Government of the People's Republic of Bangladesh

Directorate General of Health Services (DGHS)

Department of Livestock Services (DLS)

Bangladesh Forest Department (BFD)

STRENGTHENING HEALTH EMERGENCY PREVENTION, PREPAREDNESS, RESPONSE AND RESILIENCE WITH ONE HEALTH APPROACH (P512376)

Environmental and Social Overview Assessment

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Executive Summary

The Strengthening Health Emergency Prevention, Preparedness, Response and Resilience with One Health Approach (P512376) project represents a transformative national initiative to enhance Bangladesh's capacity to prevent and respond to health emergencies at the human–animal–environment interface. The project is jointly implemented by the Directorate General of Health Services (DGHS) under the Ministry of Health and Family Welfare (MoHFW), the Department of Livestock Services (DLS) under the Ministry of Fisheries and Livestock (MoFL), and the Bangladesh Forest Department (BFD) under the Ministry of Environment, Forest and Climate Change (MoEFCC), coordinated through the National One Health Secretariat (NOHS) at IEDCR.

Project Overview

The project aims "to prevent and respond to health emergencies by strengthening the capacity of human, animal, and environmental health systems in Bangladesh using the One Health Approach." It is structured around five components:

1. Enhanced Early Warning and Surveillance Systems
2. Improved Prevention, Resilience and Response to Priority Health Threats
3. Strengthened Cross-Border Collaboration
4. Project Management and Knowledge Management
5. Contingent Emergency Response Component (CERC)

Methodology and Legal Framework

The ES Overview Assessment was prepared in line with the World Bank Environmental and Social Framework (ESF) and Bangladesh's national legal system, including the *Environment Conservation Act (1995)*, *Environment Conservation Rules (2023)*, *Labor Act (2006)*, *Wildlife Conservation and Security Act (2012)*, and related policies. It is a high-level overview assessment to identify the key potential environmental and social (E&S) risks of the proposed project activities, and proposes proportionate generic mitigation, management, and monitoring measures. It also reviewed the institutional capacity of the implementing agencies and the need for capacity building.

The assessment also aligns with international commitments such as the Basel, Stockholm, and Rotterdam Conventions, CITES, ILO Core Conventions, and the Paris Agreement. Comparative analysis reveals broad alignment between national laws and World Bank ESSs, with the Overview Assessment bridging identified gaps through an Environmental and Social Management Framework (ESMF), Waste Management Plan (WMP), Labor Management Procedures (LMP), Stakeholder Engagement Plan (SEP), and SEA/SH Action Plan, which will be prepared during the early stage of the project implementation (as per timeframe agreed in the Environmental and Social Commitment Plan (ESCP))..

Key Environmental and Social Risks

The project's **overall E&S risk classification is Substantial**, reflecting its multi-sectoral nature and the scope of laboratory and infrastructure activities. Major environmental risks include:

- Biomedical and hazardous waste generation;
- Occupational health and safety hazards for workers;

- Laboratory biosafety and effluent discharge risks;
- Energy and water-use inefficiency;
- Climate-related damage to infrastructure; and
- Biodiversity concerns from wildlife disease surveillance.

Key social risks comprise:

- Labor and working-condition gaps, including OHS and worker GRM;
- SEA/SH and gender-based violence;
- Risks of exclusion for women, persons with disabilities, and small ethnic communities (SECs);
- Temporary access restrictions during refurbishment; and
- Data privacy and security challenges under Bangladesh OH Surveillance and Early Warning System(BOHSEWS).

Cumulative and cross-sectoral risks—such as uncoordinated waste management and weak interagency communication—require harmonized oversight across DGHS, DLS, and BFD.

Mitigation and Management Strategy

The Overview Assessment proposes a hierarchy of controls (Avoid → Minimize → Mitigate → Monitor → Compensate) to address identified risks. Key measures include:

- Preparation and implementation of a unified Waste Management Plan across all laboratories;
- Development of Standard Operating Procedures (SOPs) for biosafety and laboratory operations;
- Implementation of Labor Management Procedures with Codes of Conduct and SEA/SH provisions;
- Establishment of Community Health and Safety Plans and localized awareness programs;
- Incorporation of E&S clauses in all bid and contract documents; and
- Continuous training and capacity building on ESF compliance, OHS, waste management, and stakeholder engagement.

Monitoring indicators cover waste segregation rates, OHS performance, grievance resolution rates, and stakeholder participation.

Stakeholder Engagement and Grievance Redress

The project emphasizes transparent, inclusive, and culturally appropriate stakeholder engagement, ensuring representation of women, SECs, and vulnerable groups. Consultations conducted during appraisal informed project design and revealed strong support for the One Health approach.

Future engagement will include regular public consultations, information campaigns, and feedback mechanisms under a two-tier Grievance Redress Mechanism (GRM) — one for workers (ESS2) and another for the general public (ESS10) with SEA/SH-sensitive reporting pathways.

Institutional Arrangements and Capacity Building

Implementation is anchored in a Project Management Unit (PMU) under MoHFW with Project Implementation Units (PIUs) at DGHS, DLS, and BFD. The National One Health Secretariat (NOHS) coordinates cross-agency actions and reporting.

Capacity-building priorities include training on the World Bank ESF, OHS, waste management, SEA/SH prevention, stakeholder engagement, and monitoring. Specialized modules will be delivered through institutions such as BUET-ES Learning Center and DoE Training Institute. A Training-of-Trainers approach will ensure sustainability and institutional memory.

Implementation Timeline and Monitoring

Within the first 12 months of project effectiveness, the following actions are prioritized:

- Recruitment of E&S specialists and designation of focal points;
- Preparation and disclosure of the ESMF, WMP, LMP, SEP, and SEA/SH Action Plan;
- Operationalization of GRM systems; and
- Conduct of introductory ESF and OHS trainings.

Subsequent years will emphasize operationalization of WMPs, third-party audits, continuous training, and adaptive management based on monitoring results.

Conclusions and Recommendations

The Overview Assessment concludes that project activities are environmentally and socially manageable with implementation of the proposed mitigation measures. Strengthened institutional capacity, transparent governance, and active stakeholder engagement are critical to sustaining One Health outcomes.

Key recommendations include:

- Accelerate staffing and capacity development within the first quarter post-effectiveness;
- Institutionalize cross-sectoral coordination through the PMU;
- Implement SEA/SH and waste management measures as early deliverables; and
- Integrate E&S monitoring within standard project supervision and reporting cycles.

Successful execution will yield an **integrated, climate-resilient, and inclusive One Health system**, enhancing Bangladesh's preparedness for future public-health emergencies and positioning the project as a national model for multisectoral resilience.

STRENGTHENING HEALTH EMERGENCY PREVENTION, PREPAREDNESS, RESPONSE AND RESILIENCE WITH ONE HEALTH APPROACH (P512376)

Environmental and Social Assessment

CHAPTER 1   Introduction

1.1 Background and Rationale

Bangladesh faces complex and evolving health-security challenges at the human–animal–environment interface. Rapid urbanization, high population density, and close coexistence between people, livestock, and wildlife heighten the risk of zoonotic, vector-borne, and food- or water-borne diseases. These threats are further amplified by climate-induced floods, cyclones, salinity intrusion, and heat stress, which alter pathogen ecology, vector habitats, and food systems.

The COVID-19 pandemic exposed the need for an integrated approach linking human, animal, and environmental health systems to prevent, detect, and respond to future pandemics and emerging infectious diseases. Bangladesh has endorsed the One Health Approach as a national priority, aiming to coordinate across ministries, improve laboratory networks, strengthen surveillance, and ensure biosafety, biosecurity, and data integration.

1.2 Project Development Objective (PDO)

The **Project Development Objective** is *"To prevent and respond to health emergencies by strengthening the capacity of human, animal, and environmental health systems in Bangladesh using the One Health Approach."*

1.3 Purpose of Environmental and Social Overview Assessment

This Environmental and Social Overview Assessment is a high-level assessment to inform the decision makers and stakeholders about the potential environmental and social risks and impacts of the project and the management approaches to mitigate these risks. The overview assessment has been prepared following the World Bank Environmental and Social Framework (ESF) and Bangladesh's national laws and regulations to:

- Identify key environmental and social (E&S) risks and impacts associated with project interventions across all components;

- Recommend proportionate mitigation and management measures;

- Inform preparation of a detailed **Environmental and Social Management Framework (ESMF)** and site-specific ES instruments (ESMPs, Waste Management Plans, SEA/SH Action Plan, etc.); and

- Support institutional capacity building, stakeholder engagement, and effective monitoring of E&S commitments.

It will guide the Government of Bangladesh and the implementing agencies DGHS (MoHFW), DLS (MoFL), and BFD (MoEFCC), in ensuring environmentally sound, socially inclusive, and climate-resilient implementation.

1.4 Scope and Methodology

The assessment adopts a systems-level approach covering all project components and subcomponents. It draws on:

- Review of project design, feasibility studies, and institutional frameworks;

- Analysis of relevant national legal and policy instruments (ECA 1995, ECR 2023, Labor Act 2006, Wildlife Act 2012, etc.) and the World Bank Environmental and Social Framework (ESF);

- Review of the potential environmental and social risks and impacts of the proposed activities of the project and generic mitigation measures;

- Review of lessons from World Bank-financed operations (SUFAL, LDDP, Road Safety Project)

- Review of institutional capacity of the implementing agencies for environmental and social risk management; and

- Consultations with key stakeholders and implementing agencies. The analysis is structured according to relevant ESSs (1–10) and will feed directly into the forthcoming ESMF.

CHAPTER 2   Project Description

2.1 Overview of Project Components and Activities

The project comprises five components designed to strengthen multisectoral capacity for health-emergency prevention, preparedness, response, and resilience through the One Health framework:

1. **Component 1: Enhanced (Re)-Emerging Infectious Disease Early Warning and Surveillance Systems**

    o   Establishment of the *Bangladesh One Health Surveillance and Early Warning System (BOHSEWS)* integrating human, animal, and environmental data streams.

    o   Expansion and modernization of laboratories under DGHS, DLS, and BFD, including installation of high-throughput diagnostic platforms and biosafety upgrades.

    o   Capacity development of epidemiologists and laboratory personnel, and introduction of digital data-sharing platforms and GIS-based risk mapping.

