

# Bangladesh City Inclusive Sanitation Project in 25 Towns



## Environmental and Social Management Planning Framework

Department of Public Health Engineering  
Ministry of Local Government, Rural Development and Cooperatives

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## Abbreviation

AIIB	Asian Infrastructure Investment Bank
AIDS	Acquired Immunodeficiency Syndrome
ANSI	American National Standards Institute
AOI	Area of Influence
ARIPA	Acquisition and Requisition of Immovable Property Act
BBS	Bangladesh Bureau of Statistics
BCE	Before Christian Era
BCISP	Bangladesh City Inclusive Sanitation Project
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BDP	Bangladesh Delta Plan
BDT	Bangladeshi Taka
BMD	Bangladesh Meteorological Department
BNBC	Bangladesh National Building Code
BOD	Biological Oxygen Demand
CAPS	Center for Atmospheric Pollution Studies
CIA	Cumulative Impacts Assessment
CSH	Construction Safety and Health
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CWIS	Citywide Inclusive Sanitation
DEM	Digital Elevation Model
DEWATS	Decentralized Wastewater Treatment Systems
DoE	Department of Environment
DPP	Development Project Proposal
DPHE	Department of Public Health Engineering
DRR	Disaster Risk Reduction
EA	Environmental Assessment
ECA	Environmental Conservation Act
ECA	Ecologically Critical Area
ECC	Environmental Clearance Certificate
ECoP	Environmental Code of Practice
ECR	Environmental Conservation Rules
EHSG	Environmental, Health, and Safety Guidelines
EHSS	Environment, Health, and Safety Specialist
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EISF	Ecological Impact Screening Format
EMF	Environmental Management Framework
EMP	Environmental Management Plan
ESF	Environmental and Social Framework
ESCP	Environmental and Social Commitment Plan
ESHS	Environmental, Social, Health, and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMIS	Environmental and Social Management Information System
ESMP	Environmental and Social Management Plan
ESMPF	Environmental and Social Management Planning Framework
ESP	Environmental and Social Policy
ESS	Environmental and Social Standard

FGD	Focus Group Discussion
FS	Fecal Sludge
FSM	Fecal Sludge Management
FSTP	Fecal Sludge Treatment Plant
GAP	Gender Action Plan
GBV	Gender Based Violence
GHG	Greenhouse Gas
GoB	Government of Bangladesh
GPS	Global Positioning System
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HH	Household
HIES	Household Income and Expenditure Survey
HIV	Human Immunodeficiency Virus (HIV)
IA	Implementing Agency
IEE	Initial Environmental Examination
IFC	International Finance Corporation
ILO	International Labour Organization
IMO	International Maritime Organization
IOL	Inventory of Loss
IP	Indigenous People
IPP	Indigenous Peoples Planning
IPPF	Indigenous Peoples Planning Framework
IRF	Institutional and Regulatory Framework
IUCN	International Union for Conservation of Nature
IWTP	Integrated Waste Treatment Plant
KII	Key Informant Interview
LARPF	Land Acquisition and Involuntary Resettlement Planning Framework
LGD	Local Government Division
LGRC	Local level Grievance Redress Committee
LGRD&C	Local Government, Rural Development & Cooperatives
MARPOL	International Convention for the Prevention of Pollution from Ships
MDG	Millennium Development Goal
MoDMR	Ministry of Disaster Management and Relief
MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
NAPA	National Adaptation Program of Action
NCS	National Conservation Strategy
NEMAP	National Environmental Management Action Plan
NGO	Non-Government Organization
NHP	National Health Policy
NPDM	National Plan for Disaster Management
OSH	Occupational Health and Safety
OSHA	Occupational Safety and Health Administration
PA	Project Assistance
PAP	Project-Affected People
PGRC	Project-level Grievance Redress Committee
PIA	Project Influence Area
PM	Particulate Matter
PMU	Project Management Unit

POL	Petroleum, Oil, and Lubricants
PPE	Personal Protective Equipment
PPP	Public Private Partnership
RCA	Root Cause Analysis
RP	Resettlement Plan
RPF	Resettlement Policy Framework
SCAP	Safeguard Corrective Action Plan
SDG	Sustainable Development Goal
SEA	Sexual Exploitation and Abuse
SECDP	Small Ethnic Community Development Plan
SEP	Stakeholder Engagement Plan
SES	Socio-Economic Survey
SESC	Special Environmental and Social Clauses
SMC	Supervision and Monitoring Consultant
SH	Sexual Harassment
SIA	Social Impact Assessment
SOLAS	International Convention for the Safety of Life at Sea
SPS	Sewage Pumping Station
SSESMP	Site Specific Environmental and Social Management Plan
STEP	Systematic Tracking of Exchanges in Procurement
STP	Sewage Treatment Plant
SWM	Solid Waste Management
TA	Technical Assistance
TLCC	Town Level Coordination Committee
TOC	Table of Contents
ToR	Terms of Reference
ULB	Urban Local Bodies
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNESCO	United Nations Educational, Scientific and Cultural Organization
VAW	Violence Against Women
VEC	Valued Environmental and Social Component
VG	Vulnerable Groups
WHO	World Health Organization
XEN	Executive Engineer

