lead dept/agency will provide the budget and organize the technical resources to perform the activity, monitor the progress of implementation through a 6-monthly reporting process. Co-lead will share the responsibility with the lead dept/agency to provide technical support.

Monitoring and Evaluation

Monitoring and evaluation will be done according to the indicators and targets. Yearly self evaluation is being done by National Focal Point (NFP) of International Health Regulations (IHR). Next Joint External Evaluation (JEE) will be conducted after launching of NAPHS. Other human and animal health assessment will be done by relevant agencies. Simulation exercise will also be a monitoring tool for assessing the capacities and system functionality. After action reviews (e.g., after a Public Health Emergency is over) will also be conducted.

Action plan

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 1	Technical area: National Legislation, Policy and Financing							
P 1.1	Outcome: <i>Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR 2005</i>							
P 1.1.1	Workshops, consultative meetings to draft new laws, legislations, other government instruments to implement IHR:Core group meeting to prepare draft and incorporating comments from Experts and reviewers	CDC, DGHS			√			
P 1.1.2	Development of Draft law	CDC, DGHS				√		
P 1.1.3	Finalization of the draft law	CDC, DGHS			√	√		
P 1.1.4	Approval of draft legislation by Ministry of Health & Family Welfare: High level inter-ministerial meeting at MoHFW	CDC, DGHS				√		
P 1.1.5	Vetting by Ministry of Law, Parliamentary Affairs Advocacy meeting with Members of Parliament, concerned ministry officials, experts	CDC, DGHS				√		
P 1.1.6	Printing of new laws, legislations, other government instruments	CDC, DGHS					√	
P 1.1.7	Dissemination of new laws, legislations, other government instruments	CDC, DGHS			√	√		
P 1.1.8	Create a multi-sectoral Core group to develop a draft monitoring tool and setting indicators	CDC, DGHS		√	√			
P 1.1.9	Expert group consultation to final a draft monitoring tool	CDC, DGHS			√			
P 1.1.10	TOT for developing trained monitors to use monitoring tool	CDC, DGHS			√			
P 1.1.11	Create monitoring teams	CDC, DGHS			√	√		
P 1.1.12	Printing monitoring tool	CDC, DGHS			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 1.1.13	Awareness and advocacy program of national public health legislations	CDC, DGHS				√	√	√
P 1.1.14	Development of draft cross border agreement, MOU with neighbouring countries	CDC, DGHS			√			
P 1.1.15	Review of draft made by technical group	CDC, DGHS			√			
P 1.1.16	Finalization of the draft	CDC, DGHS			√			
P 1.1.17	Approval of draft legislation by Ministry of Health & Family Welfare: High level inter-ministerial meeting at MoHFW	CDC, DGHS			√			
P 1.1.18	Vetting by Ministry of Law, Parliamentary Affairs Advocacy meeting with Members of Parliament, concerned ministry officials, experts	CDC, DGHS			√	√		
P 1.1.19	Printing of new laws, legislations, other government instruments	CDC, DGHS						
P 1.1.20	Dissemination of new laws, legislations, other government instruments	CDC, DGHS				√		
P 1.2	Outcome: <i>The state can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR 2005</i>							
P 1.2.1	Review of the existing rules and regulations as per IHR and GHSA and necessary corrections if required	IEDCR, DGHS						
P 1.2.2	Ensure provision of adequate and sustainable funding for IHR implementation at the national, intermediate and local levels in all relevant sectors Expert Group Consultation with policy makers, concerned ministry officials and experts for budget allocation needed for IHR implementation	CDC, DGHS			√	√		
P 1.2.3	Monitoring, enforcement and full implementation of existing laws and regulations: Half-yearly meeting of inter-	CDC, DGHS			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	ministerial committee on IHR implementation							
Notes	<p>Disease Control Division and Communicable Disease Control (CDC) Programme of Directorate General of Health Services (DGHS) is the National Focal Point (NFP) of International Health Regulation (IHR). Institute of Epidemiology, Disease Control and Research (IEDCR) is the national technical focal institute of IHR. Bangladesh has several important legal instruments, but still IHR specific legal instruments are to be framed. The CDC, DGHS will take lead to draft the legal instruments. The lead dept/agency will provide the budget and organize the technical resources to perform the activity. Core Committee will be formed to make the initial draft. Law firm/ Consultants may be hired to strengthen this activity. An Expert Committee will review the draft and provide comments and inputs. The draft legal documents will be shared with the Ministry of Health, Ministry of Law and Parliamentary Affairs, Cabinet Division for their approval. The final destination will be the JatiyaSangshad (National Parliament) where it will be adopted after necessary modification and editing. The legal documents will be printed and widely disseminated among the stakeholders. Orientation and awareness meetings and workshops will follow. Awareness and orientation of the existing legal instruments are also needed.</p> <p>Monitoring tools need to be developed to measure the progress. Adequate funding is an important prerequisite for implementing the activities for core capacity development for a robust public health system.</p>							
P 2	Technical area: IHR Coordination, Communication and Advocacy							
P 2.1	<i>Outcome: A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR (2005)</i>							
P 2.1.1	Formation and development of IHR Contact persons for all stakeholders	CDC, DGHS			√			
P 2.1.2	Regular meeting of different IHR Committee as per IHR guideline (National Coordination Committee, National Technical Committee, National Core Committee)	CDC, DGHS		√	√	√	√	√
P 2.1.3	Development of SOP for Communication & Reporting between Stakeholders of IHR	CDC, DGHS		√				
P 2.1.4	Endorsement of SOP by IHR Coordination Committee	CDC, DGHS		√	√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 2.1.5	Printing of SOP	CDC, DGHS			√			
P 2.1.6	Simulation Exercise for the relevant stakeholders	CDC, DGHS		√	√	√	√	√
P 2.1.7	Advocacy meeting with relevant stakeholders	CDC, DGHS			√			
P 2.1.8	Core group meeting to compile and update the directory	CDC, DGHS				√		
P 2.1.9	Printing of IHR focal persons directory	CDC, DGHS				√		
P 2.1.10	Develop SOP for multisectoral coordination mechanisms to address zoonoses and other existing or new health events at the human–animal interface: Core group meeting for SOP development at human–animal interface	CDC, DGHS			√			
P 2.1.11	Expert group meeting	CDC, DGHS				√		
P 2.1.12	Print of SOP	CDC, DGHS			√	√		
P 2.1.13	Dissemination of SOP	CDC, DGHS				√		
P 2.1.14	Core group meeting for SOP development on Food safety between stakeholders from all relevant sectors to fulfill the obligations under IHR including health, city corporation, INFOSAN, food safety authority, agriculture and fishery	CDC, DGHS			√			
P 2.1.15	Expert Group meeting	CDC, DGHS				√		
P 2.1.16	Print of SOP	CDC, DGHS				√		
P 2.1.17	Dissemination of SOP	CDC, DGHS				√		
P 2.1.18	Core Group meeting for development of SOP for Multisectoral coordination mechanisms for chemical safety including relevant sectors and entities such as: emergency services, public health authorities, secondary and tertiary medical facilities, ministries of industry, ministry of environment, BCIC, BCSIR, BSTI, trade and agriculture, relevant regulatory authorities, government chemist laboratory, mass media and industry.	CDC, DGHS			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 2.1.19	Expert group meeting	CDC, DGHS			√	√		
P 2.1.20	Print of SOP	CDC, DGHS				√		
P 2.1.21	Dissemination of SOP	CDC, DGHS				√		
P 2.1.22	Core Group meeting to develop SOP for coordination and communication mechanisms for radiation emergencies between all stakeholders from all relevant sectors, including national radiation safety authorities. SOP should include coordination for risk assessments, risk communications, planning, exercising, monitoring and including coordination during urgent radiological events and potential risks that may constitute a PHEIC, information-sharing, communication procedures, regular meetings, and coordinated response	CDC, DGHS			√			
P 2.1.23	Expert group meeting	CDC, DGHS			√	√		
P 2.1.24	Print of SOP	CDC, DGHS				√		
P 2.1.25	Dissemination of SOP	CDC, DGHS				√		
P 2.1.26	Core Group meeting for formation of evaluation tools	CDC, DGHS		√				
P 2.1.27	Technical Committee meeting for formation of evaluation tools	CDC, DGHS		√				
P 2.1.28	Functional exercise to evaluate NFP functions	CDC, DGHS			√			
P 2.1.29	Printing of evaluation report	CDC, DGHS			√			
Notes	Disease Control Division and Communicable Disease Control (CDC) Programme of Directorate General of Health Services (DGHS) is the National Focal Point (NFP) of International Health Regulation (IHR). Institute of Epidemiology, Disease Control and Research (IEDCR) is the national technical focal institute of IHR. A well-supported, adequately trained team of national focal point(s) (NFPs) for the IHR is required to ensure effective coordination, communication and partnerships to prevent, detect, assess and respond to any public health events. We are to ensure sustainable functioning of the IHR NFPs for IHR communications, coordination and partnership.							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	<p>IHR Committees at national, institutional, operational level need to be activated round-the-year through the Focal points. The Directory of the Focal persons with their emergency contact details will be printed. The Standard Operating Procedure (SOP) will be developed for detailed instructions for intra and inter agency emergency communication and command.</p> <p>Core Committee will make the initial draft, Expert Committee will review and provide feedback. Dissemination will be done to the wider audience of stakeholders. The developed documents will be printed for dissemination. The lead dept/agency will provide the budget and organize the technical resources to perform the activity.</p>							
P 3	Technical area: Antimicrobial Resistance							
P 3.1	Outcome: <i>Antimicrobial resistance detection</i>							
P 3.1.1	Meeting of National Action Plan (NAP)-ARC (2017-22) core working group & other experts (including relevant stakeholders) to update NAP-ARC & prepare draft document on AMR	CDC, DGHS		√	√		√	
P 3.1.2	Meeting of National Technical Committee (NTC) & other experts to update national action plan of AMR	CDC, DGHS		√	√		√	
P 3.1.3	Meeting of Steering committee & other experts to update national action plan of AMR	CDC, DGHS				√		√
P 3.1.4	Documentation & Printing NAP of AMR	CDC, DGHS				√		√
P 3.1.5	Distribution of updated NAP of AMR	CDC, DGHS					√	√
P 3.1.6	Dissemination of NAP for awareness on implementation of the plan and indicators	CDC, DGHS				√	√	
P 3.2	Outcome: <i>Surveillance of infections caused by antimicrobial resistant pathogens</i>							
P 3.2.1	Review & update AMR surveillance protocol and SOP (Human Health): Meeting of NTC & other experts to review & update AMR surveillance protocol and SOP (Human Health)	IEDCR, DGHS			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 3.2.2	Meeting of working group to review & update AMR surveillance protocol and SOP (Human Health)	Lead: IEDCR, DGHS Co-lead: CDC, DGHS			√			
P 3.2.3	Printing	IEDCR, DGHS			√			
P 3.2.4	Develop AMR surveillance protocol and SOP (Animal Health): TWG group for draft doc preparation	Lead: DLS (CDIL) Co-lead: BLRI		√	√			
P 3.2.5	Expert group consultative (multistakeholders) meeting including TWG members to comment on draft	Lead: DLS (CDIL) Co-lead: BLRI			√			
P 3.2.6	Dissemination meeting :(Multistakeholders)	Lead: DLS (CDIL) Co-lead: BLRI			√			
P 3.2.7	Printing of the developed document	Lead: DLS (CDIL) Co-lead: BLRI			√			
P 3.2.8	Develop AMR surveillance protocol and SOP (Wildlife Health & Environment): Hire national consultant for draft doc preparation	DoF (MoFL)D			√			
P 3.2.9	TWG group for finalizing draft with NC	FD			√			
P 3.2.10	Expert group consultative (multi-stakeholders) meeting including TWG members for validation	FD			√			
P 3.2.11	Dissemination meeting :(Multistakeholders)	FD				√		
P 3.2.12	Printing of the developed document	FD				√		
P 3.2.13	TOT on developed documents	FD				√		
P 3.2.14	Training with AMR surveillance protocol and SOP	FD					√	