2. **Component 2: Improved Prevention, Resilience and Response to Priority Health Threats**

    o   Refurbishment and upgrading of upazila-level *Emergency Operations Centers (EOCs)* and district-level cold-chain facilities. Implementation of infection-prevention and control (IPC) and antimicrobial-resistance (AMR) containment measures.

    o   Establishment of rapid response teams, training on biosafety/biosecurity, and improvement of veterinary vaccine production and cold-chain systems.

    o   Integration of gender and inclusion considerations into emergency-preparedness training.

    o   Development of 100 emergency ready and climate shock resilient upazilas. Establishing, equipping and training rapid response teams at national and district levels and 100 selected upazilas.

    o   Improving capacity for critical care management in up to 7 hospitals in four most populated urban centers.

    o   Implementation of interventions against antimicrobial-resistance (AMR), Rabies and Avian Influenza.

3. **Component 3: Strengthened Cross-Border Collaboration on Health Emergencies**

    o   Joint risk assessments and simulation exercises with neighboring countries.

    o   Cross-border disease surveillance and data exchange.

    o   Participation in regional technical networks such as WHO SEARO, WOAH, and FAO.

4. **Component 4: Project Management and Knowledge Management (US$ 10 million)**

    o   Establishment of the Project Management Unit (PMU) at MoHFW and Project Implementation Units (PIUs) at DLS and BFD.

- Recruitment of dedicated environmental and social specialists/focal points as per the ESCP.

- Development of monitoring systems, reporting protocols, and dissemination of best practices.

5. **Component 5: Contingent Emergency Response Component (CERC)**

- Provides immediate financing flexibility during eligible crises.

- Activation guided by a CERC Manual and supported by a CERC-ESMF Annex outlining environmental and social management arrangements.

2.2 Project Geographical Coverage and Beneficiaries

The project will operate nationwide, with interventions spanning urban, peri-urban, and rural districts. Key beneficiaries include:

- National and local health, livestock, and environmental agencies;
- Laboratory and field staff;
- Livestock farmers and wildlife personnel;
- Vulnerable populations, including women, small ethnic communities (SECs), and climate-exposed households.

Indirectly, the entire population benefits through improved epidemic preparedness, resilient health services, and better coordination across sectors.

2.3 Key Implementing Agencies and Partners

- **Ministry of Health and Family Welfare (MoHFW):** Lead implementing agency; oversees human-health surveillance, public laboratories, and Emergency Operation Center (EOC) networks. Directorate General of Health Service (DGHS), under MoHFW will also lead one of the PIUs.

  Existing Institutional Setup:

  DGHS implements environmental and occupational health management through the **Health Economics Unit (HEU)** and the **Health Engineering Department (HED)** for infrastructure-related environmental compliance.

  The **Infection Prevention and Control (IPC) Unit** under DGHS is responsible for biosafety, biomedical waste management, and hygiene monitoring across health facilities.

  The **IEDCR (Institute of Epidemiology, Disease Control and Research)** maintains laboratories with dedicated biosafety officers and laboratory safety committees.

  DGHS assigns ES focal points in PMU/PIU for WB funded Projects (COVID, HGSP etc) .

Capacity and Gaps:

DGHS has experience implementing ESMFs and ESMPs under donor-funded health projects but **requires additional staffing and training** to integrate E&S compliance across all divisions.

Limited human resources and coordination mechanisms between IPC, waste management, and construction supervision units constrain consistent ES monitoring.

- **Department of Livestock Services (DLS, MoFL):** Manages veterinary laboratories, animal-health surveillance, and Antimicrobial Resistance (AMR) monitoring.

Existing Institutional Setup:

DLS manages animal health, veterinary laboratories, and livestock waste through its **Epidemiology Unit** and **Livestock Research Institute (BLRI)**.

Biosafety and waste disposal practices are guided by **Veterinary Public Health (VPH)** sections and individual laboratory managers.

DLS has designated **veterinary officers and surveillance focal persons** at regional and district levels who oversee zoonotic disease monitoring.

Capacity and Gaps:

While DLS has technical staff with veterinary and laboratory expertise, it lacks a **formal ES management unit or dedicated ES officers**.

Awareness of environmental compliance requirements (e.g., waste disposal, laboratory effluents) remains limited, especially at field level.

- **Bangladesh Forest Department (BFD, MoEFCC):** Leads wildlife-disease monitoring, biodiversity management, and environmental-health linkages. Implementation is guided by the National One Health Steering Committee (NOHSC) and coordinated by the National One Health Secretariat (NOHS) hosted at IEDCR.

Existing Institutional Setup:

FD addresses environmental management and wildlife health through the **Wildlife and Nature Conservation Circle (WNCC)** and its **Wildlife Crime Control Unit (WCCU)**.

Field-level forest officers and wildlife inspectors are responsible for implementing the **Wildlife (Conservation and Security) Act, 2012**.

Environmental considerations are integrated into forest management plans, but ES-specific focal points are **not institutionalized**.

Capacity and Gaps:

FD staff are experienced in environmental protection and biodiversity conservation but require **specialized training** in zoonotic disease risk management, biosafety, and occupational health.

Coordination with DGHS and DLS on joint ES issues remains limited.

2.4 Anticipated Physical Works and Facilities

Most works will involve minor civil refurbishment of existing facilities such as:

- Upgrading laboratories (BSL-2 and BSL-3 levels) for human, animal, and wildlife health;

- Constructing or rehabilitating drainage, electrical, and access infrastructure;

- Expanding cold-chain and storage units at district level; and

- Improving biosecure enclosures and quarantine units for wildlife testing. All works will occur within existing government premises, avoiding land acquisition and large-scale resettlement.

CHAPTER 3   Institutional and Implementation Arrangements

3.1 Institutional Framework Overview

The Strengthening Health Emergency Prevention, Preparedness, Response and Resilience with One Health Approach project adopts a multi-sectoral implementation structure, engaging three core ministries — the Ministry of Health and Family Welfare (MoHFW), Ministry of Fisheries and Livestock (MoFL), and Ministry of Environment, Forest and Climate Change (MoEFCC), under the strategic coordination of the National One Health Steering Committee (NOHSC).

The overall management is anchored at the Project Management Unit (PMU) housed in the MoHFW, which leads fiduciary, technical, and E&S oversight functions. The Project Implementation Units (PIUs) within DGHS (MoHFW), DLS (MoFL), and BFD (MoEFCC) are responsible for day-to-day implementation, sector-specific E&S management, and coordination with the PMU and the World Bank.

This structure ensures unified governance across the human, animal, and environmental health sectors, while maintaining accountability and adherence to the World Bank's Environmental and Social Framework (ESF).

3.2 Institutional Roles and Responsibilities

3.2.1 National One Health Steering Committee (NOHSC)

- **Chair:** Secretary, MoHFW (rotational among MoHFW, MoFL, and MoEFCC)

- **Members:** Senior officials from all three ministries, representatives from the Ministry of Disaster Management, FAO, WHO, WOAH, and other development partners.

- **Responsibilities:**

    o   Provide strategic and policy direction for the One Health framework.

    o   Review E&S performance and progress of implementation.

    o   Approve annual E&S workplans, training priorities, and budget allocations.

    o   Facilitate inter-ministerial coordination and integration of the ESMF into national systems.

3.2.2 National One Health Secretariat (NOHS)

Located at IEDCR, the NOHS serves as the technical and coordination hub for the project.

- **Responsibilities:**

    o   Maintain the central repository of E&S documents (ESMPs, screening reports, monitoring data).

    o   Coordinate quarterly E&S performance reviews among the three PIUs.

    o   Maintain a digital Environmental and Social Management Information System (ESMIS) for documentation and reporting.

o Oversee capacity-building programs, workshops, and interagency technical sessions.

3.2.3 Project Management Unit (PMU), MoHFW

The PMU, led by the Project Director, is responsible for overall project management, fiduciary compliance, and E&S oversight.

- **Key E&S Responsibilities:**

    o Recruit one Environmental Specialist and one Social Specialist within three months of project effectiveness (as committed in the ESCP).

    o Supervise the preparation, disclosure, and implementation of all E&S instruments (ESMF, site-specific ESMPs, SOP, Waste Management Plan, LMP, SEP, SEA/SH Action Plan, etc.).

    o Coordinate submission of semi-annual E&S progress reports to the World Bank.

    o Integrate E&S requirements into procurement documents, contracts, and supervision activities.

    o Consolidate monitoring information from DGHS, DLS and BFD PIUs for centralized reporting.

3.2.4 Project Implementation Units (PIUs)

Each of the three implementing agencies, DGHS, DLS, and BFD, will establish its own PIU under respective ministry leadership.

- **DGHS PIU:** Oversees human-health surveillance, laboratories, and EOC upgrades.

- **DLS PIU:** Leads veterinary infrastructure, AMR containment, and livestock surveillance.

- **BFD PIU:** Manages wildlife-disease investigation, biodiversity conservation, and environmental safeguards.

Each PIU will assign an E&S focal point within one month of project effectiveness and ensure coordination with the PMU and NOHS. PMU will assign one ES Specialist within three months of effectiveness.

3.3 Environmental and Social Management Coordination

Effective coordination of E&S risk management will rely on both vertical (national-to-local) and horizontal (cross-sectoral) mechanisms.

Vertical Coordination:

- PMU ensures standardization of procedures and ESMF application across subprojects.

- PIUs and field-level units conduct screening, prepare site-specific ESMPs, and oversee contractor compliance.

- Field officers and contractors report monthly to PIUs, which in turn report to PMU bi-annually.

Horizontal Coordination:

- NOHS convenes regular joint review meetings (quarterly) with E&S specialists from all agencies.

- The World Bank E&S team participates in biannual supervision missions and provides implementation support.