# Executive Summary

## Background

Bangladesh, with over 63 million urban residents, is facing increasing environmental and social challenges due to rapid urbanization—especially in sanitation, waste management, and public health. In response, the Bangladesh City Inclusive Sanitation Project (BCISP), implemented by the Department of Public Health Engineering (DPHE) and supported by the Asian Infrastructure Investment Bank (AIIB), aims to provide safe, inclusive, and sustainable sanitation services in 25 Towns, focusing particularly on low-income and underserved populations. This initiative aligns with Sustainable Development Goal (SDG) 6 to achieve universal access to clean water and sanitation by 2030.

To ensure that all environmental and social aspects are well-managed throughout the project lifecycle, this Environmental and Social Management Planning Framework (ESMPF) has been prepared. It provides the necessary structure for identifying, assessing, and managing environmental and social risks and impacts, and for ensuring compliance with both national regulations and AIIB's Environmental and Social Framework (ESF).

## Project Components

The BCISP aims to enhance sanitation services in 25 Towns across Bangladesh by integrating safe fecal sludge (FS) management, solid waste handling, wastewater drainage, and water supply activities. These improvements will greatly benefit underserved urban poor communities by lowering health risks linked to inadequate sanitation, focusing on the following three main components:

### ***Component-1: Sanitation & Hygiene Improvement***

1. Construction of fecal sludge treatment plants (FSTPs), decentralized wastewater treatment systems (DEWATS), public and household toilets, and drainage systems;
2. Selection and implementation of sanitation technology for sustainable waste management;

### ***Component-2: Institutional Strengthening & Capacity Building***

- Training on project management, safeguard issues, health and safety measures, and monitoring strategies;
- Capacity-building workshops for key stakeholders, including local governments and municipalities, to enhance service delivery.

### ***Component-3: Project Management & Coordination***

3. Establishment of a robust project management unit (PMU) to oversee implementation, supervision, and coordination among local authorities, contractors, and international partners.

## Legal and Regulatory Framework & AIIB's Environmental and Social Standards

The BCISP must comply with Bangladesh's national regulations and AIIB's Environmental and Social Framework (ESF). Key national laws include the Environmental Conservation Act (1995), the Bangladesh Labor Act (2006), and National Land-Use Policy (2001). The Environmental Conservation Rules (2023) further classify sub-projects based on

environmental impacts, requiring environmental clearances from the Department of Environment (DoE). At the international level, the project adheres to AIIB's 3-ESSs:

**ESS-1: Environmental & Social Assessment and Management-** Environmental and Social Standard (ESS) 1 applies if the Project is likely to have adverse environmental risks and impacts or social risks and impacts (or both). The scope of the environmental and social assessment and management measures are proportional to the risks and impacts of the Project. ESS 1 provides both for quality environmental and social assessment and for management of risks and impacts through effective mitigation and monitoring measures during the course of Project implementation.

**ESS-2: Land Acquisition and Involuntary Resettlement-** Environmental and Social Standard (ESS) 2 addresses impacts of Project-related land acquisition, including restrictions on land use and access to assets and natural resources, which may cause physical displacement (relocation, loss of land or shelter), and/or economic displacement (loss of land or assets, or restrictions on land use, assets and natural resources leading to loss of income sources or other means of livelihood),

**ESS-3: Indigenous Peoples-** ESS 3 applies if Indigenous Peoples are present in, or have a collective attachment to, the proposed area of the Project, and are likely to be affected by the Project. The term Indigenous Peoples is used in a generic sense to refer to a distinct social and cultural group possessing the following characteristics in varying degrees:<sup>2</sup> (a) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; (b) collective attachment to geographically distinct habitats, ancestral territories or areas of seasonal use or occupation in the Project area and to the natural resources in these areas; (c) customary cultural, economic, social or political institutions that are distinct or separate from those of the dominant society or culture; and (d) a distinct language or dialect, often different from the official language or languages of the country or region in which they live.

*A gap analysis between Bangladesh's national laws and AIIB's standards* revealed areas where the national regulatory framework is less stringent. For instance, Bangladesh's Environmental Conservation Act does not mandate the preparation of detailed Environmental and Social Management Plans (ESMPs) for all projects, unlike AIIB's requirements. Therefore, BCISP will apply AIIB's more stringent standards to ensure comprehensive risk management and mitigation.

### **Screening of Environmental, Social & Climatic Conditions**

It is encompassed with baseline (existing) status of following physical and biological, socio-economic and climate conditions of BCISP sub-project areas.