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 3.2.15	Develop AMR surveillance protocol and SOP: Hire national consultant for draft doc preparation	Lead: FD Co-lead: BFRI			√			
P 3.2.16	TWG group for finalizing draft doc with NC	Lead: DOF Co-lead: BFRI			√			
P 3.2.17	Expert group consultative (multi-stakeholders) meeting including TWG members for validation	Lead: DOF Co-lead: BFRI			√			
P 3.2.18	Dissemination meeting :(Multistakeholders)	Lead: DOF Co-lead: BFRI				√		
P 3.2.19	Printing of surveillance protocol and SOP	Lead: DOF Co-lead: BFRI				√		
P 3.2.20	TOT on developed documents of surveillance protocol and DOP	Lead: DOF Co-lead: BFRI					√	
P 3.2.21	Training on surveillance protocol and SOP	Lead: DOF Co-lead: BFRI					√	√
P 3.2.22	Establish laboratory capacity for AMR detection (Human health): Multi-stakeholder core committee to identify gap & need assessment	Lead: HSM Co-lead: IEDCR			√			
P 3.2.23	Sentinel site Laboratory assessment and find out the gaps	Lead: IEDCR Co-lead: DGHS			√			
P 3.2.24	Draft SOP development on Sample collection: TWG multi-stakeholder meeting	Lead: IEDCR Co-lead: DGHS			√			
P 3.2.25	Expert multi-stakeholder meeting to finalize the draft	Lead: IEDCR Co-lead: DGHS			√			
P 3.2.26	Printing	IEDCR				√		
P 3.2.27	TOT on developed documents	Lead: IEDCR Co-lead: HSM				√		
P 3.2.28	Establish laboratory capacity for AMR detection (Animal	Lead: DLS			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	health): Multi-stakeholder core committee to identify gap & need assessment	(CDIL) Co-lead: BLRI						
P 3.2.29	TWG multi-stakeholder meeting for Draft SOP development on Sample collection	Lead: DLS (CDIL) Co-lead: BLRI			√			
P 3.2.30	Field lab Assessment and find out the gaps	Lead: DLS (CDIL) Co-lead: FDILs			√	√	√	√
P 3.2.31	Draft SOP development on Sample collection: Expert Consultation Multistakeholder meeting	Lead: DLS (CDIL) Co-lead: BLRI			√			
P 3.2.32	Printing of the developed documents	Lead: DLS (CDIL) Co-lead: BLRI			√			
P 3.2.33	TOT on developed documents	Lead: DLS (CDIL) Co-lead: BLRI				√		
P 3.2.34	Establish laboratory capacity for AMR detection (Fisheries): Hiring 1 consultant for draft preparation	Lead: DoF Co-lead: BFRI			√			
P 3.2.35	Establishment of Laboratory facilities for AMR detection: developing 1 Reference Laboratory	Lead: DoF Co-lead: BFRI			√	√		
P 3.2.36	Multi-stakeholder core committee to identify gap & need assessment	Lead: DoF Co-lead: BFRI			√			
P 3.2.37	TWG multi-stakeholder meeting to Draft SOP development on Sample collection, Transport and AMR detection	Lead: DoF Co-lead: BFRI			√			
P 3.2.38	Draft SOP development on Sample collection, Transport and AMR detection : Expert multi-stakeholder meeting	Lead: DoF Co-lead: BFRI			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 3.2.39	Printing of developed documents	Lead: DoF Co-lead: BFRI			√			
P 3.2.40	TOT on developed documents	DoF				√		
P 3.2.41	Quality management system for AMR Labs (Human): Develop draft SOP (Human) by TWG meeting	Lead: HSM Co-lead: IEDCR				√		
P 3.2.42	Finalize draft SOP (Human) by Expert group consultation	Lead: HSM Co-lead: IEDCR				√		
P 3.2.43	Printing of the developed documents	HSM					√	
P 3.2.44	ToT on developed documents	Lead: HSM Co-lead: IEDCR			√			
P 3.2.45	Accreditation for AMR Reference Labs (Human): Appoint a Consultant	Lead: HSM Co-lead: IEDCR			√			
P 3.2.46	Quality management system accreditation for AMR Labs (Animal): Develop draft SOP (Animal): TWG meeting	Lead: DLS Co-lead: BLRI			√			
P 3.2.47	Finalize draft SOP (Animal) by Expert group consultation	Lead: DLS Co-lead: BLRI			√			
P 3.2.48	Printing of the developed document	Lead: DLS Co-lead: BLRI				√		
P 3.2.49	TOT on developed documents	Lead: DLS Co-lead: BLRI				√		
P 3.2.50	Quality management system accreditation for AMR Labs (Fisheries): draft Development of SOP by TWG meeting	Lead: DoF Co-lead: BFRI			√			
P 3.2.51	Finalize the draft SOP by Expert group consultation	Lead: DoF Co-lead: BFRI			√			
P 3.2.52	Printing of the developed document	Lead: DoF				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		Co-lead: BFRI						
P 3.2	TOT on developed documents	Lead: DoF Co-lead: BFRI				√		
P 3.3	<i>Outcome: Health Care Associated infection prevention and control programme</i>							
P 3.3.1	Development of HCAI guideline (including waste management): TWG meeting for draft guideline	Lead-CDC Co-lead-Director, Hospital		√				
P 3.3.3	Expert group meeting to finalize the draft guideline	Lead-CDC Co-lead-Director, Hospital		√				
P 3.3.4	Dissemination meeting to present the guideline	Lead-CDC Co-lead-Director, Hospital			√			
P 3.3.6	Printing of the developed document	Lead-CDC Co-lead-Director, Hospital			√			
P 3.3.8	TOT on developed documents	Lead-CDC Co-lead-Director, Hospital			√	√		
P 3.3.9	Initiate activities for Promoting and strengthening bio-safety and bio-security principles and practices and containment measures (IPC used in health) in animal sector	Lead: DLS Co-lead: BLRI			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	(including waste management): TWG meeting for draft guideline							
P 3.3.10	Expert group meeting to finalize the draft guideline	Lead: DLS Co-lead: BLRI			√			
P 3.3.11	Dissemination meeting to present the guideline	Lead: DLS Co-lead: BLRI			√			
P 3.3.12	Printing of the developed document	Lead: DLS Co-lead: BLRI			√			
P 3.3.13	TOT on developed documents	Lead: DLS Co-lead: BLRI				√		
P 3.3.14	Initiate activities for Promoting and strengthening bio-safety and bio-security principles and practices and containment measures (IPC used in health) in dish sector (including waste management): TWG meeting for draft guideline	Lead: DoF Co-lead: BFRI			√			
P 3.3.15	Expert group meeting to finalize the draft guideline	Lead: DoF Co-lead: BFRI			√			
P 3.3.16	Dissemination meeting to present the guideline	Lead: DoF Co-lead: BFRI			√			
P 3.3.17	Printing of the developed document	Lead: DoF Co-lead: BFRI			√			
P 3.3.18	TOT on developed documents	Lead: DoF Co-lead: BFRI				√		
P 3.3.19	Fish disease prevention and Control	Lead: DoF Co-lead: BFRI		√	√	√	√	√
P 3.3.20	Establish HCAI surveillance system in public health Development of surveillance protocol: TWG meeting for	Lead: DGHS Co-lead: IEDCR		√	√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	drafting the guideline							
P 3.3.21	Expert group meeting to finalize the draft protocol	Lead: DGHS Co-lead: IEDCR		√	√			
P 3.3.22	Dissemination meeting to present the protocol	Lead: DGHS Co-lead: IEDCR				√		
P 3.3.23	Printing the developed document	Lead: DGHS Co-lead: IEDCR						
P 3.3.24	Piloting in 5 HCAI surveillance sites Formation of core group to select 5 HCAI surveillance sites according to the protocol	Lead: DGHS Co-lead: IEDCR				√		
P 3.3.25	Proposed Surveillance site assessment by designated group	IEDCR				√	√	
P 3.3.26	National Antibiotic Policy: Situation analysis and identify challenges in respective departments (Human health, animal health and fisheries): Formation of core group for situation analysis and identify challenges	Lead-MoHFW Co-lead-MoFI, MoA, MoFE			√			
P 3.3.27	Recruitment of a National Consultant	Lead-MoHFW Co-lead-MoFI, MoA, MoFE			√			
P 3.3.28	TWG meeting to draft policy document	Lead-MoHFW Co-lead-MoFI, MoA, MoFE			√			
P 3.3.29	Expert group meeting to finalize the draft policy document	Lead-MoHFW Co-lead-MoFI, MoA, MoFE			√			
P 3.3.30	Dissemination meeting to present the policy document	Lead-MoHFW Co-lead-MoFI, MoA, MoFE				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 3.3.31	Advocacy for the document	Lead-MoHFW Colead-MoFI, MoA, MoFE				√		
P 3.3.32	Printing of the document	Lead-MoHFW Colead-MoFI, MoA, MoFE				√		
P 3.3.33	Development of National Treatment Guideline on antibiotic use in animal health: TWG meeting to draft the guideline	Lead: DLS Co-lead: DGDA/BLRI			√			
P 3.3.34	Expert group meeting to finalize the guideline	Lead: DLS Co-lead: DGDA/BLRI			√			
P 3.3.35	Dissemination/Orientation meeting to present guideline	Lead: DLS Co-lead: DGDA/BLRI				√		
P 3.3.36	Printing of the guideline	Lead: DLS Co-lead: DGDA/BLRI				√		
P 3.3.37	Development of National Treatment Guideline on antibiotic use in fisheries: TWG meeting to draft guideline	Lead: DLS Co-lead: DGDA/BLRI			√			
P 3.3.38	Expert group meeting for finalize guideline	Lead: DLS Co-lead: DGDA/BLRI			√			
P 3.3.39	Orientation meeting for the guideline	Lead: DLS Co-lead: DGDA/BLRI				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 3.3.40	Printing of the guideline	Lead: DLS Co-lead: DGDA/BLRI				√		
P 3.3.41	Review & update of all National Drug Acts, rules, ordinance and policies: Consultative meeting of core group	Lead-Law section, DGHS Co-lead-DGDA			√			
P 3.3.42	Development of surveillance for AM consumption, Monitoring and Usage: TWG to draft	Lead: IEDCR CO-lead: DGDA						
P 3.3.43	Expert Group to review and fianlize	Lead: IEDCR CO-lead: DGDA						
P 3.3.44	Printing	IEDCR						
P 3.3.45	Dissemination	Lead: IEDCR CO-lead: DGDA						
P 3.3.46	Pharmacovigilance: Review and indentify gaps in existing documents: Consultative meeting of Expert group	DGDA			√	√		
P 3.3.47	Develop policy regarding aquachemical and aquadrugs: Hire 1 national consultant	Lead-DoF Colead-DGDA, BFRI			√			
P 3.3.48	Develop draft policy for fisheries on aquachemical and aquadrugs: TWG meeting to draft	DoF			√	√		
P 3.3.49	Expert Group meeting to review and finalize the draft	DoF				√		
P 3.3.50	Dissemination meeting for the policy	DoF			√	√		
P 3.3.51	Printing of the policy	DoF				√		
P 3.4	Outcome: Antimicrobial stewardship activities							
P 3.4.1	Advocacy meeting for antimicrobial stewardship	Lead: MOHFW Co-lead: Ministry of				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		fisheries and livestock, Ministry of Law, Justice and Parliamentary affairs, DGHS, DGDA, DGDLS, DG Fisheries						
P 3.4.2	Legislative approval	Lead: MoHFW Co-lead: Ministry of Law				√		
P 3.4.3	Printing	MoHFW				√		
P 3.4.4	Development of National Treatment Guideline on antibiotics, according to National Antibiotic Policy (with review of National Drug Policy 2016) of animal health: TWG meeting for draft guideline	Lead: DLS Co-lead: BLRI		√				
P 3.4.5	Expert group meeting for draft guideline	Lead: DLS Co-lead: BLRI		√				
P 3.4.6	Orientation meeting to finalize the draft guideline	Lead: DLS Co-lead: BLRI			√			
P 3.4.7	Printing	Lead: DLS Co-lead: BLRI			√			
P 3.4.8	Review & update of all National Drug act, rules, ordinance and policies: Consultative meeting of Core Group	Lead: MOHFW, Co-lead: Ministry of fisheries and livestock, Ministry of Law,		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		Justice and Parliamentary affairs, DGHS, DGDA, DGDLS, DG Fisheries						
P 3.4.9	Pharmacovigilance: Review and indentify gaps in existing documents: Consultative meeting of Expert Group	Lead: DGDA Co-lead: DGHS		√				
P 3.4.10	Develop policy regarding aquachemical and aquadrugs: Hire national consultant	Lead: DoF Co-lead: DGDA and BFRI		√				
P 3.4.11	Strategic document dissemination:	Lead: DoF Co-lead: DGDA and BFRI			√			
P 3.4.12	Printing	DoF #			√			
P 3.4.13	Antimicrobial Use (AMU)-Animal Health Sector, Human Health Sector: development of document – TWG to draft			√				
P 3.4.14	Expert Group to review				√			
P 3.4.15	Dissemination with high level representatives of stakeholders for review and finalization				√			
P 3.4.16	World Antimicrobial Awareness week observation			√	√	√	√	√
Notes	<p>Combating antimicrobial resistance is urgent to prevent next pandemic by resistant microorganisms. Standard Operating Procedure for detection and laboratory procedure across all health in One Health Approach. Surveillance of resistant microbes and Infection Prevention and Control (IPC) at healthcare facilities will be ensured by developing guidelines, SOPs for human and animal health.</p> <p>As with other Technical Areas, the documents will be developed initially by Core Group/ Technical Working Groups, followed by review of Expert Group, disseminated to a wide audience of stakeholders. Awareness and training will be targeted to community people and implementers at national and field level.</p> <p>A close collaboration in One Health Approach is the prerequisite for effectively contain, prevent, detect and response to</p>							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	AMR. Almost all the activities require involvement of multisectoral partners. The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.							
P 4	Technical area: Zoonotic Disease							
P 4.1	Outcome: <i>Surveillance systems are in place for priority zoonotic diseases/pathogens</i>							
P 4.1.1	Operationalize a One Health framework for animal health and human health surveillance and response system for routine and emergency zoonotic events and strengthen joint prevention and control capacity for zoonotic diseases, both within and outside of the government sector including other agencies (e.g. wildlife) as needed, to act at community, subnational, national and regional levels: Hire national consultant for the operationalization	DGHS			√			
P 4.1.2	Draft One Health surveillance strategy and framework	DGHS			√			
P 4.1.3	Expert group consultation on the draft and finalization	DGHS			√			
P 4.1.4	Strategic document dissemination	DGHS			√			
P 4.1.5	Printing of the document	DGHS				√		
P 4.1.6	Training on SOP for personnel	DGHS				√	√	√
P 4.1.7	Simulation Exercise on SOP	DGHS				√	√	√
P 4.1.8	Develop a disease specific contingency plan, SOP, tools and mechanism (MoU/LOA, committees with TOR etc.) for data generation and sharing between main stakeholders and partners: TWG for developing draft contingency plan & SOP	DGHS			√			
P 4.1.9	Expert consultation on draft contingency plan & SOP	DGHS			√			
P 4.1.10	High level dissemination for review and approval	DGHS			√			
P 4.1.11	Orientation meeting on contingency plan, SOP	DGHS			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 4.1.12	TWG for developing tools and mechanism for data generation and sharing between stakeholders and partners	DGHS			√			
P 4.1.13	Expert group consultation on the draft document	DGHS			√			
P 4.1.14	Hiring IT expert for web based tool development	DGHS			√			
P 4.1.15	Training on developed web based tool	DGHS			√	√	√	√
P.4.2	Outcome: <i>Veterinary or animal health workforce</i>							
P 4.2.1	Develop One Health IEC materials on priority zoonotic diseases and improve awareness for working with a One Health approach in both human and animal sectors: Develop draft IEC plan and IEC material focusing priority zoonotic diseases	Lead: DGHS Co-lead: DLS			√			
P 4.2.2	Expert group consultation (TWG Included) on the draft for finalization	Lead: DGHS Co-lead: DLS			√			
P 4.2.3	Dissemination of IEC plan and IEC material	Lead: DGHS Co-lead: DLS			√			
P 4.2.4	Community advocacy and awareness based on IEC plan and tools	Lead: DGHS Co-lead: DLS					√	√
P 4.2.5	Joint training of veterinary paraprofessionals (Lab technician, slaughter house Inspector, Sub assistant Livestock officer etc.) and human health professional (HI, AHI, HA, SI, MT etc.) , Forestry Dept and DoF (lab technician) on developed IEC materials: Joint Training of human, animal and forest professionals	Lead: DGHS Co-lead: DLS				√	√	√
P 4.3	Outcome: <i>Mechanisms for responding to infectious and potential zoonotic diseases are established and functional</i>							
P 4.3.1	Interministerial coordination and collaboration meeting	MOHFW/MOF L/MOEF (by rotation)			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 4.3.2	Inter-directorate coordination and collaboration meeting	MOHFW/MOF L/MOEF (by rotation)			√	√	√	√
P 4.3.3	Joint and collaborative observation of zoonotic disease specific days/weeks at all levels: Group formation	MOHFW/MOF L/MOEF (by rotation)		√	√	√	√	√
P 4.3.4	Celebration of World Rabies Day (28 September)	MOHFW/MOF L/MOEF (by rotation)		√	√	√	√	√
P 4.3.4	Joint risk assessment between human, animal, wildlife and fisheries sectors	DGHS			√			
P 4.3.5	TWG Meeting (human/animal/wildlife etc.) to verify outbreak/ field investigation	DGHS			√	√	√	√
P 4.3.6	Manual for Joint field investigation/ outbreak investigation	DGHS			√	√	√	√
P 4.3.7	Dissemination of field investigation report	DGHS			√	√	√	√
P 4.3.8	Joint working group to develop lab surveillance in One Health approach: Multistakeholders Core working group (Human, Animal, Environment)	DGHS			√			
P 4.3.9	Need assessment tool development for One Health laboratory: TWG meeting	DGHS			√			
P 4.3.10	Pretesting of tool, Field visit: TWG meeting	DGHS			√			
P 4.3.11	Develop work plan for One Health laboratory surveillance: Core Group meeting for drafting	DGHS			√	√		
P 4.3.12	TWG meeting for finalization	DGHS			√			
P 4.3.13	High level meeting for dissemination	DGHS						
P 4.3.14	Printing of the document	DGHS						
P 4.3.15	Strengthening 4 way linking network: Consultative	DGHS				√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	workshop							
P 4.3.16	TWG for draft SOP of Joint Outbreak (OB) investigation	MOHFW,MOFL ,MOEF (by rotation)				√		
P 4.3.17	Expert group (TWG included) consultation on SOP/document of Joint OB investigation	MOHFW,MOFL ,MOEF (by rotation)				√		√
P 4.3.18	Joint outbreak investigation for priority/emergency zoonotic diseases/events: Approximately 50 outbreak investigation/year	IEDCR				√	√	√
P 4.3.19	Sustain One Health secretariat through collaborative funding from different sectors like as MoHFW: Workshop for resource planning meeting for advocating policy makers representing different sectors and development partners for fund mobilisation necessary for sustaining/ strengthening of the program through One Health Approach	MOHFW,MOFL ,MOEF (by rotation)			√			
P 4.3.20	Policy dialogue	MOHFW,MOFL ,MOEF (by rotation)			√			
Notes	Capacity for zoonotic diseases prevention, detection, response is important for developing response system for public health emergency. Most of the emerging infectious diseases are of zoonotic origin. Development of Surveillance system of zoonotic diseases, training on SOPs, development of contingency plan, joint risk assessment, joint outbreak response team of human and animal health sector, One Health laboratory will be done in this plan period. For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Documents will be printed, used for creating awareness of the stakeholders. A policy dialogue will be organized.							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.							
P 5	Technical area: Food safety							
P 5.1	Outcome: <i>Mechanisms for multisectoral collaboration are established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases and residual effects/contamination</i>							
P 5.1.1	Strengthening of Multisectoral coordinating platform (National Coordination committee/council; regional coordination committee) to look after enforcement of existing regulations regarding food safety issues: Stakeholder consultation meeting and formation of a Multisectoral coordinating platform	Bangladesh Food Safety Authority (BFSA)			√	√	√	√
P 5.1.2	Review the FBIS (Food borne Illness Surveillance) platform by workshop	IEDCR			√			
P 5.1.3	Initial review and updating food standards in Bangladesh	BFSA			√	√		√
P 5.1.4	Reviews and updating of the standards (BSTI, NFSL, DGHS (CDC, IEDCR), DLS, DoF, BAEC, DoAg, DoCooperative); currently BFSA started for harmonization: Core Committee Consultative meeting	Lead: BFSA Co-lead: Dept of Co-operative, DAE, BAEC						√
P 5.1.5	Strengthening of the laboratory (existing and new) capacity for diagnosing food (including milk) safety risks including food borne pathogens, pesticides, chemicals and other residues: Assessment of the existing capacity and recommendation for the strengthening by Core Committee	Lead: BSTI Co-lead: BCSIR, IPH lab, BAEC lab, DoF lab, DLS lab			√			
P 5.1.6	Procurement of required laboratory equipment and accessories (as per recommendation of the concerned	BSTI/ IPH/ BSFA/ DAE/			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	committee)	DLS/ DoF/ Other concerned stakes						
P 5.1.7	Skill development of laboratory professionals: Training of the related personnel for food safety diagnosis and analysis	IPH			√	√	√	√
P 5.1.8	Development of guideline / SOP for the multisectoral FBI surveillance to detect and respond to food borne emergencies and outbreaks: TWG consultative meeting	Lead: IEDCR Co-lead: icddr			√	√		
P 5.1.9	Expert group consultative meeting to review and finalize	IEDCR				√		
P 5.1.10	High Level / Dissemination consultative meeting	IEDCR					√	
P 5.1.11	Printing of the guideline/ SOP	IEDCR					√	
P 5.1.12	TOT of Integrated-FBIS	IEDCR					√	
P 5.1.13	Training on FBIS/ Food Safety issues	IEDCR					√	
P 5.1.14	Strengthening enforcement of existing quarantine acts, rules and other inspection activities at POE (Land, Air, Sea ports and other points as needed): Review and updating of existing quarantine acts, rules as needed through expert consultation: Expert consultation meeting	Lead: IEDCR Co-lead: Customs / BAERA/ DLS/ DoF/ DAE						
P 5.1.15	Improve capacity of food safety control at POE to strengthen implementation of IHR: Training of quarantine concerned professionals	Lead: IEDCR Co-lead: Customs / BAEC/ DLS/ DoF/ DAE				√		
P 5.1.16	Food safety promotion through various media channels (Theatre/mass media/printed and electronic media/etc): Develop Video documentary of 30-60s. Awareness	Lead: BFSA Co-lead: DFP (Mol)			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	play/campaign for food Consumers/Mass media involvement - 30 to 60sec awareness message on 10 priority issues #							
P 5.1.17	TWG group meeting to prepare video: Workshop	Lead: BFSA Co-lead: DFP (Mol)			√	√		
P 5.1.18	Expert group meeting to finalize video	Lead: BFSA Co-lead: DFP (Mol)			√			
P 5.1.19	Piloting of videos, Field visit	Lead: BFSA Co-lead: DFP (Mol)			√			
P 5.1.20	Awareness play/campaign for food Consumers/Mass media involvement - 30 to 60sec awareness message on 10 priority issues 15 days quarterly in each year for 5 years	Lead: BFSA Co-lead: DFP (Mol)				√	√	√
P 5.1.21	Food safety promotion through concerned ministries/agencies webpage/media channels (play/mass media/ printed media/ etc): 5-10 mins food safety awareness video material for online on food safety issues for stakeholders website round the year	BFSA				√		√
P 5.1.22	Food safety promotion through printed media channels BCC material online on food safety issues for stakeholders, in top circulated 10 printed media to publish once every month on top ten priority issues	BFSA			√	√	√	√
P 5.1.23	National food safety week to celebrate existing FSD on 2nd Feb: Food Safety awareness week. To improve awareness about the food safety in the national level. Inaugurated by	BFSA			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	the President or the Prime Minister or the concerned minister. To celebrate week-long							
P 5.1.24	Development of SOP for strengthening multisectoral operation: TWG consultative meeting	IEDCR			√			
P 5.1.25	Expert Group consultative meeting to review and finalize SOP	IEDCR			√			√
P 5.1.26	Printing of SOP	IEDCR			√			
P 5.1.27	Orientation of the multisectoral operation (relevant stakeholders) for surveillance	IEDCR			√			√
P 5.1.28	Interdisciplinary survey on determining food safety risk in Bangladesh. (Risk Assessment): Develop Survey tool	Lead- BFSA Colead-IEDCR			√	√	√	√
P 5.1.29	Interdisciplinary survey: Core Group formation	Lead- BFSA Colead-IEDCR			√			√
P 5.1.30	Integration of food safety network and create a real-time database to facilitate detecting food-borne emergency and outbreaks: Setup IT Section, Human Resource Placement	Lead- BFSA Colead-IEDCR			√			
P 5.1.31	Development of Integrated software, validation, trial and launching-development: Hiring of IT consultancy, development, trial, launch of integrated software	BFSA						
P 5.1.32	Annual data sharing workshop with food safety stakeholders	BFSA			√	√		
P 5.1.33	Integrated software annual/ modification and support: Annual maintenance and support fees Every 2-Year	BFSA				√		
Notes	Strengthening of Multisectoral coordinating platform, reviewing Food borne Illness Surveillance (FBIS), guideline for FBIS, updating food standards, harmonizing the standards of BSTI, NFSL, DGHS (CDC, IEDCR), DLS, Dept of Fisheries, DaE, BAERA, BAEC; strengthening food safety laboratory, improving food safety capacity at Points of entry, food safety promotion through mass media, awareness campaign through mass media, development of SOP for multisectoral							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	<p>collaboration, software development for detecting food-borne emergency and outbreaks will be conducted in the plan period.</p> <p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
P 6	Technical area: Biosafety and biosecurity							
P.6.1	Outcome: <i>Whole-of-Government Biosafety and Biosecurity system is in place for human, animal and agriculture facilities</i>							
P 6.1.1	Review and update of related existing biosafety and biosecurity laws/legislation(s) (1) Form a National Steering committee (NSC) including multi-sectoral stakeholders, to approve final document recommended by National Technical Committee (NTC)	Lead: Law section, MoHFW (Health Services) Co-lead: AFD, Navy		√				
P 6.1.2	(2) NTC including multi-sectoral stakeholders to recommend final draft to the relevant authority for final approval	Lead: Admin, MoHFW (HS) Co-lead: AFD, Navy		√				
P 6.1.3	(3) Formation of Joint Technical Committee (JTC) of 11 member (local)	Hospital and Clinics, DGHS		√				
P 6.1.4	(4) Form a Technical Working Group (TWG) of 20 members (15 local and 5 nonlocal), including all stakeholders	Lead: MoHFW Co-lead: AFD, Navy		√				
P 6.1.5	(5) Make a contract with a law firm to review relevant	Lead: MoHFW			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	existing laws/legislations and make a draft to develop a unified law/legislation as well as to present the proposal to the TWG, Expert Group for consultation	Co-lead: AFD, Navy						
P 6.1.6	(6) Review and update the 1st draft (developed by the law firm agency) by the technical working group along with law firm members	Lead: MoHFW Co-lead: AFD, Navy			√			
P 6.1.7	(7) Consultative workshop to finalize the updated law/legislation with 50 persons, including relevant experts and technical working group for 1 day	Lead: MoHFW Co-lead: AFD, Navy			√			
P 6.1.8	(8) Finalize (draft) the unified law/legislation by the contracting law agency, based on consultative workshop recommendations	Lead: MoHFW Co-lead: AFD, Navy			√			
P 6.1.9	(9) A one day consultative meeting of the NTC for recommendation of the final draft.	Lead: MoHFW Co-lead: AFD, Navy			√			
P 6.1.10	(10) A one day consultative meeting of the National Steering Committee for approval to submit approved document to convert into law	IEDCR			√			
P 6.1.11	Hand over the approved final document to respective ministries to draft as law	IEDCR						
P 6.1.12	Dissemination workshop will be organized of the drafted law/legislation to the nationwide relevant stakeholders	IEDCR			√			
P 6.1.13	Conduct need assessment for BSL 3 for human health sector (1) Form a Technical Working Group (TWG) of 10 members with expert for need assessment	BLRI		√				
P 6.1.14	(2) A workshop with the TWG to assess the necessity of	BLRI			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	BSL-3 at national level							
P 6.1.15	Develop a proposal for establishment of BSL-3 based on the need assessment by the TWG	IEDCR		√				
P 6.1.16	Conduct need assessment for ABSL 3 for animal health sector: TWG workshop	BLRI		√				
P 6.1.17	Develop a proposal for establishment of ABSL-3 based on the need assessment by the TWG	BLRI		√				
P 6.1.18	(3) Develop a proposal for establishment of BSL-3 based on the need assessment by the TWG	BLRI		√	√			
P 6.1.19	Conduct need assessment for BSL 3 for fish health sector (1) Form a Technical Working Group (TWG) of 10 members with expert for need assessment	BFRI		√				
P 6.1.20	(2) A workshop with the TWG to assess the necessity of BSL-3 at national level	BFRI			√			
P 6.1.21	Develop a proposal for establishment of BSL-3 based on the need assessment by the TWG	BFRI		√				
P 6.1.22	Establishment of BSL-3 for human sector (1) Make contract with an international consultation agency for site selection and design BSL-3 Lab for human health	IEDCR				√		
P 6.1.23	(2) Make contract with an international consultation agency for site selection and design ABSL-3 Lab for animal sector	BLRI			√			
P 6.1.24	(2) Make contract with an international consultation agency for site selection and design ABSL-3 Lab for animal sector	BLRI			√			
P 6.1.25	(3) Verification and finalization of BSL-3 Lab for fish sector	BFRI		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	lab design by contracted international consultation agency							
P 6.1.26	(4) Verification and finalization of ABSL-3 Lab for animal sector lab design by contracted international consultation agency	BLRI			√			
P 6.1.27	(4) Verification and finalization of ABSL-3 Lab for fish sector lab design by contracted international consultation agency	BFRI			√			
P 6.1.28	(5) Construction of BSL-3/ABSL-3 Lab for human, animal and fish sector by respective stakeholder	IEDCR/ BLRI				√		
P 6.1.29	(6) Validation and certification of of BSL-3/ABSL-3 Lab for both human, animal and fish sector by international consultation agency	IEDCR/ BLRI (as appropriate)			√	√	√	√
P 6.1.30	(7) Finalize (draft) the unified law/legislation by the contracting law agency, based on consultative workshop recommendations	IEDCR				√		
P 6.1.31	(8) A one day consultative meeting of the NTC for recommendation of the final draft.	IEDCR				√		
P 6.1.32	(9) A one day consultative meeting of the National Steering Committee for approval to submit approved document to convert into law	IEDCR				√		
P 6.1.33	Dissemination workshop of drafted legislation(s)	IEDCR				√		
P 6.1.34	Conduct need assessment for BSL 3 for human health sector: TWG meeting	IEDCR		√				
P 6.1.35	Establishment of BSL-3/ABSL-3 Lab for both human and animal sector: Make contract with an international consultation agency for site selection and design BSL-3 Lab for human health: Contractual agreement	IEDCR		√				
P 6.1.36	Make contract with an international consultation agency	BLRI		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	for site selection and design ABSL-3 Lab for animal sector							
P 6.1.37	Verification and finalization of BSL-3 Lab for human sector lab design by contracted international consultation agency: Contractual agreement	IEDCR			√			
P 6.1.38	Verification and finalization of ABSL-3 Lab for animal sector lab design by contracted international consultation agency: Contractual agreement	BLRI			√			
P 6.1.39	Construction of BSL-3 Lab for human sector	IEDCR					√	
P 6.1.40	Construction of ABSL-3 Lab for animal sector	BLRI					√	
P 6.1.41	Validation and certification of BSL-3 Lab for human sector by international consultation agency	IEDCR			√	√	√	√
P 6.1.42	Validation and certification of ABSL-3 Lab for animal sector by international consultation agency	BLRI			√	√	√	√
P 6.1.43	Allocate adequate budget by concerned authority for maintenance and sustained performance of BSL-3 for human sector: advocacy meeting with policy makers regarding importance of BSL 3 with a view to ensure adequate funds for sustainability	IEDCR		√	√	√	√	√
P 6.1.44	Allocate adequate budget by concerned authority for maintenance and sustained performance of ABSL-3 for animal sector: advocacy meeting with policy makers regarding importance of ABSL 3 with a view to ensure adequate funds for sustainability	BLRI		√	√	√	√	√
P 6.1.45	Training of human resource for smooth operation of BSL-3	IEDCR			√	√	√	√
P 6.1.46	Training of human resource for smooth operation of ABSL-3	BLRI			√	√	√	√
P 6.1.47	Prepare and submit an estimated budget for sustainable	IEDCR			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	BSL3 to relevant authority: meeting of core group							
P 6.1.48	Prepare and submit an estimated budget for sustainable ABSL3 to relevant authority: meeting of core group	BLRI			√			
P.6.2	Outcome: <i>Biosafety and biosecurity training and practices</i>							
P 6.2.1	To develop a pool of trained manpower at different level (Human Health): draft preparation by technical working group (TWG)	IEDCR		√	√	√	√	√
P 6.2.3	Organize a consultative workshop with relevant experts and members of TWG	IEDCR		√				
P 6.2.4	Workshop for finalization of the module by TWG	IEDCR			√			
P 6.2.5	To develop a pool of trained manpower at different level (Animal Health): Develop a draft of training module by TWG by a workshop	IEDCR			√	√	√	√
P 6.2.6	Consultative workshop with relevant experts and members of TWG	IEDCR			√	√	√	√
P 6.2.7	Workshop for finalization of the module by TWG	IEDCR			√	√	√	√
P 6.2.8	Training-of-Trainers on developed training module for Human Health	IEDCR			√	√	√	√
P 6.2.9	Training-of-Trainers on developed training module for Animal Health	BLRI			√	√	√	√
P 6.2.10	Training by the Trainers on Biosafety and biosecurity according to developed module (Animal Health) at national level	BLRI			√	√	√	√
P 6.2.11	Training by the Trainers on Biosafety and biosecurity according to developed module (Human Health) at primary, secondary and tertiary level hospitals	IEDCR			√	√	√	√
P 6.2.12	To include biosafety and biosecurity in human health	IEDCR		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	sector: Form a technical working group to review, update existing contents or develop new contents on topic biosafety and biosecurity to incorporate into curricula							
P 6.2.13	Review and update existing contents or develop new contents on topic biosafety and biosecurity to incorporate into curricula by the technical working group (Animal health security)	BLRI			√	√	√	√
P 6.2.14	Organize an advocacy meeting with Centre for Medical Education regarding importance of biosafety and biosecurity into medical curricula	IEDCR			√	√	√	√
P 6.2.15	Advocacy meeting with relevant Universities by Department of Livestock Services and Bangladesh Livestock Research Institute regarding importance of including biosafety and biosecurity into the curricula	BLRI			√	√	√	√
P 6.2.16	TWG workshop to review and update of the biosafety and biosecurity guideline (Human Health)	IEDCR			√	√	√	√
P 6.2.17	Expert group consultative workshop	IEDCR			√	√	√	√
P 6.2.18	Workshop for finalization of updated version of the biosafety and biosecurity guideline	IEDCR			√			
P 6.2.19	TWG workshop for review and update of the biosafety and biosecurity SOP (Human Health)	IEDCR			√	√	√	√
P 6.2.20	Expert group consultative workshop	IEDCR			√	√	√	√
P 6.2.21	Workshop for finalization of updated version of the biosafety and biosecurity SOP	IEDCR			√	√	√	√
P 6.2.22	Training for the lab personnel with developed SOP	IEDCR			√	√	√	√
P 6.2.23	TWG workshop for review and update of the biosafety and biosecurity guideline (Animal Health)	BLRI			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
P 6.2.24	Expert group consultative workshop	BLRI			√	√	√	√
P 6.2.25	Workshop for finalization of updated version of the biosafety and biosecurity guideline	BLRI				√	√	√
P 6.2.26	TWG workshop for development of draft of the biosafety and biosecurity SOPs (Animal Health)	BLRI			√			
P 6.2.27	Expert group consultative workshop	BLRI				√	√	√
P 6.2.28	Workshop for finalization of draft of the biosafety and biosecurity SOP	BLRI				√	√	√
P 6.2.29	Training for the lab personnel on developed SOP	BLRI				√	√	√
P 6.2.30	Review and update existing contents or develop new contents on topic biosafety and biosecurity (Human Health) to incorporate into service curricula by the technical working group	IEDCR			√	√	√	√
P 6.2.31	Advocacy meeting with Centre for Medical Education regarding importance of biosafety and biosecurity into medical curricula	IEDCR			√	√	√	√
P 6.2.32	Inventory of pathogens, toxin and hazardous substances: Development of SOP for Inventory management system	IEDCR		√				
P 6.2.33	Training on Developed SOP for Inventory	IEDCR			√	√	√	√
Notes	Review and update of related existing biosafety and biosecurity laws/legislation(s), Conduct need assessment for BSL 3 and ABSL 3 for human and animal health, Construction of BSL-3/ABSL-3 Lab for both human and animal sector, Validation and certification of of BSL-3/ABSL-3 Lab for both human and animal sector, advocacy for allocation of adequate budget by concerned authority for maintenance and sustained performance of BSL-3/ABSL-3 for human/animal sector, training of human resource for smooth operation of BSL-3/ ABSL – 3 for both human and animal health sector, review and update of the biosafety and biosecurity guideline (Human/Animal Health), Training by the Trainers on Biosafety and biosecurity of human and animal health laboratory, inclusion of biosafety and biosecurity in the curricula of human and health sector, development of SOP for Inventory management system will be conducted in the plan period.							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