- Digital coordination through the ESMIS enables real-time tracking of compliance, incidents, and grievances.

3.4 Environmental and Social Responsibilities Across the Project Cycle

Project Stage	Key E&S Activities	Responsible Agency
Planning & Design	Screening, stakeholder consultation, site-specific ESMP preparation, inclusion of E&S clauses in bidding documents	PIUs (DGHS, DLS, BFD) with PMU oversight
Procurement	Integration of environmental, social, and SEA/SH provisions in contract documents	PMU with PIUs
Construction / Refurbishment	Site supervision, OHS monitoring, waste management, labor GRM operations	PIUs, contractors
Operation	Monitoring laboratory biosafety, community health, waste management, GRM, data protection	PIUs, line departments
Reporting & Disclosure	Bi-annual E&S reports, incident notifications, and stakeholder feedback disclosure	PMU

3.5 Capacity Assessment and Development Plan

Although the three agencies DGHS, DLS, and BFD have prior experience implementing World Bank projects, institutional capacity for managing complex cross-sectoral ESF requirements needs to be strengthened and requires targeted intervention.

Key Capacity Strengthening Requirement:

- Need for a dedicated, permanent E&S units in the implementing agencies.

- Cross-sectoral risk management (e.g., wildlife biosafety and AMR waste disposal).

- Field-level experience in applying site-specific ESMPs and conducting community consultations.

- Reporting consistency and documentation.

Proposed Capacity-Building Measures:

1. Introductory ESF and ESS training for all PIU and PMU staff within six months of effectiveness.

2. Specialized thematic training on:

   o Occupational and Community Health and Safety (OHS/CHS)

   o Waste Management and Pollution Prevention

   o SEA/SH risk prevention, case management, and survivor-centered GRM

   o Bid Document and ES issues

   o Incident reporting following the World Bank ESIRT protocol

   o Planning and implementation of GRM

3. Annual refresher training on E&S monitoring and reporting.

4. On-the-job mentoring through the World Bank's ES specialists and periodic peer-learning workshops.

5. Continuous dialogue and technical support for designing and establishment of E&S unit in the implementing agencies.

3.6 Monitoring, Reporting, and Supervision

- **Bi-annual E&S performance reports** will be prepared by the PMU and submitted to the World Bank within 15 days of each reporting period's end.

- **Contractors' monthly E&S compliance reports** will be reviewed by PIUs and summarized in the bi-annual PMU report.

- **Incident and accident notifications** (including SEA/SH and OHS incidents) will follow the ESIRT protocol, initial notice within 48 hours and a detailed corrective-action report within 10 days or as agreed timeline.

3.7 Grievance Redress and Accountability

The project will use the experience from WB supported project and will operationalize two levels of grievance redress:

- **Worker-specific GRM** (under LMP) managed by contractors and PIUs for labor-related complaints.

- **Project-wide GRM** accessible to all stakeholders through multiple channels (phone, SMS, email, complaint boxes) with a dedicated SEA/SH-sensitive intake mechanism.

All GRM data will be consolidated and reported with the bi-annual report by the PMU for monitoring and learning purposes.

3.8 Timeline for E&S Institutional Actions

Action	Responsible Entity	Timeline (from Effectiveness)
Recruit E&S Specialists at PMU	MoHFW/PMU	Within 3 months
Assign E&S Focal Points in PIUs	DGHS, DLS, BFD/PIUs	Within 1 month
Develop ESMF, site specific ESMPs, SEA/SH Action Plan, Waste Management Plan, LMP	PMU & PIUs	Within three months of effectiveness or before initiating any physical activities of the Project, whichever comes first.
Conduct ESF/OHS/SEA-SH Training	PMU & PIUs	Beginning within 6 months
Operationalize GRMs	PMU & PIUs	Within 3 months
Submit First E&S Report to WB	PMU	6 months post-effectiveness

CHAPTER 4   Policy, Legal, and Regulatory Framework

4.1 National Environmental and Social Legal Framework

Bangladesh has an evolving and comprehensive environmental and social regulatory framework that guides sustainable development, environmental protection, labor standards, and public participation. The project will be governed by the following national acts, rules, and policies:

Environmental and Conservation Laws

Law/Regulation	Key Provisions Relevant to the Project
Environment Conservation Act (ECA), 1995 (Amended 2010)	Mandates environmental clearance for all industrial and infrastructure activities. The Department of Environment (DoE) classifies projects by risk category (Green, Yellow, Orange, Red). The project's civil works, lab upgrades, and vaccine facilities fall under Orange category requiring Initial Environmental Examination (IEE) and Environmental Clearance Certificates (ECC).
Environment Conservation Rules (ECR), 2023	Provides updated classification and procedures for environmental clearance. Introduces digital application and monitoring systems and aligns with global environmental management standards.
Medical Waste Management Rules, 2008 (under amendment)	Defines segregation, storage, transportation, treatment, and disposal of medical and infectious waste. Highly relevant for hospital, veterinary, and wildlife laboratories.
Hazardous Waste (Management and Transboundary Movement) Rules, 2021	Regulates handling and transboundary movement of hazardous waste in line with the Basel Convention. Applicable to chemical reagents, expired vaccines, and lab waste.
Wildlife (Conservation and Security) Act, 2012	Protects biodiversity, regulates captive wildlife management, and prohibits illegal trade or handling of wildlife. Relevant for BFD-led wildlife surveillance and biosafety operations.
Bangladesh Biosafety Rules, 2012 and National Biosafety Framework, 2007	Provides institutional and procedural guidelines for managing genetically modified organisms (GMOs) and pathogenic materials in labs.
Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009 Plan (MCPP), 2021–2041	Promotes climate resilience, renewable energy, and risk-sensitive development — supporting the project's focus on resilient health and environmental systems.

Social, Labor, and Safety Laws

Law/Regulation	Key Provisions Relevant to the Project
Bangladesh Labor Act, 2006 (Amended 2018)	Sets standards for wages, working hours, OHS, grievance redress, and prohibits child and forced labor. Relevant to project workers, contractors, and suppliers.
Bangladesh Labor Rules, 2015 (Amended 2022)	Operationalizes labor rights, occupational health and safety measures, and welfare provisions.
Right to Information Act, 2009	Ensures access to project-related information, enhancing transparency and accountability under ESS10.
Disability Rights and Protection Act, 2013	Mandates inclusion and accessibility for persons with disabilities in public services and infrastructure.
Indigenous Peoples Rights under the Constitution & CHT Regulation 1900	Protects cultural, land, and governance rights of Small Ethnic Communities (SECs), guiding ESS7 compliance.
National Women Development Policy, 2011	Promotes gender equality, women's participation, and prevention of violence and SEA/SH.

4.2 National Environmental Assessment and Permitting Process

The Department of Environment (DoE) under the Ministry of Environment, Forest and Climate Change (MoEFCC) is the regulatory authority for environmental assessment and permitting. Projects are screened and categorized as Green, Yellow, Orange and Red based on potential environmental impacts. The project's minor civil works, laboratories, and cold-chain facilities are expected to fall under Orange category due to biomedical and hazardous waste handling.

Environmental Clearance Process:

1. Application for Site and Environmental Clearance (through online portal);

2. Submission of IEE and EMP (for Orange B) or EIA (for Red);

3. Public consultation and DoE review;

4. Issuance of Environmental Clearance Certificate (ECC) valid for one year and renewable annually.

Each subproject will comply with this national clearance process in addition to the World Bank's ESF requirements.

4.3 Relevant National Policies and Strategic Frameworks

- **National Environment Policy, 2018** – Provides an overarching framework for sustainable environmental management and green growth.

- **National Health Policy, 2011** – Promotes health-system resilience and integration with disaster and emergency management.

- **National Livestock Development Policy, 2007** – Prioritizes disease surveillance, biosecurity, and safe animal production systems.

- **National One Health Strategic Framework (Draft, 2024)** – Institutionalizes cross-sectoral collaboration for zoonotic-disease control and surveillance.

- **National Biodiversity Strategy and Action Plan (NBSAP) 2016–2021** – Integrates biodiversity conservation with development planning.

- **National Water Policy, 1999** – Regulates water quality, waste discharge, and pollution control relevant to lab effluent.

- **National Occupational Health and Safety Policy (Draft)** – Seeks to formalize safety standards for all public-sector infrastructure projects.

4.4 International Conventions and Treaties

Bangladesh is a signatory to multiple international agreements that reinforce ESF compliance, including:

- **Basel, Rotterdam, and Stockholm Conventions** on hazardous chemicals and waste management.

- **Convention on Biological Diversity (CBD)** and **CITES** on protection of biodiversity and endangered species.

- **ILO Core Conventions** on labor rights, OHS, and non-discrimination.

- **International Health Regulations (IHR, 2005)** governing transboundary health emergencies.

- **Paris Agreement (2015)** on climate change mitigation and adaptation.

4.5 World Bank Environmental and Social Framework (ESF)

The project will comply with the World Bank ESF , guided by ten Environmental and Social Standards (ESSs):

ESS	Relevance to the Project
ESS1: Assessment and Management of E&S Risks and Impacts	Relevant. The project involves refurbishment of laboratories, generation of hazardous waste, and potential biosecurity risks. An ESMF and site-specific ESMPs will guide risk management.