#### **Physical & Biological Environment**

The project covers various ecological zones in Bangladesh, including floodplains, coastal areas, and wetlands. Major rivers, such as the Meghna and Padma, traverse the project regions, influencing the local hydrology and biodiversity. Again, several sub-project like Satkhira, Noakhali, and Jhalokathi are located in critical ecological zones like coastal and tidal

floodplains. The regions also encompass wildlife sanctuaries and national parks, such as the Sundarbans West Wildlife Sanctuary and Madhupur National Park.

## **Socio-Economic Conditions**

The target areas are characterized by high population densities, with low-income urban populations facing inadequate sanitation and waste management services. The lack of sanitation facilities, combined with limited access to clean water, has resulted in significant public health risks at the sub-project areas. This BCISP is expected to directly benefit approximately 3.31 million people, including 1.85 million urban poor, through improved sanitation and hygiene services.

## **Climatic Conditions**

Bangladesh is the ninth most vulnerable country globally to climate-related calamities. By 2050, it is projected that the country will lose 17% of its land due to rising sea levels<sup>1</sup>. In recent years, the frequency of climate-induced disasters viz. cyclones, earthquake, erosion, drought, precipitation, floods, temperature, salinity and sea-level raised placing additional strain on BCISP sub-project locations.

## **Anticipated Environmental and Social Impacts**

The is an implication resulting from the sub-project's influences during: (a) Planning and Design Phase; (b) Construction Phase; (c) Operation and Maintenance Phase

### **Impacts during Planning and Design Phase**

It includes the impacts arising from investment sub-projects design and significance of the impacts include: Fecal treatment process efficiency, discharge standards, reuse potential, sludge management, receiving water quality and water uses, noise and odor nuisance resulting from system design and selected technology, use of harmful/hazardous chemicals/materials, inlet sewage quality and potential changes, health and safety impacts. Additionally, following attentions need to be addressed of the BCISP sub-projects:

**Impacts due to Location (General):** It is associated with site selection and include loss of on-site biophysical array and encroachment either directly or indirectly on adjacent environments. Human habitations may create nuisance and inconvenience from emitting bad Odors and high noise.

**Impacts due to Location (Sensitive Receptors):** FSTP and sewage treatment plants in the sub-project viz. Bogura will have adverse impacts, and affect the vulnerable groups like children and old people if it locates close to habitations.

**Impacts due to Location (Critical):** BCISP will not undertake activities within such sensitive areas, which will cause significant environment impacts<sup>2</sup> and maximum of the facilities will be

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<sup>1</sup> World Risk Report 2023

<sup>2</sup> AIIB Environmental and Social Exclusion List

in Paurashava owned vacant unused lands, and it is not possible to be purchased from private parties on willing buyer willing seller principle at prevailing market rate.

**Impacts due to Location (Protected Resources):** Archeological and historical sites are protected resources. Damage of such sites by digging, crushing by heavy equipment, uprooting trees, exposing sites to erosion, by making the sites more accessible to vandals are of particular concern.

**Land Acquisition & Involuntary Resettlement:** The listed Municipalities have informed that no land will need to be acquired for implementation of BCISP sub-projects like FSTP, DEWATS, community/public toilets, septic tanks, soak pits, tube wells etc.

**Deforestation due to Cutting of Trees:** It may be the common negative impact of all the sub-projects viz.: climate change, biodiversity loss, soil erosion, water pollution, flooding, economic impact, human-wildlife conflict; deforestation can increase the risk of desertification.

### **Impacts during Construction Phase**

The construction projects usually affect the local environment creating key issues viz. air pollution, water pollution, noise pollution, landfill waste, soil erosion, waste generation, disruption of ecosystem, habitat loss and depletion of natural resources. During implementation of the BCISP sub-projects, the following impacts are need to be encountered:

**Change of Land Use:** Land use often leads to displacement of adjacent households, business and livelihoods. Also, the influx of construction workers can strain local infrastructure and services, such as housing, healthcare, and sanitation, potentially leading to social tension.

**Soil Erosion and Degradation:** It can occur due to land clearing, leading to reduced fertility and increased vulnerability to flooding.

**Occupational Health and Safety:** The workers in civil work, may be subject to various construction-related incidents, including fire, electrocution, stuck by machines, falls, lack of PPE, lack of OHS-related training, etc.

**Deterioration of Air Quality:** Exhaust emissions from construction machinery and project vehicles will include carbon monoxide (CO), Sulphur dioxide (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), and particulate matter (PM). In addition, dust generated from the above activities will also affect crops and livestock near the subprojects.

**Degradation of Water:** During the construction phase, ponds/canals/water streams-rivers can potentially cause some localized increase in water turbidity due to accidental leakage or spillage of fuels, oils, chemicals, and waste effluents released from construction sites. These effluents can contaminate the area's drinking water sources and can also harm the natural vegetation, cultivation fields, water bodies, aquatic flora, and fauna.

**Noise and Vibration:** Noise and vibration are expected to be generated as a result of construction activities, including the demolition of existing water control structures, excavation, compaction, and the use of construction equipment and vehicles. Therefore, the

noise from the construction works will likely have a greater impact on sensitive receptors such as school, religious place adjacent to the subprojects.