P 7	Technical area: Immunization							
P 7.1	Outcome: <i>Vaccine coverage (Measles-Rubella) as part of national programme</i>							
P 7.1.1	Develop strategies to reach groups with low coverage (below 80% HiB penta3 coverage), i.e. improved supervision of epidemiologic surveillance in city corporations, including activities by nongovernmental organizations: Recruitment of vaccinators (both for rural and urban areas)	MoHFW			√	√	√	√
P 7.1.2	Supervision and Monitoring of field activities	MoHFW			√	√	√	√
P 7.1.3	Policy making meeting for introduction of Td (Tetanus and Diphtheria) and re-scheduling of MR vaccination: Technical meeting	MNCAH, DGHS		√	√			
P 7.1.4	Consultative meeting	MNCAH, DGHS			√			
P.7.1.5	Meeting with professional bodies	MNCAH, DGHS			√			
P.7.1.6	Steering committee meeting	MNCAH, DGHS			√			
P.7.1.7	Activities for Hard to reach area and high risk population: Special campaign	MNCAH, DGHS		√	√	√	√	√
P.7.1.8	Re-scheduling of vaccination time, transport cost for routine vaccinator and rescheduling of the evening session where applicable	Lead: MNCAH, DGHS Co-lead:		√	√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		MoLGRD&C						
P.7.1.9	Registration and vaccination through e-tracing: Orientation of health managers CS, DCS,UHFPO, MO-DC etc.	MNCAH, DGHS		√	√			
P.7.1.10	Training of Health workers, Health Inspectors, MT-EPI	MNCAH, DGHS		√	√	√		
P.7.1.11	Software development	MNCAH, DGHS		√				
P.7.1.12	Improving/strengthening cold chain management Expanding cold space (establishment of customized cold room at 30 district/upazilaHQ) with infrastructure	MNCAH, DGHS			√	√	√	
P.7.1.13	Transport facilities (providing 05 refrigerating vehicle for vaccine transportation from national level to districts and municipalities)	MNCAH, DGHS			√			
P.7.1.14	Vaccination against Anthrax of risk animals by DLS: Vaccination campaign	DLS		√	√	√	√	√
P.7.1.15	Strengthening capacity for vaccine access and delivery to target population: Pre exposure prophylaxis against Rabies for human health	CDC, DGHS		√	√	√	√	√
P.7.1.16	Post exposure prophylaxis against Rabies for human health	CDC, DGHS		√	√	√	√	√
P.7.1.17	Mass dog vaccination including domestic and street dogs	CDC, DGHS		√	√	√	√	√
P.7.2	Outcome: <i>National vaccine access and delivery</i>							
P 7.2.1	Develop sustainable financing for vaccination programmes at all levels: Should be include in OP/Mid Term Review/ revenue budget for comprehensive vaccination coverage: Programme level consultative meeting with allied developing partners	MNCAH, DGHS		√	√			
P 7.2.2	Strengthen vaccine preventable disease surveillance including implementation of environmental surveillance and supplemental EPI surveillance: TWG to develop	MoHFW		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	Epidemiological Roadmap for the Establishment of Epidemiological unit at district level under the administrative control of Civil Surgeons							
P 7.2.3	Expert Committee meeting for reviewing the draft	MoHFW		√				
P 7.2.4	Validation meeting with all stakeholders	MoHFW			√			
P 7.2.5	Dissemination of the of the findings	MoHFW			√			
P 7.2.6	Printing the developed document	MoHFW			√			
P 7.2.7	Integration of all epidemiological surveillance under a national disease surveillance- strategy: National consultative workshop with program personnel	MoHFW		√	√			
P 7.2.8	Validation meeting with all stakeholders	MoHFW			√			
P 7.2.9	Dissemination of the of the findings	IEDCR			√			
P 7.2.10	Development of strategic action plan for establishment of environmental laboratory: Expert group meeting for feasibility study	IEDCR		√	√			
P 7.2.11	Dissemination meeting with stakeholders	IEDCR			√			
P 7.2.12	Hire a consultant	IEDCR			√			
P 7.2.13	Develop well equipped infrastucture for environmental laboratory with space management, human resources recruitment, providing laboratory testing facilities including reagents and other requirements from 2nd to 4th year: Contracting a Construction firm to accomplish the task	IEDCR			√	√	√	
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead</p>							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	will share the responsibility with the lead dept/agency to provide technical support.							
D 1	Technical area: National Laboratory system							
D.1.1	Outcome: <i>Laboratory testing for detection of priority diseases</i>							
D.1.1.1	Ensure linkages of laboratory services between public health, animal health and environment: Core group for Finalization of the strategy and TOR for the linkage (National laboratory response network) between public health, animal health and environment laboratories	IEDCR		√				
D.1.1.2	Consultative workshop with experts for finalization and approval of the strategy	IEDCR			√			
D.1.1.3	Printing of the strategic document	IEDCR			√			
D.1.1.4	Dissemination of the strategic document	IEDCR			√			
D.1.1.5	Establish and set up of the laboratory network within human health and between animal & human health: Core group meeting	IEDCR		√				
D.1.1.6	Development of software	IEDCR				√		
D.1.1.7	Dissemination meetings (Principals, Hospital Directors, Civil Surgeons, UHFPOs) for physical setup of the laboratory network within human health	IEDCR				√		
D.1.1.8	Consultative meetings for physical setup of the laboratory network with human health and animal health	IEDCR					√	√
D.1.1.9	Training on developed software for laboratory networking	IEDCR				√		
D.1.1.10	Establish regional laboratories for diagnosis of priority emerging infectious diseases, as identified in the national risk assessment (see preparedness section): Working group 5 days workshop for identification of the regional	IEDCR					√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	laboratories based on laboratory assessment results and development of the workplan							
D.1.1.11	Consultative workshop with the stakeholders for establishment of the regional laboratories	IEDCR				√		
D.1.1.12	Capacity buildup support for the regional laboratories for diagnosis of priority emerging infectious diseases (training, procurement, renovation, equipment and supply): Training of laboratory personnel (laboratory experts)	IEDCR				√	√	√
D.1.1.13	Training of laboratory personnel (MTs Lab)	IEDCR				√	√	√
D.1.1.14	Procurement of equipments and reagents	IEDCR			√	√	√	√
D.1.1.15	Laboratory renovation	IEDCR			√	√	√	√
D.1.1.16	Analyse the needs and opportunities for BSL-3 laboratory capacity, and to formalize a plan to establish this working capacity in the country: Formation of the technical working group for need assessment of the BSL-3 laboratory: workshop of the working group	IEDCR				√		
D.1.1.17	Development of the strategy and work plan for the establishment of the BSL-3 lab capacity in the country	IEDCR					√	
D.1.1.18	Development of the proposal for set up of the BSL-3 laboratory	IEDCR			√			
D 1.2	Outcome: <i>Specimen referral and transport system</i>							
D 1.2.1	Reinforce referral and transport system between district/sub-district and national levels, including for on-going surveillance Development of SOP for specimen referral and transport system	IEDCR		√				
D 1.2.2	Training on the SOP for specimen referral and transport	IEDCR					√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	system							
D 1.3	Outcome: <i>Effective modern point-of-care and laboratory-based diagnostics</i>							
D 1.3.1	Development of a diagnostic laboratory plan that reflects the tier-wise point of care medical and surveillance needs including a strategic implementation plan	IEDCR			√			
D 1.4	Outcome: <i>Laboratory quality system</i>							
D 1.4.1	Working group for development of Manual and SOPs for all components of laboratory quality system including Internal Quality Control (IQC), External Quality Assessment (EQA) and Laboratory audits	IEDCR			√			
D 1.4.2	Training on the developed SOP for the laboratory personnel at different tiers	IEDCR					√	√
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
D 2	Technical area: Real-Time Surveillance							
D.2.1	Outcome: <i>Indicator- and event-based surveillance systems</i>							
D.2.1.1	Assessment of current status of human health surveillance system: Multistakeholder workshop	Lead: IEDCR Co-lead: HEOC (Control Room)		√				
D.2.1.2	Assessment of current status of animal health surveillance system: Multistakeholder workshop	DLS		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
D.2.1.3	Develop Strategic plan based on assessment (Human health): Expert group consultative meeting	Lead: IEDCR Co-lead: HEOC (Control Room)		√				
D.2.1.4	Develop Strategic plan based on assessment (Animal health): Expert group consultative meeting	DLS		√				
D.2.1.5	Develop combined Strategic plan based on assessment Expert group consultative meeting	IEDCR		√				
D 2.1.6	Upgrading of the existing systems and training of physicians based on surveillance: Training of physicians	IEDCR		√	√	√	√	√
D.2.1.7	Establishment of event based surveillance systems in case of animal health and fisheries: Risk assessment and prioritization of animal diseases: Tabletop exercise	DLS		√				
D.2.1.8	Risk assessment and prioritization of Fish diseases: Tabletop exercise and expert group consultation	DoF		√				
D.2.1.9	Conceptualization and visualization of surveillance area based on risk assessment (Animal Health): Expert Group consultative workshop	DLS			√			
D 2.1.10	Conceptualization and visualization of surveillance area based on risk assessment (Fisheries): Expert Group consultative workshop	DoF			√			
D 2.1.11	Draft protocol and SOPs development based on risk assessment and prioritization (Animal health): TWG meeting	DLS			√			
D.2.1.12	Draft protocol and SOPs development based on risk assessment and prioritization (Fisheries): TWG meeting	DoF			√			
D.2.1.13	Draft protocol and SOPs development based on risk	DLS			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	assessment and prioritization (Animal health): Expert group consultation meeting							
D.2.1.14	Draft protocol and SOPs development based on risk assessment and prioritization (Fisheries): Expert group consultation meeting	DoF			√			
D.2.1.15	Finalization of protocol and SOPs development based on risk assessment and prioritization (Animal health): Expert group consultation meeting	DLS			√			
D.2.1.16	Finalization of protocol and SOPs development based on risk assessment and prioritization (Fisheries): Expert group consultation meeting	DoF			√			
D.2.1.17	Orientation of developed protocol and SOPs (Animal health)	DLS			√			
D.2.1.18	Orientation of developed protocol and SOPs (Fisheries)	DoF			√			
D.2.1.19	Printing of developed documents (Animal health)	DLS			√			
D.2.1.20	Printing of developed documents (Fisheries)	DoF			√			
D.2.1.21	Assessment of current status of human health surveillance system: Drafting by Core group workshop	Lead: IEDCR Co-lead: HEOC (Control Room)						√
D.2.1.22	Assessment of current status of animal health surveillance system: Drafting by Core group workshop	DLS						√
D.2.1.23	Assessment of current status of fisheries surveillance system: Drafting by Core group workshop	DoF						√
D.2.1.24	Finalization by Expert group workshop (Human health surveillance)	IEDCR						√
D.2.1.25	Finalization by Expert group workshop (Animal Human	DLS						√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	health surveillance)							
D.2.1.26	Finalization by Expert group workshop (Fisheries health surveillance)	DoF						√
D.2.2	Outcome: <i>Interoperable, interconnected, electronic real-time reporting system</i>							
D.2.2.1	Assessment of existing components for real time reporting including both public and private sectors (human, animal health and fisheries) Multi-stakeholder workshop	IEDCR/DLS/DoF (any one by rotation)		√				
D.2.2.2	Assessment of existing components for real time reporting including both public and private sectors (human) Multi-stakeholder workshop	Lead: IEDCR Co-lead: MIS (DGHS), HEOC (Control Room)		√				
D.2.2.3	Recommendation by expert group from the assessment: Expert group workshop to update the plan to make interoperable reporting system	IEDCR/DLS/DoF (any one by rotation)		√				
D.2.2.4	Dissemination workshop on recommendation Multistakeholder workshop	IEDCR/DLS/DoF (any one by rotation)		√				
D.2.2.5	Printing of the developed document	IEDCR/DLS/DoF (any one by rotation)		√				
D.2.2.6	Strengthening and development of common electronic platform including both public and private sectors (human, animal health and fisheries) including early warning component. Implementation of recommendation: Server, IT consultant, all electronic equipments and supplies etc.:	IEDCR/DLS/DoF (any one by rotation)			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	Hire two consultants							
D.2.2.7	Draft protocol and SOPs development: TWG meeting	IEDCR/DLS/Do F (any one by rotation)			√			
D.2.2.8	Draft protocol and SOPs development: Expert group consultative meeting	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.2.9	Finalization of developed protocol and SOPs: Expert group consultative meeting	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.2.10	Orientation of developed protocol and SOPs	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.2.11	Printing of the developed protocol	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.2.12	Hands on training on developed protocol and SOPs: for human health, animal health and fisheries	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.2.13	Evaluation of the newly developed system: Expert group meeting	IEDCR/DLS/Do F (any one by rotation)						√
D.2.2.14	Printing of SOPs	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.3	Outcome: <i>Integration and analysis of surveillance data</i>							
D 2.3.1	Assess the current capacity of real time data entry and	IEDCR/DLS/Do		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	reporting: Expert group consultative meeting	F (any one by rotation)						
D 2.3.2	Recommendation/Revise and update all existing surveillance system according to assessment: Expert group consultative meeting	IEDCR/DLS/Do F (any one by rotation)		√				
D 2.3.3	Update Draft all existing surveillance system according to assessment: Expert group workshop to pretest and finalize the developed documents	IEDCR/DLS/Do F (any one by rotation)		√				
D 2.3.4	Orientation of developed documents	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.3.5	Training and refresher training of respective official hands on training of respective officials	IEDCR/DLS/Do F (any one by rotation)			√	√	√	
D.2.4	Outcome: <i>Syndromic surveillance systems</i>							
D 2.4.1	Ensure integration of syndromic surveillance in to unified single system to Incorporate non-government health organizations & veterinary and fisheries departments in DHIS2 system: Prioritize disease & capacity assessment by workshop for web based surveillance (common platform): Expert group consultative meeting	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.4.2	Recommendation according to prioritization: Expert group consultative meeting	IEDCR/DLS/Do F (any one by rotation)			√			
D 2.4.3	Conceptualization of the reporting of the other vertical programmes with their frequencies: Expert group consultative meeting to list the individual programme	IEDCR/DLS/Do F (any one by rotation)		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
D 2.4.4	Review and make technological update of existing common platform. (Web based disease surveillance): Expert group consultative meeting to list the individual programme	IEDCR/DLS/Do F (any one by rotation)			√	√	√	√
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
D 3	Technical area: Reporting							
D.3.1	<i>Outcome: System for efficient reporting to FAO, OIE and WHO</i>							
D 3.1.1	Develop LOA to govern reporting process between different ministries (such as MoHFW, Ministry of Fisheries and Livestock, MoEF, Ministry of Food): Expert group meeting to prepare the stakeholders mapping	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.1.2	Core group consultative meeting	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.1.3	Develop Protocol for formalized joint reporting, coordination and compliance to address one health approach: TWG workshop	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.1.4	Expert consultative meeting including TWG	MoHFW/MoFL /MoEF (any one by			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		rotation)						
D 3.1.5	Finalization of developed protocol	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.6	Dissemination meeting	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.7	Printing of the developed protocol	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.8	Identify and develop SOP following developed protocol of joint reporting, coordination and compliance to train officials from different ministries/departments: TWG workshop	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.9	Expert consultative meeting (including TWG) for Finalization of developed SOP	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.10	Dissemination meeting	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.11	Printing of the developed SOPs	MoHFW/MoFL /MoEF (any			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		one by rotation)						
D 3.1.12	Develop electronic repository system (software) for reporting all public health events reported under IHR to document the process, timeline and lessons: Hire a consultant/ IT specialist	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.13	Expert consultative meeting for validation of software	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.14	Dissemination meeting	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.15	Develop draft training module	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.1.16	Expert consultative meeting to finalize training module	MoHFW/MoFL /MoEF (any one by rotation)				√		
D 3.1.17	Conduct training on joint reporting, coordination and compliance to train officials from different ministries/ departments: Training from national and district levels:	MoHFW/MoFL /MoEF (any one by rotation)				√		
D 3.1.18	Conduct training/refresher from national and district levels	MoHFW/MoFL					√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		/MoEF (any one by rotation)						
D.3.2	Outcome: <i>Reporting network and protocols in country</i>							
D 3.2.1	List the areas for resource mobilization to be reported by different departments to international organizations (e.g., WHO, FAO, OIE): Expert group consultative meeting	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.2.2	SWOT analysis: Expert group consultative meeting:	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.2.3	Develop proposal addressing findings of SWOT: TWG meeting	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.2.4	Recommendation on developed proposal addressing findings of SWOT: Expert group consultative meeting	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.2.5	Dissemination of recommendation to all concerned authorities for implementation: Dissemination meeting	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.2.6	Implementation of recommendation by concerned authorities/stakeholders	MoHFW/MoFL /MoEF (any one by		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		rotation)						
D 3.2.7	Establish and strengthen diagnostic capacities of different departments for PHEIC: Diagnostic capacity mapping: Multi-stakeholder consultative workshop	MoHFW/MoFL /MoEF (any one by rotation)			√			
D 3.2.8	Recommendation on diagnostic capacity mapping: Expert group consultative meeting	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.2.9	Dissemination of recommendation to all concerned authorities for implementation: Dissemination meeting	MoHFW/MoFL /MoEF (any one by rotation)		√				
D 3.2.10	Implementation of recommendation by concerned authorities/stakeholders	MoHFW/MoFL /MoEF (any one by rotation)			√			
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
D 4	Technical area: Workforce development							
D.4.1	Outcome: <i>Human resources are available to implement IHR core capacity requirements</i>							
D 4.1.1	Review and revise Bangladesh Medical Curriculum	Lead: IEDCR,		√	√	√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	Core committee consultative meeting	DGHS, Co-lead: One Health (Steering Committee, OH Secretariat)						
D 4.1.2	Review and revise Bangladesh Veterinary Curriculum Core committee consultative meeting	DLS		√	√	√		
D 4.1.3	Review and revise Bangladesh Health Workforce Strategy 2015: Core committee consultative meeting	IEDCR		√	√	√		
D.4.2	Outcome: <i>FETP or other applied Epidemiology training programme is in place</i>							
D.4.2.1	Enlistment of existing Public health/ One Health education/ trainings in both Public/Private institutes in relevant stakeholders: First Inter-ministerial Steering committee consultative meeting (One Health)	Lead: MoHFW Co-lead: IEDCR, MOD					√	√
D.4.2.2	Enlistment of existing Public health/ One Health education/ trainings in both Public/Private institutes in Health Sector (Human): Core committee consultative meeting	Lead: IEDCR Co-lead: MOD					√	√
D.4.2.3	Enlistment of existing Public health/ One Health education/ trainings in both Public/Private institutes in Animal Health Sector (Livestock, Fisheries, Agriculture - Academia/Service Institutes): Core committee consultative meeting	Lead: DLS Co-lead: MOD					√	√
D.4.2.4	Enlistment of existing Public health/ One Health education/ trainings in both Public/Private institutes in Environmental Health Sector (Forestry-Wildlife: Academia, Service Institutes): Core committee consultative meeting	Lead: DoF Co-lead: MOD					√	√
D.4.2.5	Finalization of enlistment of existing Public health/ One Health education/ trainings in both Public/Private institutes	Lead: MoHFW Co-lead:					√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	in relevant stakeholders: Final Inter-ministerial Steering committee consultative meeting (One Health)	IEDCR, MOD						
D.4.2.6	Institutionalization/ mainstreaming the FETPs in the existing Ministerial Public Health workforce: FETP, B Advance and Frontline, DFP	Lead: MoHFW Co-lead: IEDCR, MOD					√	√
D.4.2.7	Establish funding and implement national epidemiology training programme (incl. Modules for FETPV): FETP, B Advance and Frontline, DFP: TWG consultative meetings	Lead: MoHFW Co-lead: IEDCR, MOD		√	√			
D.4.2.9	Institutionalization/ mainstreaming the FETPVs in the existing Ministerial Animal Health workforce FETPV	Lead: DLS Co-lead: MOD		√	√			
D.4.2.10	Establish funding mechanism and implement national epidemiology training programme (incl. Modules for Clinical Epidemiology Trainings): TWG consultative meeting	MoHFW		√	√			
D.4.2.11	Establish funding and implement national Clinical Epidemiology Training Programme	MoHFW		√	√			
D.4.2.12	Establish funding mechanism and implement One Health Programme: TWG consultative meeting	MoHFW		√	√			
D.4.2.13	TWG meeting to develop funding mechanism in strategic document for One Health Training Programme	MoHFW		√	√			
D.4.2.14	Policy Dissemination meeting	MoHFW			√			
D.4.3	Outcome: <i>Workforce Strategy</i>							
D.4.3.1	Review and revise Bangladesh Health Workforce Strategy 2015: Core committee consultative meeting	IEDCR		√	√			
D.4.3.2	Finalization of Bangladesh Health Workforce Strategy Core committee consultative meeting	MoHFW		√	√			
D.4.3.2	Dissemination of revised Health Workforce Strategy Expert Group consultative workshop	MoHFW			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
D.4.3.3	Drafting of Bangladesh Animal Health Workforce Strategy Animal Health Strategy Core committee meeting	DLS			√			
D.4.3.4	Finalization of Animal Health Workforce Strategy by Animal Health Strategy Core Committee: Animal Health Strategy Expert Group Consultative meeting	DLS		√	√			
D.4.3.5	Dissemination of Animal Health Workforce Strategy: Animal Health Strategy Core committee meeting	DLS			√			
D.4.3.6	Drafting of Bangladesh Wildlife & Environmental Health Workforce Strategy: Core committee consultative meeting	MoEF			√			
D.4.3.7	Finalization of wildlife & Environmental Health Workforce Strategy: Wildlife & Environment Health Strategy Expert Group Consultative meeting	MoEF		√	√			
D.4.3.8	Dissemination of revised wildlife & Environmental Health Workforce Strategy: Core committee meeting	MoEF			√			
D.4.3.9	Drafting of Bangladesh Fish Health Workforce Strategy: Fish Health Strategy Core committee meeting	DoF			√			
D.4.3.10	Core Committee Meeting to finalize Fish Health Workforce Strategy	DoF			√			
D.4.3.11	Dissemination of Fish Health Workforce Strategy	DoF			√			
D.4.3.12	Technical working group meeting for review (situation analysis, need assessment) of public health workforce	MoHFW						
D.4.3.13	Expert group meeting for review (situation analysis, need assessment) of public health workforce	MoHFW			√			
D.4.3.14	Drafting on strategic action plan for career pathway for public health workforce including epidemiologists at different tiers: Expert committee consultative meeting	MoHFW			√			
D.4.3.15	Consultative meeting on drafted strategic action plan for	IEDCR			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	career pathway for public health workforce including epidemiologists at different tiers: TWG consultative meeting							
D.4.3.16	Finalization of strategic action plan for career pathway for public health workforce including epidemiologists at different tiers: Expert Group consultative meeting	IEDCR				√		
D.4.3.17	Dissemination of Strategic Action Plan of Public Health Workforce	IEDCR				√		
D.4.3.18	Situation analysis, need assessment of veterinarian public health workforce: Consultative meeting	DLS			√			
D.4.3.19	Drafting on strategic action plan for career pathway for public health workforce including veterinary epidemiologists at different tiers: Inter-ministerial expert committee consultative meeting	DLS			√			
D.4.3.20	Consultative meeting on drafted strategic action plan for career pathway for veterinary public health workforce including epidemiologists at different tiers: TWG consultative meeting	DLS				√		
D.4.3.21	Finalization of strategic action plan for career pathway for veterinary public health workforce including epidemiologists at different tiers: Expert Group consultative meeting	DLS				√		
D.4.3.22	Dissemination of Strategic Action Plan of veterinary Public Health Workforce	DLS				√		
D.4.3.23	Situation analysis, need assessment of environmental health workforce: TWG meeting	DoE			√			
D.4.3.24	Drafting on strategic action plan for career pathway for	DoE			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	environmental health workforce including epidemiologists at different tiers: Inter-ministerial expert committee consultative meeting							
D.4.3.25	Consultative meeting on drafted strategic action plan for career pathway for environmental health workforce including epidemiologists at different tiers: TWG consultative meeting	DoE			√			
D.4.3.26	Finalization of strategic action plan for career pathway for environmental health workforce including epidemiologists at different tiers: Expert Group consultative meeting	DoE				√		
D.4.3.27	Dissemination of Strategic Action Plan of environmental Health Workforce	DoE				√		
D.4.3.28	situation analysis, need assessment of fisheries public health workforce	DoF			√			
D.4.3.29	Drafting on strategic action plan for career pathway for fisheries public health workforce including epidemiologists at different tiers: Inter-ministerial expert committee consultative meeting	DoF			√			
D.4.3.30	TWG Consultative meeting on drafted strategic action plan for career pathway for fisheries public health workforce including epidemiologists at different tiers	DoF			√			
D.4.3.31	Finalization of strategic action plan for career pathway for fisheries public health workforce including epidemiologists at different tiers: Expert Group consultative meeting	DoF				√		
D.4.3.32	Dissemination of Strategic Action Plan of Fisheries Public Health Workforce	DoF				√		
D.4.3.33	Revise, update & finalize the strategy of FETP,B for human	IEDCR			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	health and animal health short training course Meeting of core committee and stakeholders							
D.4.3.34	Establish funding and implement national epidemiology training programme (incl. Modules for FETP, B Advance, FETP Frontline, DFP): Expert group workshop	IEDCR		√	√			
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
R 1	Technical area: Preparedness							
R.1.1	Outcome: <i>National multi-hazard public health emergency preparedness and response plan is developed and implemented</i>							
R.1.1.1	Develop contingency plan based on the priority public health risk and resource mapping: Consultative workshop to develop a contingency public health emergency preparedness and response plan	Lead: DGHS Co-lead: DDM, Atomic energy, DLS, MOIndustry, Fire service and Civil Defence		√	√			
R.1.1.2	Develop draft contingency plan on public health emergency preparedness and response plan based on risk assessment and resource mapping: TWG meeting:	IEDCR		√	√			
R.1.1.3	Expert group consultation	IEDCR			√			
R.1.1.4	Dissemination of the developed contingency plan: Dissemination workshop	IEDCR			√			
R.1.2	Outcome: <i>Priority public health risk and resources are mapped and utilized</i>							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R.1.2.1	Piloting the tool for risk assessment Risk assessment in 4 areas (chemical, biological, radiological, nuclear)	Lead: IEDCR, MoHFW Co-lead: DDM, Atomic energy, DLS, Navy, MOIndustry, Fire service and civil defence			√			
R.1.2.2	Finalizing risk assessment tool: Expert Group meeting	Lead: IEDCR, MoHFW Co-lead: Atomic energy, DDM, DLS, MOIndustry, Fire service and civil defence			√			
R.1.2.3	Training of Assessors for Risk assessment in all 4 areas	Lead: IEDCR, MoHFW Co-lead: Atomic energy, DLS, DDM, MOIndustry, Fire service and civil defence			√			
R.1.2.4	Public Health risk assessment and resource mapping using multisectoral approach using the tool: consultative workshop	Lead: IEDCR, MoHFW Co-lead: DDM, Atomic energy, DLS, MOIndustry,		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		Fire service and civil defence						
R.1.2.5	Priority Public health risk mapping using multi-hazard approach: Consultative workshop	IEDCR		√				
R.1.2.6	Expert Group workshop	IEDCR		√				
R.1.2.7	Dissemination meeting	IEDCR			√			
R.1.2.8	Printing of the developed document	IEDCR			√			
R.1.2.9	Conduct simulation exercise on developed contingency plan	IEDCR			√			
R.1.2.10	Printing of the contingency plan:	IEDCR			√			
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
R 2	Technical area: Emergency Response Operations							
R.2.1	Outcome: <i>Capacity to activate emergency operation</i>							
R.2.1.1	Establish public health emergency operation center and legal authority for MoHFW with documentation: Steering Committee meeting on formation of full fledged National HEOC	CDC, DGHS		√	√			
R.2.1.2	Development of National HEOC operational guidelines: consultative meeting	CDC, DGHS		√	√			
R.2.1.3	Review of the developed PHEOC Handbooks: consultative meeting	IEDCR			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R.2.1.4	Develop PHEOC SOPs of the Handbook: TWG meeting	IEDCR		√	√			
R.2.1.5	Expert group consultative workshop on developed handbook	DGHS			√			
R.2.1.6	Dissemination workshop on Developed PHEOC the Handbook	DGHS			√			
R.2.1.7	Printing of the Handbook	DGHS			√			
R.2.1.8	Simulation exercise on developed handbook of PHEOC	IEDCR			√	√	√	√
R.2.2	<i>Outcome: EOC operating procedure and plans</i>							
	Consultative meeting on networking documents, stakeholders identification	NCDC, DGHS		√	√			
R.2.2.1	TWG (identified stakeholders from consultative meeting) workshop on networking documents	NCDC, DGHS			√	√		
R.2.2.2	Expert group workshop on developed networking documents	NCDC, DGHS				√		
R.2.2.3	Printing of the networking documents	BHE, DGHS				√		
R.2.2.4	Dissemination workshop about the networking documents	NCDC, DGHS				√		
R.2.3	<i>Outcome: Emergency operation programme</i>							
R.2.3.1	Develop documents on PHEOC procedures: Expert group consultative meeting	IEDCR			√	√	√	√
R.2.3.2	Documentation/printing of Developed PHEOC procedures	IEDCR			√	√	√	√
R.2.3.3	Yearly Review and update the Develop documents on PHEOC procedures	IEDCR			√	√	√	√
R.2.3.4	Conduct full scale Simulation exercise of National Health Emergency Operation Centre (including NCDC, CDC, IEDCR, other centres and Ministries)	CDC, DGHS			√	√	√	√
R.2.3.5	Conduct Simulation/full scale exercise on Developed documents on PHEOC procedures	IEDCR			√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R.2.4	Outcome: <i>Case management procedures are implemented for IHR relevant hazard</i>							
R.2.4.1	Consultative meeting to review existing documents and draft preparation on IHR-relevant hazards management guidelines: TWG	IEDCR		√				
R.2.4.2	Expert group consultative meeting to review existing documents	IEDCR		√				
R.2.4.3	Develop guideline for response to IHR-relevant hazards management guidelines: TWG group workshop to draft	IEDCR			√			
R.2.4.4	Expert group workshop to review and finalize	IEDCR			√			
R.2.4.5	Dissemination of Developed guideline for response to IHR-relevant hazards management guidelines	IEDCR			√			
R.2.4.6	Printing of the developed guidelines	IEDCR			√			
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
R 3	Technical area: Linking Public Health and Security Authorities							
R.3.1	Outcome: <i>Public Health and Security Authorities, (e.g. Law Enforcement, Border Control, Customs) are linked during a suspect or confirmed biological event</i>							
R.3.1.1	Drafting law and other legal documents for coordination between Public health authority and Law Enforcing authorities (IHR & Public health Safety law): TWG for initiating, drafting and incorporating comments from experts, partners, stakeholders	Lead: PM Office Co-lead: IEDCR, MoHFW, MOH, MOD, DLS, MOE, MOPA		√	√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R.3.1.2	Expert Group meeting for reviewing the draft made by TWG	IEDCR			√			
R.3.1.3	High level meeting to initiate and finalize the draft	IEDCR		√	√			
R.3.1.4	Advocacy with concerned ministries (in separate groups) to place the law and other legal instruments before National Parliament	IEDCR			√	√		
R.3.1.5	Printing of the developed document	IEDCR				√		
R.3.1.6	Development of Standard Operating Procedures (SOPs) for working together with law enforcement authorities for public health emergencies and testing of the SOPs through drills/exercises: Core Group consultation Meeting to identify stakes and need assessment	IEDCR					√	√
R.3.1.7	Develop a Technical Working Group (TWG) including all relevant stakeholders such as AFD (armed forces div) -1, Ministry of Home-1, RAB, Ansar & VDP-1, Police-1, Coast Guard, MOHFW-1, Local Govt Div-1 and BGB-1, Customs & Excise, Narcotics dept to draft an SOP addressing all types of public health emergencies collect all relevant documents and acts e.g. SOD, legislation: Draft SOP on coordination	IEDCR			√			
R.3.1.8	Workshop to identify risk hazards in all tiers before developing SOPs TWG+ All stakes+ business people (relevant)-Pub Health, Chemical, Lab scientists, Animal Health, Env, BAEC, LGED, Env scientist, Fire Service and Civil Defence, Ministry of Labour, People's reps of industrial areas, workers rep of industries	IEDCR			√			
R.3.1.9	Expert Group Workshop (Disseminate the draft to all stakeholders for feedback)	IEDCR			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R.3.1.10	Orientation workshop on SOP	IEDCR			√			
R.3.1.11	Simulation exercise/drill on the SOP and test addressing most of issues to finalize SOPs for all-hazards	IEDCR			√	√	√	√
R.3.1.12	TWG and Expert Group Technical Working Group workshop for finalization of the SOP	IEDCR			√			
R.3.1.13	Development of training module for Simulation exercise/drill following the developed SOP to address biological events	IEDCR			√			
R.3.1.14	Expert group meeting for final draft of training module	IEDCR			√			
R.3.1.15	Simulation exercise/drill (sector wise) on the SOP and test addressing most of issues	IEDCR			√	√	√	√
R.3.1.16	Finalization of training module for Simulation exercise/drill following the developed SOP	IEDCR		√				
R.3.1.17	Printing of the developed document	IEDCR			√			
R.3.1.18	Review of SOPs once in fifth year by relevant stakeholders (e.g., Cabinet Division)	IEDCR						√
R.3.1.19	Development of SOP on information sharing and coordination with law enforcement authorities: Identification of designated focal person from relevant stakeholders at all admin/ operational tiers led by MOHFW, for information sharing	IEDCR			√			
R.3.1.20	Develop a data sharing platform for information sharing mechanism/ Data sharing infrastructure	IEDCR		√				
R.3.1.21	Core group consultation workshop for develop a data sharing SOP	IEDCR			√			
R.3.1.22	Multi-stakeholder Advocacy Workshop at various levels of governance structure	IEDCR		√	√	√	√	√