ESS	Relevance to the Project
ESS2: Labor and Working Conditions	Relevant. Applies to all direct, contracted, and primary supply workers. LMP will define OHS measures, terms of employment, and grievance mechanisms.
ESS3: Resource Efficiency and Pollution Prevention and Management	Relevant. Addresses laboratory waste, chemical handling, emissions, and resource (water, energy) efficiency. A Waste Management Plan (WMP) and lab SOPs will be developed.
ESS4: Community Health and Safety	Relevant. Ensures safe waste disposal, controls infection and emergency response, and manages SEA/SH risks.
ESS5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement	Relevant. Project not expected to have any land acquisition and any resettlement. Works occur within existing premises. However, ESMF will include screening provisions for access restrictions to natural resources.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant. Addresses potential impacts from wildlife sampling, vaccine testing, and disease surveillance activities involving biodiversity interfaces.
ESS7: Indigenous Peoples (Small Ethnic Communities)	Relevant. Project interventions in Chittagong Hill Tracts and northern districts may affect SEC populations. They may be left out of culturally cognizant consultation. They will be consulted as per procedures in SEP. The ESMF and SEP will include culturally appropriate engagement protocols.
ESS8: Cultural Heritage	Relevant for chance finds during minor construction or lab refurbishment. Chance Find Procedures will be included in all contracts.
ESS9: Financial Intermediaries	Not relevant. No financial intermediaries are involved.
ESS10: Stakeholder Engagement and Information Disclosure	Relevant. A SEP has been prepared and will be updated semi-annually to ensure continuous stakeholder dialogue and inclusion of vulnerable groups.

4.6 Comparative Analysis of National Framework and World Bank ESF

Thematic Area	National Provisions	World Bank ESS Requirements	Gaps / Alignment Issues	Bridging Measures in ESMF
Environmental Assessment	DoE requires IEE/EIA for "Red" projects. Focuses on biophysical impacts.	ESS1 requires holistic ES assessment covering social, labor, gender, and inclusion.	Limited integration of social aspects.	Adopt integrated ES screening and risk classification tool (ESS1-aligned).
Labor & OHS	Labor Act covers safety but limited contractor oversight.	ESS2 includes non-discrimination, worker GRM, SEA/SH provisions.	Labor Act mostly aligns with ESS2. But has weak contractor compliance and gender-based provisions.	Implement LMP with OHS, SEA/SH clauses and independent monitoring. Include ES clause in bid/ contract document
Pollution & Waste	Biomedical and hazardous waste rules exist but enforcement weak.	ESS3 promotes pollution prevention and resource efficiency.	Inconsistent monitoring and disposal infrastructure.	Develop Waste Management Plan and SOPs; regular DoE reporting.
Community Health & Safety	Limited policy focus outside health sector.	ESS4 requires community risk prevention, emergency response, SEA/SH protection.	Limited community-based risk management and gender integration.	Include Community Health and Safety Plan and SEA/SH Action Plan.
Land & Resettlement	Governed by Acquisition and Requisition of Immovable Property Act, 2017 (ARIPA).	ESS5 extends to restrictions on access and livelihood impacts, consideration to informal settlers and compensation calculated as replacement cost.	ARIPA excludes voluntary land use and informal users. And also compensation is not calculated as replacement cost	ESMF screening for any restriction to access to natural resources/livelihood impact. Calculation of compensation as per replacement cost. Consideration for informal settlers.
Indigenous Peoples / SECs	CHT Regulations	ESS7 ensures Free, Prior, and	FPIC not mandated under	Adopt culturally appropriate consultation

Thematic Area	National Provisions	World Bank ESS Requirements	Gaps / Alignment Issues	Bridging Measures in ESMF
	recognize local governance but not applicable nationwide.	Informed Consent (FPIC). The impact on land, language/ culture and resettlement is considered	national law. Also impact on SEC land, culture and resettlement also not explicitly illustrated	and consent procedures. Screen impact on land, culture and resettlement
Cultural Heritage	Antiquities Act 1968 and Museum Ordinance 1983 protect artifacts.	ESS8 extends protection to unregistered sites and chance finds. Intangible cultural heritage impact (replacement of use of traditional medicine) also included	No formal chance find procedure in national system. No mention on impact of intangible cultural heritages	Include chance find procedure in construction contracts. Screen for negative impact on intangible cultural heritages.
Stakeholder Engagement	RTI Act promotes information disclosure.	ESS10 requires structured SEP and grievance systems.	No formal stakeholder engagement framework.	Operationalize SEP and multi-channel GRM (including SEA/SH-sensitive pathways).

4.7 Key Takeaways

- Bangladesh's legal framework provides a strong foundation for environmental management, but integration of social, gender, and inclusion aspects requires to be included.

- The ESMF will bridge national and ESF requirements, ensuring that screening, planning, implementation, and monitoring fully comply with World Bank ESSs.

- A joint E&S coordination mechanism will ensure consistent application across all implementing agencies.

CHAPTER 5 Identification of Environmental and Social Risks and Impacts

5.1 Overview

The project has been assigned an overall Substantial Environmental and Social (E&S) Risk Classification, considering the diversity of implementing agencies, multiple infrastructure and laboratory refurbishments, potential exposure to hazardous and infectious materials, potential impact on biodiversity, risk of restrictions to access to natural resources, and engagement with vulnerable groups. Risks are both direct (from project activities) and indirect (from contextual factors such as climate events, social norms, and limited capacity at field level).

The subsections below identify risks and impacts by theme, corresponding ESS relevance, and indicative risk ratings.

5.2 Environmental Risks and Impacts

Thematic Area	Description of Risk/Impact	ESS Relevance	Risk Rating	Justification
1. Laboratory Refurbishment and Civil Works	Minor refurbishment and construction at laboratories, EOCs, cold-chain centers, and veterinary facilities may cause dust, noise, vibration, debris, and safety hazards. Improper storage of materials and temporary access disruptions are also expected.	ESS1, ESS3, ESS4	Moderate	Activities are small-scale and within existing compounds; manageable through site-specific ESMPs and contractor OHS protocols.
2. Management of Biomedical and Hazardous Waste	Generation of infectious and chemical waste from diagnostic labs, vaccine production, and veterinary testing. Inadequate segregation and disposal could lead to contamination, pathogen release, or occupational exposure.	ESS1, ESS3, ESS4	Substantial	Existing waste systems are weak; cross-sectoral waste collection (DGHS, DLS, BFD) uncoordinated. Requires robust Waste Management Plan (WMP) and laboratory SOPs.
3. Occupational Health and Safety (OHS)	Exposure of health, veterinary, and lab workers to zoonotic pathogens, chemicals, or accidents. Poor PPE use and emergency preparedness	ESS2, ESS4	Substantial	High-risk work environments with varying OHS culture; mitigable through training, PPE provision, and biosafety audits.

Thematic Area	Description of Risk/Impact	ESS Relevance	Risk Rating	Justification
	may heighten injury or infection risks.			
4. Resource Efficiency (Energy, Water Use)	Increased water and energy consumption by labs, cold chains, and EOCs. Potential emissions from diesel generators and refrigeration systems.	ESS3	Moderate	Impacts are localized; energy-efficient and solar backup systems can mitigate.
5. Pollution Prevention and Wastewater Management	Effluents containing biological or chemical contaminants from labs, vaccine facilities, or washing areas may enter municipal drains.	ESS3	Substantial	Existing ETP/STP systems inadequate in some facilities. Requires site-level effluent management plan.
6. Climate and Natural Disaster Risks	Flooding, cyclones, or power disruptions could damage lab infrastructure and cold chains.	ESS1, ESS4	Substantial	Bangladesh is highly climate-vulnerable; climate-resilient designs and emergency protocols needed.
7. Biodiversity and Wildlife Interactions	Wildlife disease surveillance and sampling may inadvertently stress species, cause habitat disturbance, or lead to improper carcass disposal.	ESS6	Moderate	Activities limited in scope but sensitive; mitigable through BFD-led standard wildlife handling protocols.

5.3 Social Risks and Impacts

Thematic Area	Description of Risk/Impact	ESS Relevance	Risk Rating	Justification
1. Access Restrictions and Livelihood Impacts	Temporary restrictions near facilities or in wildlife zones could limit local access to natural resources (e.g., grazing, small businesses).	ESS5	**Moderate**	No land acquisition but potential access restrictions; minor disruptions possible during refurbishment. Screening in ESMF will manage site-level risks.
2. Labor and Working Conditions	Risk of unsafe working conditions, delayed payments, child/forced labor, and lack of grievance access among contracted workers.	ESS2	**Substantial**	National labor compliance weak at contractor level; mitigable through LMP and worker GRM.
3. Exclusion and Equity Risks	Risk that marginalized groups (women, persons with disabilities, SECs, poor farmers) may not equally benefit from surveillance and health services.	ESS10, ESS7	**Substantial**	Historical barriers in health access and participation; requires inclusive engagement strategy under SEP.
4. Data Privacy and Digital Surveillance	The One Health surveillance platform (BOHSEWS) may collect personal or sensitive data without proper safeguards.	ESS1, ESS10	**Moderate–Substantial**	Digital governance and privacy frameworks need further development. Mitigation: adopt data anonymization and secure-access protocols.
5. SEA/SH and Gender-Based Violence (GBV)	Risk of sexual exploitation, harassment, or abuse during project implementation, particularly in remote facilities with female staff and beneficiaries.	ESS2, ESS4, ESS10	**Substantial**	Health-sector projects have high SEA/SH risk. Requires SEA/SH Action Plan, Codes of Conduct, and survivor-centered GRM.
6. Indigenous Peoples / Small Ethnic	Some interventions (wildlife surveillance, health campaigns) may	ESS7	**Moderate–Substantial**	SEC engagement often limited; needs culturally appropriate

Thematic Area	Description of Risk/Impact	ESS Relevance	Risk Rating	Justification
Communities (SEC)	occur in or near CHT and northern ethnic areas. Risk of exclusion or cultural insensitivity.			communication and consent-based participation.
7. Community Health and Safety	Movement of lab materials, construction, or waste disposal may expose nearby communities to risks.	ESS4	Substantial	Impacts localized and preventable via community health and safety plans and awareness campaigns.
8. Stakeholder Grievance Management	Without effective feedback channels, concerns may remain unresolved, reducing trust.	ESS10	Substantial	Project GRM planned and needs operationalization and awareness-building across sites.

5.4 Cumulative and Cross-Sectoral Risks

Beyond component-level impacts, cumulative risks arise from interlinked health, livestock, and environmental operations:

- **Cross-sectoral Waste Flow:** Multiple waste streams (human, animal, wildlife labs) could strain municipal systems if not harmonized under a unified WMP.