**Damage to Local Infrastructure:** There could be some inadvertent damage to the roads, electricity lines, water channels, and other structures during the construction phase, for the transportation of equipment and material, and associated vehicular traffic.

**Soil Contamination:** Fuel and hazardous material storage sites and their handling are also potential soil and water pollution sources. Improper sitting, storage, and handling of fuels, lubricants, chemicals, hazardous materials, and potential spills will severely impact the soil and water quality and cause safety and health hazards.

**Impacts on Aquatic Habitat:** Construction activities are not likely to directly impact terrestrial or aquatic wildlife or their habitat since no sensitive ecological hot spots have been identified at the ESMPF stage.

**Community Health and Safety:** Heavy construction machinery, vehicular traffic will all be part of the construction activities provide certain safety risks, not only to the construction workers, but also to the residents of the area they are taking place in.

**Impacts on Labour Influx:** It is expected that a number of laborers will work at the labor influx will put an additional pressure on existing resources. The workforce normally consists of solitary migrant males and that can be potential risk for host population.

**Impacts on Historical and Cultural Site:** In the area of the project may have any ancient monuments, heritage like Sundarbans/ mangrove forest; also, cultural heritage management plan has to prepare due to the construction of the project, if there is any within the BCISP Sub-project influence area.

### **Potential Social Impacts during Construction**

**Displacement:** Local communities may be displaced or lose access to land or resources due to construction activities.

**Health and Safety Risks:** Construction workers and local communities may face hazards from accidents, increased dust, and air pollutants.

**Traffic Congestion:** Increased movement of construction vehicles can lead to traffic disruptions and road safety risks.

**Job Creation:** Construction work can provide short-term employment for local communities.

**Community Disturbances:** Noise, dust, and reduced access to resources (e.g., water) may temporarily affect the quality of life for nearby residents.

### **Impacts during Operation & Maintenance**

Once the construction is completed, the sub-project enters the Operation & Maintenance (O&M) phase. Impacts of sanitation activities during O&M will be related to operation of FSTP, IWTP, DEWATS and repair and maintenance activities depending on the efficiency and type of management system in place.

## Potential Environmental Impacts

- Water Pollution: Inefficient sewage treatment or pipeline leaks can lead to water contamination, affecting groundwater and nearby water bodies.
- Soil Contamination: Poor management of solid waste landfills can result in leachate leakage, contaminating soil and groundwater.
- Air Pollution: Emissions from gasification plants, if not properly controlled, can release harmful pollutants. Sewage treatment plants can also emit odors or gases (e.g., methane, ammonia).
- Biodiversity Impact: Ongoing discharge of treated (or untreated) sewage into water bodies may alter local aquatic ecosystems.
- Waste Generation: Solid waste facilities may struggle to manage waste volumes, leading to overflow, illegal dumping, or harmful disposal methods (e.g., open burning).
- Resource Depletion: High water usage and energy demands for sewage treatment plants may strain local resources.
- Greenhouse Gas Emissions: Methane emissions from co-composting or poorly managed waste can contribute to climate change.

## Potential Social Impacts

**Improved Sanitation and Hygiene:** Well-functioning sewage and solid waste systems can improve overall public health and quality of life by reducing contamination and waste.

**Odor and Aesthetic Issues:** Sewage treatment plants and waste processing facilities can cause unpleasant odors and visual pollution, affecting nearby residents.

**Job Opportunities:** Long-term employment opportunities in facility operations, maintenance, and waste collection can benefit local communities.

**Social Inequality:** In some cases, marginalized communities may face disproportionate exposure to pollution or may not fully benefit from improved waste services.

**Community Tensions:** If the facilities are built near residential areas, local opposition may arise due to concerns about pollution, noise, or property devaluation.

## Environmental and Social Impacts Assessment

The environmental and social assessment of BCISP projects need to be carried out based on the Environment Conservation Acts and Rules of GoB and the relevant AIIB's Environmental and Social Standards (ESSs) for assessing and managing environmental and social issues in different sub-projects. It also provides necessary tools for screening and evaluating environmental and social impacts. Environmental and Social Screening will determine whether sub-project interventions require a full-scale ESIA or not, including the ESMP. This screening includes:

- Reconnaissance of the sub-project area and its surroundings;
- Identification of major sub-project activities; and
- Preliminary assessment of the impacts of these activities on the ecological, socio-economic environment considerations that need to be further investigation through ESIA.

Environmental and social risk classification takes into account relevant potential risks and impacts, such as:

- Type, location, sensitivity, and scale of the Sub-projects;
- Nature and magnitude of the potential E&S risks and impacts;
- Capacity and commitment of the Borrower to manage such risks and impacts in a manner consistent with the ESSs, including GoB policy, legal and institutional framework; laws, regulations, rules, and procedures applicable to the project sectors;
- Risk to the delivery of E&S mitigation measures and outcomes depending on the sites.