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R.3.1.23	Identify a focal person in respective dept for initial contact and response: Consultative meeting to identify a focal person in respective dept	Lead: PM Office Co-lead: IEDCR, MoHFW, MOH, MOD, DLS, MOE, MOPA		√				
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
	Technical area: Medical Countermeasures and Personnel Deployment							
R.4.1	Outcome: <i>System is in place for sending and receiving medical countermeasures during a public health emergency</i>							
R.4.1.1	Situation analysis and identify challenges to develop national strategic action plan for medical countermeasure during multihazard emergencies preparedness and response: Develop a Core Group with relevant stakeholders (from MoHFW-medical expert, administration, Medical store and supply depo, representative from Armed forces medical team) for development of a written plan	Lead: MoHFW Co-lead: Disaster Management Bureau (DDM)			√			
R.4.1.2	Developing draft plan for deployment of personnel and Medical supplies including provision for involvement of medical personnel from both national and international partners: TWG workshop for development of a SOP	Lead: MoHFW Co-lead: DDM			√			
R.4.1.3	Expert group consultative workshop on SOP	Lead: MoHFW Co-lead: DDM			√			
R.4.1.4	Orientation workshop on SOP	Lead: MoHFW			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		Co-lead: DDM						
R.4.1.5	The plan needs to be tested periodically through conducting tabletop exercises and updated based on the result and findings of the exercises: Testing the SOP(table top exercise) annually	Lead: MoHFW Co-lead: DDM				√	√	√
R.4.1.6	Develop and formalize a national plan for drug donation during the event of any public health emergency by MOHFW: Core group consultative meeting for draft development	Lead: DGDA, MoHFW Co-lead: DDM			√			
R.4.1.7	Expert Group and core group workshop for finalizing draft	Lead: DGDA, MoHFW Co-lead: DDM				√		
R.4.1.8	Dissemination workshop of Action plan	Lead: DGDA, MoHFW Co-lead: DDM				√		
R.4.1.9	Printing of the Plan	DGDA, MoHFW				√		
R.4.1.10	Develop LOA for actively revolving national stockpile of emergency drugs and medical supplies through a formal agreement with the local manufacturers and suppliers by MoHFW (Addition of a clause in the licensing process of pharmaceutical company for supplying drugs during emergency): Consultative meeting with CMSD, DGDA and other respective stakeholders with local manufacturers and suppliers regarding stockpiling of emergency drugs	Lead: DGDA, MoHFW Co-lead: DDM				√		
R.4.1.11	Core group meeting to develop draft and finalize LOA	Lead: DGDA, MoHFW				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		Co-lead: DDM						
R.4.1.12	Catastrophic events-International response- drug and medical-if needed- a national policy development: Core group meeting	Lead: DGDA, MoHFW Co-lead: DDM				√		
R.4.1.13	Utilization of Drones for supplying medical supplies in hard to reach areas..aerodynamic packs .. Air dropping: Core group meeting	Lead: DGDA, MoHFW Co-lead: DDM				√		
R.4.1.14	Stockpiling of drugs for emergency..at disaster prone 85 upazila level: Core group meeting for drafting	Lead: DGDA, MoHFW Co-lead: DDM				√		
R.4.2	Outcome: <i>System is in place for sending and receiving health personnel during a public health emergency</i>							
R.4.2.1	Development of protocol for Health Personnel for national and international response: Develop draft protocol the officials/public health experts for national and international public health emergency response: TWG meeting	Dept of Disaster Management (DDM)				√		
R.4.2.2	Finalization of developed protocol: Expert group meeting	DDM			√			
R.4.2.3	Dissemination of finalized protocol	DDM			√			
R.4.2.4	Printing of the protocol	DDM		√				
R.4.2.5	Implementation of the protocol and SOP to train health personnel for national and international response: identification and develop an expert group for developing SOP for monitoring and ensuring the regular training are in place: Consultative meeting	DDM					√	√
R.4.2.6	Regular follow up by expert group	DDM				√		
R.4.2.7	Printing of the developed document	DDM				√		
R.4.2.8	Revise and update the existing intersectoral RRT training	DDM				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	modules for hand on training on pre-deployment of the health workforces:Expert group consultative meeting							
R.4.2.9	Develop training module (other than RRT) for hands-on training on pre-deployment of the health workforces: TWG workshop to draft	DDM				√		
R.4.2.10	Expert group meeting to review and finalize	DDM				√		
R.4.2.11	Orientation workshop with the module	DDM				√		
R.4.2.12	Printing of the module	DDM				√		
R.4.2.13	Regular training based on the developed module	DDM				√	√	√
R.4.2.14	Development of National Strategy to deploy the trained health workforces during public health emergency: TWG workshop	DDM						
R.4.2.15	Finalization of National Strategy: Expert group meeting:	DDM			√			
R.4.2.16	Printing of the strategy	DDM			√			
R.4.2.17	Development of National Strategy to deploy the trained health workforces during at POE (Land port, seaport, airport) ..etc.: Core Group Meeting	IEDCR			√			
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
R 5	Technical area: Risk Communication							
R 5.1	Outcome: <i>Risk communication systems(Plans, Mechanisms, etc)</i>							
R 5.1.1	Develop integrated multi-hazard, multi-stakeholder &	IEDCR		√				