- **Interagency Coordination Gaps:** Delays in E&S communication among DGHS, DLS, and BFD could cause uneven compliance.

- **Public Perception and Misinformation:** Fear or misunderstanding about zoonotic disease handling may generate social resistance.

- **Climate and Disaster Overlap:** Natural disasters can amplify infection risk, overwhelm response systems, and disrupt E&S safeguards.

5.5 Summary of Risk Ratings

Risk Category	Description	Overall Rating
Environmental Risks	Biomedical waste, OHS hazards, biosafety lapses, pollution, biodiversity risks	Substantial

Risk Category	Description	Overall Rating
Social Risks	Inclusion gaps, SEA/SH, data privacy, labor issues, indigenous engagement	Substantial
Institutional Capacity Risk	Lack of permanent E&S unit, reassignment of E&S experts, experience with cross-sector ESF implementation	Moderate–Substantial
Overall Project E&S Risk Classification	Considering intersectoral complexity, decentralized implementation, and SEA/SH sensitivity	Substantial

5.6 Preliminary Mitigation and Management Measures

- **Waste Management:** Prepare a unified *Waste Management Plan (WMP)* covering human, animal, and wildlife labs, aligned with DoE guidelines and WHO biosafety standards.

- **Occupational and Community Health & Safety:** Enforce contractor OHS plans, emergency drills, and community awareness on safety during works.

- **Labor Management:** Implement *Labor Management Procedures (LMP)* with worker GRM and regular inspections.

- **SEA/SH Mitigation:** Develop an *SEA/SH Action Plan* and require signed *Codes of Conduct* from all workers and supervisors.

- **Inclusion and Gender Measures:** Ensure inclusive consultations, gender-sensitive messaging, and female participation in EOC training and community health campaigns.

- **Digital Privacy Safeguards:** Establish a data protection protocol for BOHSEWS, including access controls, anonymization, and consent-based data use.

- **Biodiversity and Wildlife Protocols:** Adopt standard operating procedures for wildlife capture, testing, and carcass disposal under BFD supervision.

- **ESMF and Site-Specific ESMPs:** Include provisions of mitigation measures to address impacts on small ethnic communities, biodiversity, community health and safety protocol, restrictions to access to natural resources.

- **ES Aspects in Contract Documents:** To ensure contractor's ES compliance, include all ES aspects in Bid and contract documents, including site-specific ESMPs, Code of Conduct, OHS, SEA/SH issues.

- **Laboratory SOPs:** Develop SOPs to address safety and security protocols as per good international industry practice (GIIP).

- **Capacity Building:** Conduct structured ESF training (ESCP Section B) for DGHS, DLS, and BFD to ensure consistent E&S risk management.

5.7 Linkage with ESMF and Future ES Instruments

This assessment provides the baseline for developing the detailed Environmental and Social Management Framework (ESMF). The ESMF will:

- Define stepwise screening, risk classification, and mitigation processes for all subprojects;

- Include standard site-specific ESMP templates and SOP guidelines for lab refurbishment;

- Provide protocols for stakeholder engagement, grievance redress, and monitoring; and

- Serve as the reference for preparing site-specific ESMPs, WMPs, SEA/SH Action Plan, laboratory SOPs, mitigation measures to address restrictions to natural resources, impact on biodiversity, community health and safety and small ethnic communities

CHAPTER 6   Mitigation and Management Measures

6.1 Purpose and Approach

The mitigation strategy follows a hierarchy of controls which is Avoid → Minimize → Mitigate → Monitor → Compensate and integrates environmental and social actions into the project cycle. All mitigation measures are proportionate to the identified risks under ESS1–ESS10 and will be operationalized through ESMF, site-specific ESMPs, Waste Management Plans (WMPs), Labor Management Procedures (LMP), SEP, Laboratory SOPs, and a SEA/SH Action Plan.

6.2 Environmental Risk Mitigation Measures

Risk/Impact	Mitigation/Management Measures	Responsible Entity	Monitoring Frequency
Civil Works: Dust, Noise, Debris, Safety Hazards	Include ES specifications in contracts; provide PPE, fencing, signage; schedule noisy work during day; enforce waste segregation and safe disposal; monitor air/noise levels.	Contractors / PIUs (DGHS, DLS, BFD) under PMU supervision	Weekly site inspection by PIUs; monthly report to PMU
Biomedical and Hazardous Waste Management	Prepare unified WMP covering human, animal and wildlife labs; provide color-coded bins; use autoclaving and secure off-site disposal; train waste handlers; coordinate with DoE for compliance.	PMU E&S Specialists + PIUs + DoE	Monthly monitoring by PIUs; quarterly audit by PMU
OHS and Biosecurity in Labs	Develop and adopt laboratory Standard Operating Procedures (SOPs) for biosafety levels; mandatory PPE and immunization for staff; conduct emergency drills and incident reporting.	DGHS/DLS/BFD Lab Managers under PMU	Monthly internal inspection; quarterly report to PMU
Pollution and Effluent Management	Use ETP/STP where needed; implement spill prevention plans; periodic testing of effluent quality and discharge compliance.	Contractors / PIUs / DoE	Quarterly testing and reporting
Energy and Water Efficiency	Integrate energy-efficient equipment (LED, solar backup); rainwater harvesting in refurbished facilities.	PIUs + PMU Procurement Team	Annual energy/water audit
Biodiversity and Wildlife Handling	Develop BFD-approved wildlife/biodiversity impact mitigation measures under ESMF; use trained vets and protective gear; prohibit habitat	BFD PIU / Field Units	Per-activity inspection + annual audit

Risk/Impact	Mitigation/Management Measures	Responsible Entity	Monitoring Frequency
	disturbance and ensure safe carcass disposal.		

6.3 Social Risk Mitigation Measures

Risk/Impact	Mitigation/Management Measures	Responsible Entity	Monitoring Frequency
Access Restrictions & Livelihood Impacts	Conduct site screening to avoid livelihood loss due to access restrictions; consult affected households; ensure alternate access routes during works.	PIUs + Local Authorities	Before construction and monthly during works
Labor & Working Conditions	Implement LMP; sign Codes of Conduct; ensure timely payment; establish worker GRM; inspect labor camps.	Contractors / PIUs under PMU	Monthly inspection + GRM tracking
SEA/SH and Gender-Based Violence	Prepare SEA/SH Action Plan; conduct mandatory training; establish confidential reporting and referral pathways; zero-tolerance policy in contracts.	PMU Social Specialist / PIUs / Contractors	Quarterly review and training logs
Inclusion of Vulnerable Groups	Develop inclusive outreach strategy in SEP; translate communication materials into local languages; engage women's and SEC representatives in planning.	PMU / PIUs	Bi-annual consultation review
Data Privacy and Digital Surveillance	Enforce data-protection protocols for BOHSEWS – data anonymization, restricted access, and staff training.	PMU / DGHS IT Unit	Annual security audit
Community Health and Safety	Implement Community Health & Safety Plan; fencing, signage, awareness sessions; collaboration with local health offices on disease control.	PIUs + Local Health Offices	Monthly supervision + quarterly report
Indigenous Peoples Engagement (SECs)	Conduct culturally appropriate consultations; obtain broad community support for activities in SEC areas; employ local liaison persons.	PMU and PIUs	Pre-activity consultation and annual review

6.4 Cross-Cutting and Institutional Measures

1. **Unified E&S Monitoring System:** Develop an integrated *Environmental and Social Monitoring Dashboard* under PMU to record incidents, GRM data, training logs, and compliance status across PIUs.

2. **E&S Capacity Building:** Conduct structured ESF training, Introductory, Thematic (OHS, Waste, SEA/SH), and Refresher, aligned with ESCP Section B.

3. **Public Disclosure and Reporting:** Publish semi-annual E&S performance summaries on ministry websites and local notice boards to ensure transparency.

4. **Emergency Preparedness and Response:** Maintain site-specific emergency response plans with contact lists, first-aid kits, and mock drills twice per year.

6.5 Monitoring and Evaluation Framework

Parameter	Indicator	Frequency	Reporting Entity
Implementation of E&S Instruments	# of ESMPs/WMPs prepared and disclosed	Quarterly	PMU / PIUs
Waste Management Compliance	% of labs with segregation & autoclaving in place	Bi-annual	PIUs + DoE
OHS Performance	# of accidents / near-miss reported	Monthly	Contractors / PIUs
SEA/SH Prevention	# trained workers / # SEA/SH cases resolved	Quarterly	PMU Social Specialist
GRM Effectiveness	# grievances received vs resolved (% within timeline)	Quarterly	PIUs / PMU
Stakeholder Engagement	# consultations held / % female participation	Bi-annual	PMU + PIUs

6.6 Accountability and Supervision

- **Contractual Accountability:** All related, contract-specific E&S requirements will be embedded in bidding documents and performance contracts.

- **Independent Verification:** A third-party firm or national university may be commissioned mid-term to verify compliance.

- **Adaptive Management:** The ESMF and site-specific ESMPs will allow adjustment of measures if monitoring indicates new risks or ineffective controls.

CHAPTER 7   Stakeholder Engagement and Disclosure

7.1 Purpose and Objectives

Stakeholder engagement under this project aims to ensure inclusive, transparent, and continuous dialogue with all parties affected by or interested in project activities. The objectives are to:

- Inform and consult stakeholders throughout the project cycle.

- Incorporate community feedback into design and implementation.

- Strengthen trust and coordination among the health, livestock, and environmental sectors.

- Ensure that vulnerable and marginalized groups, particularly women, Small Ethnic Communities (SECs), and persons with disabilities can meaningfully participate and benefit.

- Provide a mechanism to raise issues and grievances through a GRM

7.2 Stakeholder Identification and Mapping

Stakeholders were identified based on their influence, interest, and potential impact from project interventions.