### Identification of Sub-project E&S Instruments

The preliminary assessment of categorization of the potential sub-project's components are summarized in the following table with its appropriate E&S instruments.

Initial Categorization of the Sub-projects Targets on the basis of E&S Instrument				
Sub-projects Components	AIIB		ECR, 2023	
	Category	Instrument	Category	Instrument
Household latrine (Cubicle with safe containment)	C	EsCOP	No Category	ESMP
Public toilet, community toilets with Septic Tank	B	ESMP, RP (if applicable)	No Category	ESMP
Integrated waste management plant (including Sludge dewatering, Co- Composting/co-treatment facilities and disposal system)	'B'	Brief ESIA/ESMP RP, IPDP (if applicable)	<sup>2</sup> Red/ Orange	Require IEE/ EIA
Decentralized Wastewater Treatment System (DEWATS)	B	ESMP, RP (if applicable)	No Category	ESMP
Installation of test and production tube-well with pump house	B	ESMP, RP (if applicable)	No Category	ESMP
Distribution new water pipe networks and associated facilities	B	ESMP, RP (if applicable)	No Category	ESMP
Construction of Transfer Station	B	ESMP, RP/IPDP (if applicable)	No Category	ESMP
Construction of Primary and secondary Drain of different size	B	ESMP, RP (if applicable)	No Category	Require IEE

<sup>1</sup>(A' or 'B') depending on the impact's significance; <sup>2</sup>Red (>1000 m<sup>3</sup>/day) Orange (<1000 m<sup>3</sup>/day)

### Site-Specific Mitigation Measures

All the proposed Mitigation Measures Plan will be submitted to the Project Management Unit (PMU), DPHE for their review and approval before contractor mobilization.

**Pollution Prevention Plan** will be prepared and implemented by the contractors on the basis of the ECoPs and AIIB policies.

**Drinking Water Supply and Sanitation Plan** will be prepared by the contractors on basis of the ESMP and ECoPs, which are part of the bidding documents.

**Occupational Health and Safety (OHS) Plan** will be prepared and implemented by each contractor on the basis of the AIIB policies, ECoPs, mitigation plan, and other relevant standards.

**Traffic Management Plan** will identify the routes to be used by the contractors, procedures for the safety of the local community particularly pedestrians, and monitoring mechanism to avoid traffic congestion.

**Construction Camp Management** will be submitted to the DPHE/PMU for their review and approval before camp establishment.

**Environmental Management of Resettlement Sites plan** will be prepared by the Contractor in compliance with the stand-alone ESMP Resettlement Sites and presented in the main ESIA.

**Resettlement Plan (RP)** will follow the RPF and RP prepare for each of proposed sub-projects.

**Health, Safety and Environment Plan** will be prepared by DPHE/PMU/Contractor to address emergencies associated with workers and community health and safety and to properly manage waste effluents generated from the maintenance works.

**GBV and Gender Action plan (GAP)** has been included within this document named as GAP.

**Communication Strategy** will be prepared for the project laying out various communication needs and outreach tools and explaining the responsibility of PIC to convey the project impacts and its implications for various stakeholders.

**Biodiversity Conservation and Monitoring** will confirm these locations, identify additional locations and islands/chars of conservation significance, and prepare detailed conservation plans and implement these plans. A consulting firm will be hired to carry out the studies and to conduct biodiversity monitoring during the construction.

**Generic Mitigation Plan** to be conducted by the TA Consultant who prepares the subproject detailed design.

The BCISP sub-project ESMPs should provide series of management plans providing guidance for site-specific ESMPs to be developed by the contractors. The management plans to be included of sub-project ESMPs with all Environmental Subdivisions Plan with Policy and ESCoP.

## Gender and Social Inclusion

The project has a strong focus on gender equality and social inclusion. Women and marginalized communities are disproportionately affected by poor sanitation services, and the BCISP aims to address these disparities through:

- **Gender Action Plans (GAPs)** that outline specific interventions to improve women's access to sanitation facilities.
- **Capacity building and training programs** that prioritize the inclusion of women in decision-making roles within local governments and project management.

- **Public awareness campaigns** targeting women and vulnerable groups to raise awareness about hygiene practices and sanitation management.

## Occupational Health and Safety (OHS)

The project will implement OHS guidelines based on AIIB standards and national labor laws. Key safety measures include:

- Provision of Personal Protective Equipment (PPE) for all workers involved in construction and maintenance.
- Regular safety training for workers, particularly those handling hazardous materials.
- Establishment of emergency response protocols to address accidents and incidents on construction sites.

## Resettlement Policy Framework (RPF)

This ESMPF includes the RPF is to provide a policy framework for land acquisition and resettlement for all the subprojects to be implemented under the BCISP. The principles underpinning this resettlement framework are:

- Either to avoid or minimize the involuntary resettlement impacts;
- The persons affected by the projects will be better off, or at least not worse off than before involuntary resettlement;
- Their assets and livelihoods affected by the projects will be compensated at full replacement cost; and
- Affected persons will receive assistance to relocate and re-establish/recover their livelihoods. The detailed principles/procedures of the land acquisition and resettlement are outlined in AIIB ESS2 for Involuntary Resettlement, and related laws of GoB.