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	multisectoral risk communication strategy: Identify stakeholders and partners: workshop							
R 5.1.2	Identify points of contact of stakeholders and partners: Workshop	IEDCR		√				
R 5.1.3	Develop strategy: TWG to draft	IEDCR		√	√			
R 5.1.4	Expert Group meeting to review and finalise	IEDCR		√	√			
R 5.1.5	High level meeting for dissemination	IEDCR		√				
R 5.1.6	Printing the strategy	IEDCR			√			
R 5.1.7	Develop multi-hazard, multi-stakeholder & multisectoral risk communication action plan: Development of action plan document TWG: - Risk & threat specific strategy and action plan - Contingency action plan - Allocation of resources (e.g. finance, logistics, HR)	IEDCR			√	√	√	
R 5.1.8	Expert group consultation for review and finalization	IEDCR				√	√	
R 5.1.9	Printing of documents	IEDCR					√	
R 5.1.10	Review of the developed document	IEDCR						√
R 5.1.11	Orientation for spokespersons (all sectors)	IEDCR			√	√	√	√
R 5.1.12	Identification of risk communication spokesperson in the respective sectors: workshop	IEDCR		√	√	√	√	√
R 5.1.13	Development of Risk Communication Unit in all partner organizations	Respective partner organization			√	√		
R 5.1.14	Development of Joint Information Centre (JIC) during emergencies: Multisectoral stakeholder workshop	Respective partner organization				√	√	