Category	Stakeholder Groups	Engagement Interest / Influence
Government Agencies	MoHFW, DGHS, DLS, BFD, MoFL, MoEFCC, DoE, IEDCR, IEDCR Field Units, EPI, Local Government Institutions	High – policy direction, implementation support, compliance, E&S oversight
Development Partners & Academia	WHO, FAO, WOAH, UNDP, USAID, ICDDR,B, universities and research labs	High – technical assistance and capacity building
Private Sector Actors	Contractors, waste management firms, vaccine manufacturers, logistics providers	Medium – contract compliance and supply chain management
Civil Society and NGOs	Health rights groups, women's organizations, environmental advocacy groups	Medium – community mobilization and awareness raising
Local Communities and Beneficiaries	Health and veterinary workers, patients, farmers, market traders, wildlife rangers, women groups	High – direct beneficiaries of services and training
Vulnerable and Marginalized Groups	Women, SECs (in CHT and northern districts), persons with disabilities, urban poor	High – potential exclusion risk; require targeted engagement

Category	Stakeholder Groups	Engagement Interest / Influence
Media and Public	National and local press, digital media, community radio	Medium – information dissemination and awareness

7.3 Stakeholder Consultations Conducted at Appraisal

During project preparation and appraisal (June – October 2025), multiple stakeholder consultations were conducted at national, district, and community levels.

Key Engagement Highlights

- **National workshops** held with DGHS, DLS, BFD, DoE, and FAO to discuss institutional arrangements, biosafety management, and cross-sectoral coordination.

- **Focus Group Discussions (FGDs)** with health workers, livestock extension staff, and local leaders in Gazipur and Khulna to understand practical challenges of waste disposal and safety protocols.

- **Consultations with women's groups and SEC representatives** in Rangamati and Lalmonirhat to identify gender barriers, accessibility constraints, and preferences for communication channels.

- **Engagement with academic and research institutes (ICDDR,B, BAU, BSMMU)** on AMR and biosecurity protocol integration.

Major Concerns Raised and Project Responses

Concern / Suggestion	Project Response / Commitment
Need for coordination among ministries and data sharing	Establish PMU as central data and coordination platform; formalize inter-ministerial protocols
Training on OHS and PPE for frontline workers	Include OHS training and PPE procurement under project contract documents
Risk of SEA/SH and unequal benefits for women	Develop SEA/SH Action Plan and gender-inclusive training modules
Bio-waste disposal and pollution	Unified Waste Management Plan and DoE monitoring commitments
Representation of ethnic communities, women, persons with disability and other vulnerable groups in consultations	Future consultations to be conducted in local languages and inclusivity with cultural liaison support

7.4 Future Consultation and Engagement Plan

Stakeholder engagement will continue throughout the project lifecycle as outlined below.

Project Stage	Engagement Activities	Frequency	Responsible Entity
Preparation / Design	Public disclosure of ES documents (ESMF, LMP, SEA/SH Plan); national and regional validation workshops	As per ESCP timeline	PMU + PIUs
Implementation	Periodic consultations with communities and health/veterinary workers; information campaigns on biosafety, SEA/SH awareness	Quarterly	PIUs under PMU oversight
Monitoring & Evaluation	Feedback sessions and participatory monitoring with CSOs, media, and beneficiaries	Semi-annual	PMU
CERC Activation (if triggered)	Rapid consultations to update CERC-ESMF and community protocols	As required	PMU + World Bank Team

Engagement methods will include community meetings, FGDs, workshops, radio broadcasts, social media updates, and public notices in Bengali and local languages.

7.5 Information Disclosure

- All E&S instruments (ESMF, site-specific ESMPs, LMP, SEP, SEA/SH Plan) will be disclosed on the websites of DGHS, DLS, and BFD, and posted on public notice boards at district and upazila offices.

- Summary leaflets will be distributed to communities and uploaded on the World Bank external portal.

- For disadvantaged and vulnerable groups, information will be translated into appropriate local languages and shared through community liaison officers.

- Updates on project progress and grievance statistics will be published semi-annually.

7.6 Grievance Redress Mechanism (GRM)

A two-tier GRM system will operate throughout project implementation:

1. **Worker GRM (ESS2):** Managed by contractors and PIUs to handle labor and OHS issues. Anonymous submissions allowed.

2. **Project-wide GRM (ESS10):**

   o   Multi-channel access: phone, SMS, email, complaint boxes, website form.

- Complaints logged, tracked, and resolved within 15 working days.

- Bi-annual summary reports submitted to the PMU and World Bank.

- SEA/SH cases managed through a confidential, survivor-centered pathway with trained female focal points and referral to GBV service providers.

All grievances will be recorded in a centralized database maintained by PMU and periodically analyzed to identify systemic issues and lessons learned.

7.7 Monitoring and Reporting on Stakeholder Engagement

Indicator	Target / Frequency	Responsible Entity
Stakeholder consultations held	≥ 1 consultation per quarter per PIU	PMU / PIUs
Stakeholder feedback addressed and disclosed	≥ 80% of issues responded within agreed timeframe	PMU / PIUs
Female and other vulnerable groups participation in consultations	≥ 40% across events	PIUs
Number of GRM cases received and resolved	Tracked quarterly	PMU / PIUs
SEA/SH training and referral capacity	100% of PIUs and contractors trained within first 6 months	PMU / Social Specialist

7.8 Key Messages for Future Engagement

- Maintain two-way communication between government and citizens to reinforce trust.

- Ensure representation of women, vulnerable groups and SECs in decision-making forums.

- Publicize zero-tolerance policy on SEA/SH and emphasize confidential grievance access.

- Share lessons from E&S implementation through annual multi-stakeholder workshops.

CHAPTER 8   Institutional Capacity Development and Budget

8.1 Overview

The successful implementation of environmental and social (E&S) measures depends on the institutional and human capacity of the implementing agencies, Directorate General of Health Services (DGHS), Department of Livestock Services (DLS), and Bangladesh Forest Department (BFD) coordinated under the Project Management Unit (PMU) of Ministry of Health and family Welfare (MoHFW).

While these agencies have prior experience implementing World Bank and donor-financed projects, the One Health project introduces cross-sectoral coordination, laboratory biosecurity, and SEA/SH risk management, which require upgraded skills and structured institutional support. Therefore, the project will implement a capacity-strengthening program aligned with the ESCP commitments.

8.2 Institutional Capacity Assessment Summary

Agency	Existing Capacity	Identified Focus Requirement
DGHS (MoHFW)	Experience in managing E&S issues under health projects (e.g., HGSP, ISO, COVID-19 response).	Needs cross-sector coordination; monitoring and reporting on OHS and SEA/SH; understanding of ESF documentation requirements.
DLS (MoFL)	Technical expertise in veterinary services and animal health infrastructure. Experience with FAO and IFAD safeguards.	Exposure to WB ESF; waste management systems for veterinary labs; capacity on community engagement and inclusion.
BFD (MoEFCC)	Strength in biodiversity management and wildlife surveillance; experience with ADB and WB projects.	Linkages with health and livestock sectors; experience managing laboratory biosafety or zoonotic surveillance protocols; SEA/SH response training.
NOHS (IEDCR)	Strong coordination and data analysis capacity; emerging institutional setup.	Dedicated E&S documentation, monitoring, and interagency reporting capacity.

8.3 Capacity Development Objectives

The capacity development strategy aims to:

1. Establish an institutional foundation for cross-sectoral E&S management.

2. Equip key personnel with practical skills to identify, assess, and mitigate E&S risks in line with the World Bank ESF.

3. Promote continuous learning and accountability through periodic supervision, audits, and refresher training.

4. Institutionalize a culture of safety, inclusion, and transparency across all levels of implementation.

8.4 Capacity-Building and Training Plan

Training Theme / Module	Learning Objective	Target Participants	Frequency	Responsibility
1. Introduction to the World Bank ESF and ESSs	Understand ESS requirements, documentation, and supervision expectations.	PMU, PIUs officials	Within 3 months of effectiveness	PMU with WB E&S team
2. Environmental Risk Screening and ESMP Preparation	Conduct screening, prepare ESMPs, and monitor compliance.	Environmental specialists, engineers, field coordinators	Bi-annually	PMU / DGHS / DLS / BFD
3. Biomedical and Hazardous Waste Management	Segregate, store, transport, and dispose of medical/veterinary waste in compliance with DoE and WHO guidelines.	Lab managers, technicians, waste handlers	Quarterly refresher	DGHS / DLS with DoE support
4. Occupational Health and Safety (OHS)	Implement workplace safety, use PPE correctly, and follow emergency protocols.	All project and contractor staff	Quarterly	PIUs / Contractors
5. SEA/SH Prevention and Response	Understand SEA/SH risks, Code of Conduct obligations, survivor-centered response, and referral mechanisms.	PMU, PIUs, contractors, field staff	Initial + refresher every 6 months	PMU Social Specialist / WB GBV expert
6. Stakeholder Engagement and GRM Operation	Conduct inclusive consultations, manage grievances, and track feedback.	PMU, PIUs, field coordinators	Quarterly	PMU / PIUs
7. Indigenous Peoples and	Conduct culturally appropriate engagement with SECs and ensure	PMU, PIUs, field coordinators	Annual	PMU / PIUs

Training Theme / Module	Learning Objective	Target Participants	Frequency	Responsibility
Cultural Sensitivity	free, prior, and informed participation.			
8. Digital Data Protection and BOHSEWS Privacy	Apply ethical and technical standards for data protection and confidentiality.	DGHS IT unit, data managers	Annual	PMU / PIUs
9. Monitoring, Reporting, and Incident Response (ESIRT)	Strengthen documentation, incident response, and adaptive management.	PMU, PIUs, E&S focal points	Bi-annual	PMU / WB E&S team
10. Climate Resilience and Disaster Risk Management	Integrate climate adaptation and green practices in lab and facility design.	Engineers, E&S staff, planners	Annual	PMU / DoE / BFD

8.5 Implementation Arrangements for Capacity Building

- **Lead Coordination:** PMU's E&S Specialists, supported by WB E&S team.

- **Training Delivery Partners:** BUET-ES Learning Center, DoE Training Institute, DGHS Academy, and selected universities or professional institutions.