The purpose of RPF is to provide a set of principles, procedures and guidelines from PMU, to be applied to the sub-projects requiring Land Acquisition and Resettlement. It is a framework to guide the preparation of RP in compliance with the requirements specified in the AIIB ESS2 and law and regulations of GoB. There are gaps between AIIB ESS2 requirements and laws and regulations of GoB for land acquisition and resettlement. These gaps need to be identified and measured to define and report in the document.

## Grievance Redress Mechanism (GRM)

A **Grievance Redress Mechanism (GRM)** will be established to address concerns from affected persons. The GRM will operate at multiple levels:

**Local Level:** Affected persons can file grievances with the local Grievance Redress Committee (GRC).

**Project Level:** At Project level, DPHE has their own GRS (<https://dphe.gov.bd/site/page/42b6354b-5336-42f7-b4ef-57c39bbeb106/Anik-&-Appellate-Officer>), so if any unresolved issues escalated from the local level, it can be submitted to the project level by issuing complain in the above link.

**Ministry level:** Cabinet Division of GoB has a GRM System ([grs@cabinet.gov.bd](mailto:grs@cabinet.gov.bd)) to resolve grievances which are unresolved at Project level.

**Judicial Level:** If grievances cannot be resolved through the project or Ministry level internal mechanisms, affected persons may seek legal recourse under Bangladesh's judicial system.

The GRM will ensure that complaints are addressed promptly and transparently, with regular reporting on the number of grievances received and resolved.

### **Stakeholder Engagement and Grievance Redress**

Stakeholder engagement is a critical component of the BCISP, ensuring that local communities, civil society organizations, and municipal authorities are involved in the project's planning and implementation phases. Stakeholder consultations have already been conducted, and more will follow throughout the project lifecycle to incorporate feedback and address concerns.

### **Institutional Framework and Capacity Building**

The BCISP's success depends on the effective coordination and management of ES aspects. The PMU responsible for implementing the ESMPF. Additionally, a series of capacity-building initiatives will be rolled out to train local government officials, project staff, and contractors on environmental and social management practices. The Environmental and Social Management Information System (ESMIS) will serve as the project's primary tool for monitoring compliance and reporting on environmental and social indicators.

### **Monitoring and Reporting**

Monitoring and evaluation (M&E) are essential to ensure the effective implementation of both the ESMPF and the RAP. The project will establish internal and External Monitoring Mechanisms to assess environmental and social safeguards, track resettlement progress, and evaluate key indicators such as timely compensation, livelihood restoration, and grievance resolution. Regular audits, compliance checks, and stakeholder feedback will help ensure adherence to commitments, with an independent third-party evaluator engaged (as Internal Monitoring) to assess overall compliance with AIIB and national standards. Periodic Monitoring of important environmental parameters viz. water quality, noise level and air quality would be done through field and lab-test.

### **Budget for Implementation of ESMPF**

The Development Project Proposal (DPP) of DPHE for the proposed project would reflect the ESMP activities with budget for fruitful implementation and environmental and social management of the project. Total 178.5 million BDT has been estimated for implementation of ESMPF, which should be embedded in the proposed total project budget from AIIB. All the budgetary allocations for the project components will come from the PA (Project Assistance) part of the project financing.

### **Conclusion**

This Environmental and Social Management Panning Framework (ESMPF) has been developed with a focus on identifying, avoiding, and managing environmental and social risks and impacts, ensuring that each component of the project is implemented sustainably. The framework provides clear guidance for managing these risks and impacts, aiming to minimize potential negative effects while enhancing benefits for local communities and the environment.

It outlines the principles, rules, guidelines, procedures, and organizational arrangements to be followed in preparing the Environmental and Social Impact Assessments (ESIAs), Resettlement Plan (RP), Indigenous Peoples Planning Framework and Environmental and Social Management Plans (ESMPs) for each sub-project. As the guiding framework for the BCISP Project, the ESMPF ensures that all sub-projects would be executed with careful consideration of environmental and social factors.