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R 5.1.15	Development of risk communication coordination plan: multisectoral stakeholder workshop	Respective partner organization				√	√	
R 5.2	Outcome: <i>Internal and partner communication and coordination</i>							
R 5.2.1	SOP development for strengthening, coordination and collaboration between partners and stakeholder: Draft by TWG	IEDCR			√			
R 5.2.2	Expert group consultation meeting for review and finalization	IEDCR			√			
R 5.2.3	Printing of the SOP	IEDCR			√			
R 5.3	Outcome: <i>Public communication</i>							
R 5.3.1	In respect to concerned Ministry (All sectors): Establish media resource centre: Room & required equipments (Computer, TVs, Internet, Other electronic device) linked with PHEOC	Respective partner organization			√	√	√	√
R 5.3.2	Development of draft training module on public communication by TWG meeting	IEDCR		√	√			
R 5.3.3	Consultative meeting on developed draft training module public communication by Expert Group	IEDCR			√			
R 5.3.4	Printing of document	IEDCR				√		
R 5.3.5	Mass Media personnel orientation on Public Health Emergency: meeting	IEDCR Co-Lead: DDM		√	√	√	√	√
R 5.4	Outcome: <i>Communication Engagement with Affected Communities</i>							
R 5.4.1	SOP development for risk communication messages for district&upazila level: TWG workshop	IEDCR			√			
R 5.4.2	Expert group meeting for review and finalization	IEDCR			√			
R 5.4.3	Printing of the SOP	IEDCR				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
R 5.4.4	Orientation meeting for District & Upazila officers of respective sectors on developed SOP	IEDCR			√	√	√	√
R 5.4.5	Orientation meeting for District & Upazillas field staffs for respective sectors on developed SOP	IEDCR			√	√	√	√
R 5.4.6	Identification of further gaps: Review & update of SOP	IEDCR					√	
R 5.4.7	SMS based text message (Public health, Animal Health, Environment, Natural disaster, Weather & Climate, Atomic energy, Fisheries, Industrial sector): Advisory & cautionary SMS dissemination through mobile phone	Relevant Ministry and Dept			√	√	√	√
R 5.4.8	Establish mechanism at PoE for Risk Communication: Event based, International surge & Religious event ---Leaflet, Health messages, Posters, KIOSK, announcement	IEDCR			√	√	√	√
R 5.4.9	Inclusion of religious leaders, local leaders and faith-based organizations for more effective communication with affected communities: formation of Committees	IEDCR		√	√	√	√	√
R 5.4.10	Design social and behavioural approaches to reduce risk and impact of IHR-related hazards: Multisectoral stakeholders workshops	IEDCR		√	√			
R 5.4.11	Develop indicators for Monitoring and Evaluation of SBCC (Social and Behavioural Change Communication) programs: Multisectoral stakeholders workshops	IEDCR		√	√			
R 5.5	Outcome: <i>Dynamic listening and rumour management</i>							
R 5.5.1	Media monitoring: Internet, Satellite TV channel, Telephone, Newspaper bills for media resource centre	IEDCR			√	√	√	√
R 5.5.2	Media orientation of various events: Briefing session for mass media	IEDCR			√	√	√	√
R 5.5.3	Establish dynamic listening mechanism as a means to know	IEDCR		√	√	√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	the audiences and address their concerns: Multisectoral stakeholders workshops							
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
PoE	Technical area: Points of Entry (PoE)							
PoE.1	Outcome: <i>Routine capacities are established at points of entry</i>							
PoE.1.1	Revision and update of the existing handbooks/SOPs: consultative meeting with expert group	CDC, DGHS			√			
PoE.1.2	Dissemination workshop on the developed handbooks/SOPs for inspection of aircraft, land port vehicles and sea ships disinfection	CDC, DGHS			√			
PoE.1.3	Documentation and printing of the revised handbooks/SOPs for inspection at aircraft, land port vehicles and sea ships	CDC, DGHS			√			
PoE.1.4	Develop of training material for simulation exercise for the officials to inspect aircraft disinsection& disinfection on developed handbooks/SOPs: TWG	CDC, DGHS				√		
PoE.1.5	Develop of training material for simulation exercise for the officials to inspect land port vehicles disinsection& disinfection on developed handbooks/SOPs: TWG	CDC, DGHS				√		
PoE.1.6	Develop of training material for simulation exercise for the officials to inspect sea ships disinsection& disinfection on	CDC, DGHS				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	developed handbooks/SOPs: TWG							
PoE.1.7	Documentation and printing	CDC, DGHS				√		
PoE.1.8	Conduct the simulation exercise for the officials to inspect aircraft disinsection& disinfection on developed handbooks/SOPs	CDC, DGHS				√		
PoE.1.9	Conduct the simulation exercise for the officials to inspect land port vehicles disinsection& disinfection on developed handbooks/SOPs	CDC, DGHS				√		
PoE.1.10	Conduct the simulation exercise for the officials to inspect sea ships disinsection& disinfection on developed handbooks/SOPs	CDC, DGHS					√	
PoE.1.11	Develop check list on training on the respective personnel on IHR obligations: TWG workshop	CDC, DGHS			√			
PoE.1.12	Expert Group Consultative meeting	CDC, DGHS			√			
PoE.1.13	Printing of developed check list	CDC, DGHS				√		
PoE.1.14	Orientation training for the respective personnel IHR obligations on developed check lists: for aircraft, land port vehicles and sea ships cruise	CDC, DGHS				√		
PoE.2	Outcome: <i>Effective public health response at points of entries</i>							
PoE.2.1	Revise existing SOPs/guidelines/Action plans for implementation of IHR (2005): TWG workshop	CDC, DGHS			√			
PoE.2.2	Expert group consultative meeting	CDC, DGHS			√			
PoE.2.3	Printing of the revised document	CDC, DGHS			√			
PoE.2.4	Dissemination meeting on revised and updated documents	CDC, DGHS			√			
PoE.2.5	Develop SOPs/guidelines for inter-sectoral collaboration: TWG workshop	CDC, DGHS			√			
PoE.2.6	Expert group consultative meeting	CDC, DGHS			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
PoE.2.7	Printing of the SOP/Guidelines	CDC, DGHS				√		
PoE.2.8	Dissemination of developed SOPs/guidelines for inter-sectoral collaboration	CDC, DGHS				√		
PoE.2.9	Develop orientation training materials for inter-sectoral collaboration for high level authorities and for expert group authorities: TWG workshop	CDC, DGHS				√		
PoE.2.10	Printing of the developed material	CDC, DGHS				√		
PoE.2.11	Conduct the orientation training of high level authorities of the respective officials on inter-sectoral collaboration	CDC, DGHS				√		
PoE.2.12	Conduct the orientation training of expert group authorities of the respective officials on inter-sectoral collaboration	CDC, DGHS				√		
PoE.2.13	Routine Field visits at all point of entries	CDC, DGHS			√	√	√	√
PoE.2.14	Develop simulation exercise materials to ensure IHR obligations are routinely practiced and cross-border issues are addressed: TWG workshop	CDC, DGHS						
PoE.2.15	Expert group meeting	CDC, DGHS				√		
PoE.2.15	Printing of the developed material	CDC, DGHS				√		
PoE.2.16	Conduct the simulation exercise to ensure IHR obligations are routinely practiced and cross-border issues are addressed	CDC, DGHS				√		
PoE.2.17	Develop training materials on vector control measures to decide the TWG, expert groups: 1 day table top exercise	CDC, DGHS				√		
PoE.2.18	Documentation and printing of the decisions of the table top exercises	CDC, DGHS				√		
PoE.2.19	Develop training materials on vector control measures of all three points of entries: TWG workshop	CDC, DGHS			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
PoE.2.20	Develop training materials on vector control measures of all three points of entries: expert group meeting	CDC, DGHS			√			
PoE.2.21	Documentation and printing of developed material	CDC, DGHS				√		
PoE.2.22	Conduct the orientation training on vector control measures of all three points of entries	CDC, DGHS				√		
PoE.2.23	Logistic procurement: Yearly consultative meeting with expert group of vector control to list the requires equipments	CDC, DGHS			√	√	√	√
PoE.2.24	Consultative meeting with expert group of vector control to make the budget	CDC, DGHS			√	√	√	√
PoE.2.25	Yearly printing	CDC, DGHS			√	√	√	√
PoE.2.26	Buy and deploy the equipments at all the points of entries	CDC, DGHS			√	√	√	√
PoE.2.27	Developing PHE contingency plan for HSIA of points of entries: TWG workshop	CDC, DGHS				√		
PoE.2.28	Expert Group meeting for review and finalization	CDC, DGHS				√		
PoE.2.29	Documentation and printing	CDC, DGHS				√		
PoE.2.30	Development of contingency plan: Dissemination meeting	CDC, DGHS					√	
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							
CE	Technical area: Chemical events							
CE.1	Outcome: <i>Mechanisms are established and functioning for detecting and responding to chemical events or emergencies</i>							
CE.1.1	Assessment of chemical inventory & chemical profiling to	Lead:			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	get the updated status: TWG will prepare with a consultant- survey method, Data entry, Analysis	MOIndustries Co-lead: MODMR, BCIC (MOI), Ministry of Energy and Mineral Resources (MOEMR)						
CE.1.2	Training & refresher training for TWG members on chemical hazard assessment process by certified professional bodies	Lead: Fire Service and Civil Defence (FSCD) Co-lead: Dept of Explosives, MOEF, MOI, MOEMR			√	√		
CE.1.3	Recruitment of a consultant	Lead: Fire Service and Civil Defence (FSCD) Co-lead: Dept of Explosives, MOEF, MOI, MOEMR			√			
CE.1.4	Mapping of chemical exposure & monitoring: TWG will prepare	Lead: Fire Service and Civil Defence (FSCD) Co-lead: Dept of Explosives, MOEF, MOI, MOEMR			√			
CE.1.5	Occupational chemical hazard exposure & Safety analysis	Lead: MOHFW			√			