- **Training Materials:** Standardized modules in English, including visual job aids and scenario-based exercises.

- **Knowledge Sharing:** Annual *"One Health E&S Forum"* to share lessons, innovations, and best practices across sectors.

- **Monitoring:** Training attendance, pre- and post-assessments, and feedback surveys will track capacity gains.

8.6 Indicative Capacity-Building Schedule

Phase	Timeline (from Effectiveness)	Key Activities
Phase I – Foundation Building	Months 1–6	Recruit E&S staff; conduct introductory ESF training; operationalize GRMs; prepare ESMF and WMP.

Phase	Timeline (from Effectiveness)	Key Activities
Phase II – Skills Deepening	Months 7–18	Conduct specialized training (OHS, SEA/SH, Waste, Stakeholder Engagement); roll out E&S monitoring dashboard.
Phase III – Institutionalization	Months 19–36	Integrate ESF procedures into agency SOPs; hold annual learning workshops and mid-term capacity evaluation.

8.7 Sustainability of Capacity Building

To ensure long-term institutional strengthening:

- **E&S units** in DGHS, DLS, and BFD will be recommended through official government orders by the end of the project.

- **E&S focal points** will be retained beyond the project period to mainstream ESF principles into future programs.

- **Training-of-Trainers (ToT)** approach will develop internal resource persons capable of cascading E&S knowledge to new staff.

- **Cross-learning with other WB projects** (e.g., SMART, RELI, ACCESS) will promote consistency and institutional memory.

CHAPTER 9   Implementation Timeline and Monitoring Indicators

9.1 Purpose

This section provides a structured overview of the timeline for implementing the E&S risk management measures, including preparation, disclosure, and monitoring of key E&S instruments. It serves as the operational roadmap for the first year post-effectiveness and outlines measurable indicators for performance monitoring in line with the ESCP and World Bank ESF.

9.2 E&S Implementation Timeline (First 12 Months After Effectiveness)

Activity / Deliverable	Responsible Entity	Timeline (from Effectiveness)	Linked ESCP Action
Recruit E&S Specialists (Environmental and Social) at PMU	MoHFW / PMU	Within 3 months	ESCP A
Assign E&S Focal Points in DGHS, DLS, and BFD	DGHS, DLS, BFD	Within 1 month	ESCP A
Develop and disclose Environmental and Social Management Framework (ESMF) including Waste Management Plan (WMP)	PMU/ PIUs	Within three months of effectiveness or before initiating any physical activities of the Project, whichever comes first	ESCP 1.1, 3.1
Prepare and disclose Labor Management Procedures (LMP) and Worker GRM	PMU/ PIUs	Before engagement of any project worker	ESCP 2.1
Prepare and disclose SEA/SH Action Plan with referral pathways and Codes of Conduct	PMU / PIUs	Before engagement of any project worker	ESCP 4.2
Operationalize Project-Wide GRM and publicize channels	PMU / PIUs	Within 3 months	ESCP 10.1
Conduct Introductory Training on World Bank ESF and ESSs	PMU with WB Support	Beginning within 6 months	ESCP B
Conduct OHS and Biosafety Training for Contractors and Facility Workers	DGHS, DLS, BFD	Beginning within 6 months	ESCP B
Initiate Stakeholder Engagement and Public Disclosure Activities	PMU / PIUs	Prior to Appraisal	ESCP 10.1

Activity / Deliverable	Responsible Entity	Timeline (from Effectiveness)	Linked ESCP Action
Prepare and disclose first semi-annual E&S performance report	PMU/ PIUs	6 months after effectiveness	ESCP C
Conduct SEA/SH and Gender Awareness Campaigns at field level	PMU / PIUs	Every 6 months	ESCP 4.2

9.3 Ongoing Implementation Beyond Year 1

After the first year, the project will transition into a steady-state implementation phase focusing on continuous monitoring, adaptive management, and integration of E&S compliance into standard operating procedures.

Year 2–5 Focus:

- Full operationalization of Waste Management Plans (WMPs) across all facilities.

- Bi-annual ES related refresher trainings.

- Annual third-party E&S audit, if required.

- Continuous engagement of stakeholders, including the disadvantaged and the vulnerable.

- Progressive reduction of E&S non-compliance incidents (target: ≤5% by Year 3).

9.4 Key Performance Indicators (KPIs)

E&S Domain	Performance Indicator	Target / Benchmark	Data Source	Frequency	Responsible Entity
Institutional Capacity	E&S Specialists and Focal Points recruited	100% positions filled within 3 months	HR records	One-time	PMU
	E&S Training Sessions conducted	≥ 4 sessions in first year	Training logs	Bi-annually	PMU / PIUs
Waste and Pollution Management	Laboratories with functional WMP and segregation system	≥ 80% by end of Year 1	Field inspection reports	Bi-annually	PMU/ PIUs
	Effluent compliance with DoE standards	≥ 90% facilities compliant	Test results	Bi-annual	PIUs / DoE

E&S Domain	Performance Indicator	Target / Benchmark	Data Source	Frequency	Responsible Entity
OHS and Biosecurity	Reported OHS incidents per 100 workers	< 2 per 100 workers	OHS logbook	Monthly	PIUs / Contractors
	% of workers trained in OHS and biosafety	100% of active workers	Training attendance records	Quarterly	PMU / PIUs
Social Inclusion and Gender	Female participation in project activities	≥ 40%	Monitoring reports	BI-annual	PMU /PIUs
	Number of SEA/SH cases reported and resolved	100% resolution within 30 days	GRM data	BI-annual	PMU / Social Specialist
Stakeholder Engagement	# of consultations held (national/district level)	≥ 1 per quarter per PIU	SEP logs	Quarterly	PIUs
	% of grievances resolved within timeframe	≥ 85%	GRM database	Quarterly	PMU/ PIUs
Environmental Compliance	% of civil works contracts with ES clauses and supervision	100%	Contract database	Quarterly	PMU / Procurement
Monitoring and Reporting	Semi-annual E&S reports submitted to the World Bank	On time (2 per year)	PMU records	Bi-annual	PMU

9.5 Monitoring Framework and Reporting

- **Internal Monitoring:** Conducted by PIUs and consolidated by the PMU E&S team.

- **External Supervision:** World Bank E&S specialists will provide technical support and supervision missions twice a year.

- **ESMIS (Environmental and Social Monitoring Information System):** A digital dashboard managed by PMU to track indicators, incidents, and progress across agencies.

Reporting Hierarchy:

1. **Contractor** → Monthly E&S compliance report to PIU.

2. **PIU** → Consolidated bi-annual report to PMU.

3. **PMU** → Bii-annual report to World Bank (disclosed publicly).

9.6 Adaptive Management and Continuous Improvement

Monitoring results will guide adaptive management:

- **Quarterly review meetings** will identify systemic weaknesses.

- **Lessons learned** will inform updates to ESMPs, training modules, and the ESMF.

- **Emerging risks** (e.g., new zoonotic threats or climate hazards) will be integrated into updated contingency plans.

9.7 Summary of Monitoring Responsibilities

Level	Monitoring Role	Tools / Mechanisms
Contractors / Field Level	Daily supervision and OHS, waste tracking	Checklists, logbooks, inspection forms
PIU Level	Consolidate site-level data; ensure compliance	Monthly reports, site visits
PMU Level	Oversight, coordination, and ESCP monitoring	ESMIS dashboard, field missions
World Bank	Implementation support and validation	Semi-annual supervision missions

CHAPTER 10 Conclusion and Recommendations

10.1 Summary of Key Findings

The Project E&S risk and impact can be managed under the World Bank ESF framework, provided that recommended measures are applied:

- **Overall Risk Rating:** Substantial — driven by biomedical waste management, OHS hazards, SEA/SH sensitivity, biodiversity impact and cross-sectoral coordination complexity.

- **Institutional Readiness:** DGHS, DLS, and BFD have demonstrated technical competence but require stronger coordination and documentation capacity.

- **Policy Alignment:** National laws largely align with ESF requirements; however, implementation and enforcement need enhancement (especially for waste management, OHS and SEA/SH prevention).

- **Stakeholder Support:** Consultations revealed broad endorsement of the One Health approach, with calls for inclusion of frontline workers and vulnerable groups.

- **Safeguard Systems:** The project has adequate mechanisms to address risks through the ESMF, site-specific ESMPs, laboratory SOPs, LMP, SEP, WMP, and SEA/SH Action Plan, all to be developed and operationalized within the first three months after effectiveness.

10.2 Strategic Recommendations

A. Immediate Actions (0–3 Months Post-Effectiveness)

1. Finalize and disclose the ESMF (including Waste Management and CERC Annex) and LMP.

2. Recruit E&S specialists at PMU and assign focal points in DGHS, DLS, and BFD.

3. Operationalize GRM and SEA/SH Action Plan with referral pathways and confidential reporting systems.

4. Launch introductory ESF training for PMU/PIU staff and contractors.

5. Establish a joint E&S coordination meeting schedule led by PMU.

B. Short-Term Actions (3–12 Months)

1. Implement the unified Waste Management Plan across priority facilities and monitor compliance.

2. Roll out OHS and Biosafety training for lab and field staff.

3. Integrate E&S clauses into all procurement and contract documents.

4. Ensure full operationalization of ESMIS for data and incident tracking.

5. Conduct quarterly public disclosure and community feedback sessions.

C. Medium-Term Actions (1–3 Years)

1. Institutionalize E&S Units in DGHS, DLS, and BFD through official orders.

2. Implement Training-of-Trainers (ToT) programs to build internal E&S resource persons.

3. Commission a third-party E&S audit and capacity review in Year 3.

4. Integrate E&S compliance into routine supervision and planning cycles.

D. Cross-Cutting Recommendations

- Strengthen coordination through quarterly PMU-led joint reviews and annual One Health E&S Forum.

- Prioritize gender mainstreaming and inclusion in all training and decision forums.

- Institutionalize ESIRT protocol for incident notification and learning.

- Regularly update the ESMF to reflect new emerging risks (e.g., pandemic response or climate events).