## সারসংক্ষেপ

বাংলাদেশ, যেখানে ৬.৩ কোটির বেশি মানুষ শহরে বসবাস করছে, দুটি নগরায়নের কারণে বিশেষ করে স্যানিটেশন, বর্জ্য ব্যবস্থাপনা এবং জনস্বাস্থ্যের ক্ষেত্রে পরিবেশগত ও সামাজিক চ্যালেঞ্জের সম্মুখীন হচ্ছে। এর প্রেক্ষিতে, জনস্বাস্থ্য প্রকৌশল অধিদপ্তর (DPHE) কর্তৃক বাস্তবায়িত এবং এশিয়ান ইনফ্রাস্ট্রাকচার ইনভেস্টমেন্ট ব্যাংক (AIIB) দ্বারা সহায়তাপ্রাপ্ত **Bangladesh City Inclusive Sanitation Project (BCISP)** প্রকল্পটি ২৫টি পৌরসভায় নিরাপদ, অন্তর্ভুক্তিমূলক ও টেকসই স্যানিটেশন সেবা প্রদানের লক্ষ্য নিয়ে শুরু হয়েছে, যা বিশেষভাবে নিয়ন্ত্রিত আয়ের ও পশ্চাদপদ জনগণের ওপর গুরুত্ব দিচ্ছে। এই উদ্যোগটি টেকসই উন্নয়ন লক্ষ্যমাত্রা (SDG-6) এর সঙ্গে সঙ্গতিপূর্ণ, যার উদ্দেশ্য ২০৩০ সালের মধ্যে সবার জন্য নিরাপদ পানি ও স্যানিটেশনের নিশ্চয়তা।

এই প্রকল্পের পুরো জীবনচক্রে পরিবেশ ও সামাজিক বিষয়সমূহ সঠিকভাবে ব্যবস্থাপনার জন্য এই Environmental and Social Management Planning Framework (ESMPF) প্রস্তুত করা হয়েছে। এটি পরিবেশগত ও সামাজিক বুঁকি ও প্রভাব চিহ্নিকরণ, মূল্যায়ন ও ব্যবস্থাপনার জন্য একটি কাঠামো প্রদান করে এবং জাতীয় বিধিমালা ও AIIB -এর Environmental and Social Framework (ESF)-এর সঙ্গে সামঞ্জস্য নিশ্চিত করে।

### প্রকল্পের কম্পোনেন্ট সমূহ:

**BCISP** প্রকল্পটি ২৫টি পৌরসভায় নিরাপদ পয়ঃবর্জ্য ব্যবস্থাপনা, কঠিন বর্জ্য, ডেনেজ ও পানি সরবরাহ ব্যবস্থা একত্রিকরণের মাধ্যমে স্যানিটেশন সেবার উন্নয়ন সাধনের লক্ষ্য নিয়ে কাজ করছে। এটি নিম্নোক্ত তিনটি প্রধান কম্পোনেন্টে বিভক্ত:

#### কম্পোনেন্ট -১: স্যানিটেশন ও স্বাস্থ্য সচেতনতা উন্নয়ন

- মলবর্জ্য শোধনাগার (FST), বিকেন্দ্রীভূত বর্জ্য শোধন ব্যবস্থা (DEWATS), পাবলিক ও পারিবারিক টয়লেট, এবং ডেনেজ ব্যবস্থা নির্মাণ;
- টেকসই বর্জ্য ব্যবস্থাপনার জন্য প্রযুক্তি নির্ধারণ ও বাস্তবায়ন;

#### কম্পোনেন্ট -২: প্রাতিষ্ঠানিক সক্ষমতা বৃদ্ধির উদ্যোগ

- প্রকল্প ব্যবস্থাপনা, সেফগার্ড, স্বাস্থ্য ও নিরাপত্তা এবং মনিটরিং সংক্রান্ত প্রশিক্ষণ;
- স্থানীয় সরকার ও পৌরসভা কর্তৃপক্ষের জন্য কর্মশালা;

#### কম্পোনেন্ট -৩: প্রকল্প ব্যবস্থাপনা ও সমন্বয়

- স্থানীয় কর্তৃপক্ষ, ঠিকাদার এবং আন্তর্জাতিক অংশীদারদের মধ্যে সমন্বয় রক্ষার জন্য শক্তিশালী প্রকল্প ব্যবস্থাপনা ইউনিট (PMU) গঠন।

#### আইনি ও নিয়ন্ত্রিক কাঠামো এবং AIIB -এর পরিবেশ ও সামাজিক মানদণ্ড (ESSs)

#### আইনগত ও নীতিমালা কাঠামো এবং এআইআইবি'র পরিবেশ ও সামাজিক মানদণ্ড

বিসিআইএসপি (BCISP) প্রকল্পকে বাংলাদেশের জাতীয় আইন-কানুন এবং এআইআইবি'র পরিবেশ ও সামাজিক কাঠামো (Environmental and Social Framework - ESF) মেনে চলতে হবে। প্রধান জাতীয় আইনসমূহের মধ্যে রয়েছে পরিবেশ সংরক্ষণ আইন, ১৯৯৫, বাংলাদেশ শ্রম আইন, ২০০৬, এবং জাতীয় ভূমি

ব্যবহার নীতি, ২০০১। পরিবেশ সংরক্ষণ বিধিমালা, ২০২৩ অনুসারে উপ-প্রকল্পসমূহকে পরিবেশগত প্রভাবের ভিত্তিতে শ্রেণিবিন্যাস করা হয় এবং পরিবেশ অধিদপ্তর (DoE) থেকে পরিবেশগত ছাড়পত্র নিতে হয়।