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	study including industrial pops & pesticidal pops, Mercury: A consultant recruitment ---Protocol development & implementation	Co-lead: MOEF, BCIC (MOI), MOEMR						
CE.1.6	Validation & dissemination of study result	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR			√			
CE.1.7	Assessment of Lab capacity: Lab Capacity need assessment	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR			√			
CE.1.8	A consultant recruitment --Assessment tool development & implementation	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR				√		
CE.1.9	TWG group meeting: ---Assessment tool development & implementation	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR			√			
CE.1.10	Development laboratory: ---National Reference laboratory-1	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR			√			
CE.1.11	TWG group meeting: ---Reference Laboratory development plan & implementation	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR			√	√		
CE.1.12	Expert group meeting: ---Reference Laboratory development plan finalization & implementation	Lead: MOHFW Co-lead: MOEF,			√	√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		BCIC (MOI), MOEMR						
CE.1.13	Dissemination: Reference Laboratory development plan finalization & implementation	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR			√	√		
CE.1.14	Identify relevant response agencies for detection and respond to chemical events or emergencies and their capacities: Situation analysis and national risk mapping: Core group consultative workshop	Lead: DDM Co-lead: FSCD, BCIC (MOI), DoExplo, Chief Insp Boiler Office				√		
CE.1.15	Review National Plan for Disaster Management (National Multi-hazard risk assessment activities) to include chemical event risk and emergencies: Core group consultative workshop	Lead: DDM Co-lead: FSCD, BCIC (MOI), DoExplo, Chief Insp Boiler Office				√		
CE.1.16	TWG workshop to draft policy document	Lead: DDM Co-lead: FSCD, BCIC (MOI), DoExplo, Chief Insp Boiler Office				√		
CE.1.17	Expert group consultation : Finalize Draft	Lead: DDM Co-lead: FSCD, BCIC (MOI), DoExplo, Chief Insp Boiler				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		Office						
CE.1.18	Dissemination of the developed document	Lead: DDM Co-lead: FSCD, BCIC (MOI), DoExplo, Chief Insp Boiler Office					√	
CE.1.19	Legislative approval by concerned ministry	Lead: DDM Co-lead: FSCD, BCIC (MOI), DoExplo, Chief Insp Boiler Office						√
CE.1.20	Printing of the developed document	Lead: DDM Co-lead: FSCD, BCIC (MOI), DoExplo, Chief Insp Boiler Office						√
CE.1.21	Develop international standard level SOP for handling, packaging, Transportation & storage of chemicals: TWG will prepare SOP draft	Lead: BRTA Co-lead: BIWTA, CtgPA, HSIA, Petro Bangla, BAPEX, Office of Insp Fact, BCIC (MOI), MOEMR				√	√	
CE.1.22	Expert group meeting review & finalize the SOP	Lead: BRTA Co-lead: BIWTA, CtgPA, HSIA,					√	