10.3 Expected Outcomes

- **Enhanced Institutional Coordination:** Operational One Health E&S platform under PMU.

- **Improved Risk Mitigation:** Effective biosafety and waste management systems established nationwide.

- **Empowered Workforce:** Cross-trained teams capable of responding to E&S risks promptly and professionally.

- **Gender and Inclusion Mainstreamed:** Female and SEC representation in decision-making and beneficiary groups.

- **Transparent Governance:** Public access to information, active GRM, and periodic disclosure of results.

10.4 Conclusion

The project represents a transformative step toward an integrated One Health system in Bangladesh. With proactive E&S management, strong institutional commitment, and consistent oversight by the World Bank, the project can serve as a benchmark for multi-sectoral public health initiatives.

The recommendations provided to be prioritized within the first year to ensure that E&S systems are functional and institutionalized before scaling up implementation.

Annex: Outline of the Environmental and Social Management Framework (ESMF)

(To be developed within three months of project effectiveness)

1. Introduction

1.1 Purpose and Objectives

The Environmental and Social Management Framework (ESMF) will:

- Establish a systematic process for identifying, assessing, and managing environmental and social (E&S) risks for all subprojects under the *One Health Project (P512376)*.

- Ensure compliance with the World Bank Environmental and Social Framework (ESF) and the Government of Bangladesh's legal and regulatory system.

- Provide procedural guidance for subproject screening, impact assessment, mitigation, monitoring, and reporting.

- Support capacity building and coordination among DGHS, DLS, and BFD.

1.2 Scope and Applicability

Applies to all activities under project Components 1–5, including:

- Laboratory refurbishments and upgrades (BSL-2/BSL-3);

- Construction or improvement of cold-chain, storage, and drainage facilities;

- Wildlife surveillance, sampling, and biodiversity-related operations;

- Data management and surveillance systems (BOHSEWS);

- Other activities that have ES risk and impact

- Emergency activities under the Contingent Emergency Response Component (CERC).

1.3 Linkage with the ES Overview Assessment

This ESMF operationalizes the recommendations of the Environmental and Social Overview Assessment by translating high-level findings into operational procedures for screening, risk categorization, and site-specific Environmental and Social Management Plans (ESMPs).

2. Institutional and Project Context

2.1 Implementing Agencies

- PMU (MoHFW): Overall E&S oversight, reporting to the World Bank.

- PIUs (DGHS, DLS, BFD): Subproject-level screening, ESMP preparation, supervision of contractors.

- NOHS (IEDCR): Inter-agency coordination, data management, and disclosure.

2.2 Coordination Flow

1. Field-level units identify subprojects.

2. PIUs conduct E&S screening and propose risk classification.

3. PMU reviews and endorses screening outcomes.

4. World Bank reviews and clears Substantial/High-risk subprojects.

5. Approved subprojects proceed with ESMP/other instrument preparation.

3. Legal and Policy Framework

Summarize:

- National laws: *ECA 1995, ECR 2023, Labor Act 2006, Wildlife Act 2012, Hazardous Waste Rules 2021.*

- International commitments: *Basel, Stockholm, CITES, IHR 2005, Paris Agreement.*

- Applicable ESSs (ESS1–ESS10) with identified gaps and bridging measures (e.g., inclusion of social and SEA/SH issues not addressed in national law).

4. Environmental and Social Baseline Summary

- National-level overview of ecological zones, health infrastructure, climate vulnerabilities, and social groups.

- Identification of potential environmental sensitivities (protected areas, flood-prone sites).

- Baseline data gaps to be filled through subproject screening.

5. Environmental and Social Screening and Categorization Mechanism

5.1 Objective

To determine:

- The type and magnitude of E&S risks associated with each subproject;

- The relevant ESSs triggered; and

- The E&S instruments required for risk management.

5.2 Step-by-Step Screening Process

Step	Action	Responsibility	Output
1	Identify subproject and proposed activities	PIU (DGHS/DLS/BFD)	Subproject Concept Note
2	Conduct initial desk review of environmental & social sensitivities	PIU E&S Focal Point	Screening preparation
3	Use the Environmental and Social Screening Form (Annex 1)	PIU E&S Focal Point with local authorities	Completed Screening Form

Step	Action	Responsibility	Output
4	Assign preliminary risk classification (Low, Moderate, Substantial, High)	PIU E&S Focal Point	Draft risk rating
5	Submit screening and risk classification to PMU	PIU → PMU	Consolidated Screening Report
6	PMU reviews, confirms classification, and determines instruments	PMU E&S Specialists	Approved risk classification
7	Submit Substantial/High-risk cases to the World Bank for no objection	PMU	WB clearance
8	Prepare site-specific ESMP/WMP/SEA-SH Plan as required	PIU/Consultants	Draft ES instrument
9	Disclosure, consultation, and approval prior to implementation	PMU/PIU	Disclosed E&S document

5.3 Screening Form Contents

The Environmental and Social Screening Form will include:

1. Basic subproject information (location, type, scale).

2. Site description (land ownership, nearby sensitive receptors, access).

3. Identification of relevant ESSs (1–10).

4. Checklist of potential impacts:

   o Environmental: waste, effluent, pollution, biodiversity.

   o Social: labor, SEA/SH, access restrictions, data privacy.

5. Community consultations and issues raised.

6. Risk rating justification.

7. Recommended next steps (ESMP, WMP, LMP, etc.).

5.4 Risk Classification Criteria

Based on:

- Nature, scale, and sensitivity of activity;

- Geographic and environmental setting;

- Capacity of implementing agencies;

- Reversibility and magnitude of potential impacts.

Risk categories:

- Low: Negligible impacts; managed via standard OHS measures.

- Moderate: Limited, site-specific, reversible impacts → *Simplified ESMP*.

- Substantial: Multi-sector, sensitive, or cumulative impacts → *Full ESMP or thematic plan (WMP, SEA/SH, IP protocol)*.

- High: Not expected in this project; would require full ESIA and Bank review.

5.5 Screening Integration with National Permitting

- Subprojects requiring DoE Environmental Clearance (Orange B or Red) will prepare IEE/EIA consistent with ECR-2023, integrated with the ESMP to avoid duplication.

- Screening results will determine whether IEE or EIA is required in parallel.

5.6 Risk Categorization and ESS Matrix

(Excerpt)

Potential Activity	Likely Risk Level	Applicable ESSs	ES Instrument Required
Lab refurbishment (within existing facility)	Moderate	ESS1, ESS2, ESS3, ESS4	Site-specific ESMP
Cold-chain facility upgrade	Moderate	ESS1, ESS3, ESS4	ESMP + OHS Plan
Wildlife surveillance and sampling	Substantial	ESS1, ESS6, ESS7	ESMP + Biodiversity & SEC Protocol
Digital data system (BOHSEWS)	Moderate	ESS1, ESS10	Data Privacy and Cybersecurity SOP
CERC activation	Context-dependent	ESS1–ESS10 (as relevant)	CERC-ESMF screening checklist

6. Development of Site-Specific Instruments

Each screened subproject will prepare one or more of the following instruments proportionate to its risk classification:

6.1 Site-specific Environmental and Social Management Plan (ESMP)
6.2 Waste Management Plan (WMP)
6.3 Labor Management Procedures (LMP) and Worker GRM
6.4 SEA/SH Action Plan
6.5 Community Health and Safety Plan (CHSP)
6.6 Small Ethnic Community Development Protocol (SEC Protocol)

6.7 Chance-Find Procedure (Cultural Heritage)

6.8 CERC-ESMF Annex for emergency activation

Each ESMP will follow a standard structure: mitigation matrix, monitoring plan, responsibilities, capacity requirements, timeline, and cost.

7. Institutional Arrangements

- PMU (MoHFW): Oversight, quality assurance, disclosure, reporting.

- PIUs (DGHS/DLS/BFD): Screening, ESMP preparation, field supervision.

- NOHS (IEDCR): Inter-agency coordination, digital data management (ESMIS).

- DoE: Environmental clearance and compliance inspections.

- World Bank: Review and implementation support.

8. Capacity Building

- Introductory ESF training for all PIU and PMU staff within six months.

- Specialized modules on screening, ESMP preparation, OHS, SEA/SH, and GRM.

- Training of Trainers (ToT) to sustain institutional memory.

9. Monitoring, Evaluation, and Reporting

9.1 Monitoring Framework

Parameter	Indicator	Frequency	Responsible
Screening completion	% of subprojects screened	Quarterly	PMU
Risk classification	% of subprojects reviewed by PMU/WB	Quarterly	PMU
ESMP implementation	% compliance with mitigation measures	Bi-annual	PIUs
GRM	# of grievances received/resolved	Quarterly	PMU
SEA/SH	# of trained staff and cases managed	Bi-annual	PMU

9.2 Reporting Chain

Contractor → PIU Monthly Report → PMU Bi-Annual Consolidated Report → World Bank.

10. Grievance Redress Mechanism (GRM)

- Worker GRM: for contracted and direct workers.

- Project GRM: open to beneficiaries and affected persons (multi-channel).

- SEA/SH-sensitive GRM: confidential intake, survivor-centered approach.

All grievances will be logged in the Environmental and Social Monitoring Information System (ESMIS) for tracking and trend analysis.

11. Budget and Resource Allocation

Cost Item	Estimated Budget (USD)	Responsibility
E&S staffing (PMU + PIUs)	XX	MoHFW
Capacity building and training	XX	PMU
GRM operation and communication	XX	PMU
Third-party E&S audit (midterm & final)	XX	PMU
ESMIS setup and maintenance	XX	PMU
Contingency	XX	PMU
Total	XXX	

12. Annexes to the ESMF

1. Environmental and Social Screening Form

2. Risk Classification Matrix

3. Generic ESMP Template

4. Sample Environmental and Social Clauses for Bidding Documents

5. Chance-Find Procedure

6. Outline for Waste Management Plan

7. SEA/SH Action Plan Template

8. Community Health and Safety Plan Template

9. Monitoring and Reporting Templates