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
		Petro Bangla, BAPEX, Office of Insp Fact, BCIC (MOI), MOEMR						
CE.1.23	Dissemination of SOP	Lead: BRTA Co-lead: BIWTA, CtgPA, HSIA, Petro Bangla, BAPEX, Office of Insp Fact, BCIC (MOI), MOEMR					√	
CE.1.24	Printing of the SOP	Lead: MOHFW Co-lead: MOEF, BCIC (MOI), MOEMR					√	
CE.1.25	Development of SOP for National Emergency Response plan in-case of chemical hazard (including mapping of chemical risk and multi-sectoral coordination mechanism): TWG workshop	Lead: MODMR Co-lead: MOEF, BCIC (MOI), MOEMR, DDM, FSCD				√		
CE.1.26	Orientation of the developed National Emergency Response plan	Lead: MODMR Co-lead: MOEF, BCIC (MOI), MOEMR, DDM, FSCD					√	
CE.1.27	Printing of the Plan	Lead: MODMR Co-lead: MOEF, BCIC (MOI), MOEMR, DDM, FSCD					√	

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
CE.1.28	Simulation exercise on National Emergency Response plan	Lead: MODMR Co-lead: BCIC (MOI), MOEMR DoE, Dept of Explosive, FSCD, Bangladesh Navy, Dept of Boiler, DIFE						√
CE.2	Outcome: <i>Enabling environment is in place for management of chemical events</i>							
CE.2.1	Develop National HAZMAT Joint operation Center& to develop Operational Guideline (NPCC): Development of draft National Operation Guideline: TWG workshop	Lead: MODMR Co-lead: MOEF, BCIC (MOI), MOEMR, DDM, FSCD				√		
CE.2.2	Expert group consultation on the draft National guideline	Lead: MODMR Co-lead: MOEF, BCIC (MOI), MOEMR, DDM, FSCD				√		
CE.2.3	Printing NPCC	MoHFW				√	√	
CE.2.4	Develop DPP for Poison Control Center: Organize core group for DPP drafting: Core group (multistakeholder) consultative workshop	DOE, MOEMR					√	
CE.2.5	Expert group workshop for DPP finalization: Core group (multistakeholder) consultative workshop	DOE, MOEMR				√		
Notes	For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.							

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.							
RE	Technical area: Radiation Emergencies							
RE.1	Outcome: <i>System is in place for sending and receiving medical countermeasures during a public health emergency</i>							
RE.1.1	Situation analysis and identify challenges to develop national strategic action plan for medical countermeasure during multihazard emergencies preparedness and response: Core Group workshop with relevant stakeholders (from MoHFW-medical expert, administration, Medical store and supply depo, representative from Armed forces medical team) for development of a written plan	Lead: DDM Co-lead: BAEC, DGHS, Rooppur Nuclear Power Plant (RNPP)			√			
RE.1.2	TWG workshop for development of a SOP	Lead: DDM Co-lead: BAEC, DGHS, RNPP			√			
RE.1.3	Expert group consultative workshop on SOP	Lead: DDM Co-lead: BAEC, DGHS, RNPP			√			
RE.1.4	Orientation workshop on SOP	Lead: DDM Co-lead: BAEC, DGHS, RNPP				√	√	√
RE.1.5	Testing the SOP (table top exercise) annually	Lead: IEDCR Co-lead: BAEC, DDM				√		
RE.1.6	Develop and formalize a national plan for providing drug during the event of any radiological emergency: Core group consultative meeting for draft development	Lead: DGDA, MoHFW Co-lead: DDM				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
RE.1.7	Expert Group and core group workshop for finalizing draft	Lead: DGDA, MoHFW Co-lead: DDM				√		
RE.1.8	Dissemination workshop of Action plan	Lead: DGDA, MoHFW Co-lead: DDM				√		
RE.1.9	Printing of the Plan	Lead: DGDA, MoHFW Co-lead: DDM				√		
RE.1.10	Develop LOA for actively revolving national stockpile of emergency drugs and medical supplies through a formal agreement with the local manufacturers and suppliers by MoHFW (Addition of a clause in the licensing process of pharmaceutical company for supplying drugs during emergency): Consultative meeting with CMSD, DGDA and other respective stakeholders with local manufacturers and suppliers regarding stockpiling of emergency drugs	Lead: DGDA, MoHFW Co-lead: DDM, BAEC, RNPP			√			
RE.1.11	Core group meeting to develop draft and finalize LOA	Lead: DGDA, MoHFW Co-lead: DDM			√			
RE.2	Outcome: <i>System is in place for sending and receiving health personnel during a public health emergency</i>							
RE.2.1	Develop draft protocol the officials/public health experts for national and international public health emergency response: TWG meeting	DDM			√			
RE.2.2	Finalization of developed protocol: Expert group meeting	DDM			√			
RE.2.3	Dissemination of finalized protocol:	DDM				√		
RE.2.4	Printing of the protocol	DDM				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
RE.2.5	Implementation of the protocol and SOP to train Health Personnel for national and international response: Identification for drafting SOP for monitoring and ensuring the regular training are in place: TWG meeting to draft	DDM			√			
RE.2.6	Expert Group meeting to review and finalize	DDM			√			
RE.2.7	Regular follow up by expert group	DDM				√	√	√
RE.2.8	Printing of the developed document	DDM				√		
RE.2.9	Revise and update the existing RRT training module: Expert group consultative meeting	DDM				√		
RE.2.10	Develop training module (other than RRT) for hands-on training on pre-deployment of the health workforces: Development of draft training module: TWG workshop	DDM				√		
RE.2.11	Finalization of draft training module: Expert group meeting	DDM				√		
RE.2.12	Dissemination of plan for stockpiling of nuclear medicine	DDM				√		
RE.2.13	Printing of the Plan	DDM				√		
RE.2.14	Treatment guideline for nuclear exposed person: recruitment of Consultant	Lead: BAERA Co-lead: RNPP			√			
RE.2.15	TWG workshop to draft treatment guideline	Lead: BAERA Co-lead: RNPP			√	√		
RE.2.16	Finalization of treatment guideline: Expert group meeting	Lead: BAERA Co-lead: RNPP				√		
RE.2.17	Dissemination of finalized guideline	Lead: BAERA Co-lead: RNPP				√		
RE.2.18	Printing of the guideline	Lead: BAERA Co-lead: RNPP				√		
RE.2.19	Training on nuclear exposed patients treatment (CS, UHFPO & Others): Training module development: TWG	Lead: IEDCR Co-lead: NCDC				√		

No.	Activities	Implementing authority: Lead and co-lead	Cost	2020	2021	2022	2023	2024
	workshop to draft training module							
RE.2.20	Finalization of training module: Expert group meeting	Lead: IEDCR Co-lead: NCDC				√		
RE.2.21	Dissemination of finalized module	Lead: IEDCR Co-lead: NCDC				√		
RE.2.22	Printing of the developed document	Lead: IEDCR Co-lead: NCDC				√		
RE.2.23	Training of respective sectors healthcare personnel	Lead: IEDCR Co-lead: NCDC				√	√	√
RE.2.24	TWG workshop to draft radio-active medical equipment handling and disposal guideline	Lead: IEDCR Co-lead: NCDC				√		
RE.2.25	Finalization of radioactive medical equipment handling and disposal guideline: Expert group meeting	Dept Nuclear Medicine, BAEC				√		
RE.2.26	Dissemination of finalized guideline	Dept Nuclear Medicine, BAEC				√		
RE.2.27	Printing	Dept Nuclear Medicine, BAEC				√		
Notes	<p>For developing documents at first core group/ TWG will draft, review will be done by Expert Group, and finalization will be done with bigger audience in dissemination meeting. Law firm will be contracted to develop few drafts. National/international consultants will also be recruited to perform few specialized tasks. Documents will be printed, used for creating awareness of the stakeholders.</p> <p>The lead dept/agency will provide the budget and organize the technical resources to perform the activity. The co-lead will share the responsibility with the lead dept/agency to provide technical support.</p>							

List of abbreviations

ABSL	Animal biosafety level
AHI	Assistant Health Inspector
AMR	Antimicrobial resistance
BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institute
BCIC	Bangladesh Chemical Industries Corporation
BCSIR	Bangladesh Council of Scientific and Industrial Research
BFSA	Bangladesh Food Safety Authority
BLRI	Bangladesh Livestock Research Institute
BRRI	Bangladesh Rice Research Institute
BSL	Biosafety level
BSTI	Bangladesh Standard and Testing Institution
CAAB	Civil Aviation Authority of Bangladesh
CDC (DGHS)	Communicable Disease Control (Directorate General of Health Services)
CDC (US)	Centres for Disease Control and Prevention (United States)
CDDEP	the Centre for Disease Dynamics, Economics and Policy
CS	Civil Surgeon
DAE	Department of Agriculture Extension
DDM	Department of Disaster Management
DFC	Direct Financial Cooperation
DFP	Distinguished Fellowship Programme
DFP	Department of Film and Publication
DGDA	Directorate General of Drug Administration
DHIS	District Health Information Software
DLS	Department of Livestock Services
DoF	Department of forest
DPP	Development Project Proforma/Proposal
EOC	Emergency Operation Centre
EPI	Expanded Programme of Immunization
FAO	Food and Agriculture Organization
FBIS	Food borne illness surveillance
FETP,B	Field Epidemiology Training Programme, Bangladesh
FETPV	Field Epidemiology Training Programme for Veterinarians
GARP	Global Antibiotics Resistance Partnership
GHSa	Global Health Security Agenda
HA	Health Assistant
HAZMAT	Hazardous materials
HCAI	Healthcare associated infection
HERT	Health Emergency Response Team
HI	Health Inspector
HIB	Haemophilus influenzae
HNPSp	Health Nutrition Population Sector Programme

IEC	Information Education Communication
IEDCR	Institute of Epidemiology Disease Control and Research
IHR	International Health Regulations
IPH	Institute of Public Health
JEE	Joint External Evaluation
JIC	Joint Information Centre
LOA	Letter of agreement
MNCAH	Maternal, Neonatal, Child and Adolescent Health
MoEF	Ministry of Environment and Forest
MoFL	Ministry of Fisheries and Livestock
MoHFW	Ministry of Health and Family Welfare
MoPA	Ministry of Public Administration
MoU	Memorandum of understanding
MR	Measles and rubella
MT	Medical Technologist
NAPHS	National Action Plan for Health Security
NCDC	Non Communicable Disease Control
NFHMS	National fish health management strategy
NFP	National Focal Point (of IHR)
NPCC	National Poison Control Centre
OIE	World Organization for Animal Health
PHE	Public Health Emergency
PHEIC	Public Health Emergency of International Concern
PHEOC	Public Health Emergency Operation Centre
PoE	Point of Entry
PVS	Performance of Veterinary Services
RRT	Rapid Response Team
SI	Sanitary Inspector
SOP	Standard Operating Procedure
TB	Tuberculosis
Td	Tetanus and diphtheria
TOR	Terms of reference
UHFPO	Upazilla Health and Family Planning Officer
UN	United Nations
UNICEF	United Nations Children's Emergency Fund
USD	United States Dollar
WHO	World Health Organization

List of participants in High level meeting

1. Mr AshadulUslam, Secretary, Health Services, Ministry of Health & Family Welfare
 2. Professor Dr AbulKalam Azad, Director General of Health Services
 3. Maj Gen Dr Md Fashiur Rahman, DGMS
 4. Mr Jyoti Lal Kuri, Additional Secretary, Ministry of Women and Children Affairs
 5. Professor Dr Md Rafiqul Islam, Senior Technical Advisor, ECTAD, FAO
 6. Professor Dr Samiul Islam, Director MBDC and LD TB-Leprosy, DGHS
 7. Dr Muhiuddin Osmani, Joint Chief, Planning, MoHFW
 8. Dr S M Shamsuzzaman, Director, IPH
 9. Professor Dr Umme Salma Abdullah, Director, Dental
 10. Dr Abdul JabbarShikdar, Director (Admin and Animal Health), DLS
 11. Mr Md Ruhul Amin, Director, DGDA
 12. Dr Md Ehsanul Karim, Line Director, Health Education Bureau, DGHS
 13. Mr Abdul Aziz, Chief, Health Education Bureau, DGHS
 14. Dr Nur Mohammed, Line Director, NCDC, DGHS
 15. Mr Md Jahidul Kabir, Conservator of Forest, Dep of Forest
 16. Dr Mahbub Anwar, Consultant, CDC, DGHS
 17. Dr Mohammad Tanvir Hossain Chowdhury, Senior Assistant Director, Dept of Fisheries
 18. Maj Dr Md Nasiruddin, DA, SGMS
 19. Dr Tanvir Hyder, IEDCR
 20. Md Tauhidur Rahman, IEDCR
- All members of Expert Committee

All members of Technical Working Group

List of participants for Expert Group meetings

1. Dr Md. Jahangir Alam, Joint Secretary (Administration). Public Security Division, Ministry of Home Affairs
2. Dr Md. Zillur Rahman, Dept. of Fisheries
3. Brig Gen (Rtd) Abdur Rob, Public Health Consultant, CAAB
4. Dr (Maj) FazlulAzam, Additional Director, (Health), BGB HQ
5. Dr AK Mohammad Ali, Sr GM, (Med), BCIC
6. Prof Dr Shah Monir Hossain, Former DG, Health Services
7. Prof Dr Mahmudur Rahman, Consultant, icddr,b
8. Dr Ashraful Islam Khan, Scientist, Enteric and Respiratory Infections Infectious Diseases Division
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