আন্তর্জাতিক পর্যায়ে, প্রকল্পটি এআইআইবি'র তিনটি পরিবেশ ও সামাজিক মানদণ্ড (3-ESSs) অনুসরণ করে:

### ESS-1: পরিবেশ ও সামাজিক মূল্যায়ন এবং ব্যবস্থাপনা

যদি কোনো প্রকল্প থেকে পরিবেশ ও সামাজিক ঝুঁকি বা প্রভাব (বা উভয়ই) সৃষ্টি হওয়ার সম্ভাবনা থাকে, তবে ESS-1 প্রযোজ্য হয়। এই মানদণ্ড অনুযায়ী পরিবেশ ও সামাজিক মূল্যায়ন এবং ঝুঁকি ব্যবস্থাপনা প্রকল্পের সম্ভাব্য ঝুঁকি ও প্রভাবের অনুপাতে করা হবে। ESS-1 মানসম্পদ পরিবেশ ও সামাজিক মূল্যায়নের পাশাপাশি ঝুঁকি ও প্রভাব নিরসনের জন্য কার্যকর প্রশমন ও পর্যবেক্ষণ ব্যবস্থা নিশ্চিত করে।

### ESS-2: ভূমি অধিগ্রহণ ও অনিচ্ছাকৃত পুনর্বাসন

এই মানদণ্ড প্রকল্পসংক্রান্ত ভূমি অধিগ্রহণের প্রভাবকে নির্দেশ করে, যার মধ্যে জমি ব্যবহার বা সম্পদ ও প্রাকৃতিক সম্পদে প্রবেশাধিকার সীমিত হওয়া অন্তর্ভুক্ত। এর ফলে শারীরিক স্থানচ্যুতি (যেমন পুনর্বাসন, জমি বা আশ্রয় হারানো) এবং/অথবা অর্থনৈতিক স্থানচ্যুতি (জমি বা সম্পদ হারানো, বা জমি/প্রাকৃতিক সম্পদের ব্যবহার সীমিত হওয়া, যা আয়ের উৎস বা জীবিকা হারানোর কারণ হতে পারে) ঘটতে পারে।

### ESS-3: আদিবাসী জনগোষ্ঠী

প্রকল্প এলাকায় যদি আদিবাসী জনগোষ্ঠী বসবাস করে বা তাদের ঐতিহ্যগতভাবে সংযুক্ত এলাকা প্রকল্পের আওতায় পড়ে, এবং তারা প্রকল্প দ্বারা প্রভাবিত হওয়ার সম্ভাবনা থাকে, তবে ESS-3 প্রযোজ্য হয়। “আদিবাসী জনগোষ্ঠী” বলতে এমন একটি পৃথক সামাজিক ও সাংস্কৃতিক গোষ্ঠীকে বোঝায় যাদের মধ্যে নিম্নলিখিত বৈশিষ্ট্যগুলো বিভিন্ন মাত্রায় বিদ্যমান থাকে:

- (ক) নিজেদেরকে পৃথক আদিবাসী সাংস্কৃতিক গোষ্ঠীর সদস্য হিসেবে স্বীকৃতি প্রদান এবং অন্যদের কাছ থেকে সেই পরিচয়ের স্বীকৃতি পাওয়া;
- (খ) প্রকল্প এলাকায় ভৌগোলিকভাবে পৃথক আবাসভূমি, পৈতৃক ভূমি বা মৌসুমি ব্যবহার ও বসতির স্থানের সাথে এবং সেখানকার প্রাকৃতিক সম্পদের সাথে সমষ্টিগত সংযুক্তি;
- (গ) প্রথাগত সাংস্কৃতিক, অর্থনৈতিক, সামাজিক বা রাজনৈতিক প্রতিষ্ঠান, যা মূলধারার সমাজ বা সংস্কৃতি থেকে পৃথক;
- (ঘ) স্বতন্ত্র ভাষা বা উপভাষা, যা অনেক সময় রাষ্ট্রীয় বা আঞ্চলিক সরকারি ভাষা থেকে ভিন্ন।

বাংলাদেশের জাতীয় আইনসমূহ ও এআইআইবি'র মানদণ্ডের মধ্যে একটি ব্যাবধান বিশ্লেষণ (Gap Analysis) করা হয়েছে। দেখা গেছে, জাতীয় আইন অনেক ক্ষেত্রে কম কঠোর। যেমন-বাংলাদেশের পরিবেশ সংরক্ষণ আইন সব প্রকল্পের জন্য বিস্তারিত পরিবেশ ও সামাজিক ব্যবস্থাপনা পরিকল্পনা (ESMP) প্রস্তুতির বাধ্যবাধকতা দেয় না, কিন্তু এআইআইবি তা বাধ্যতামূলক করেছে। তাই, বিসিআইএসপি প্রকল্প এআইআইবি'র অধিক কঠোর মানদণ্ড অনুসরণ করবে যাতে ঝুঁকি ব্যবস্থাপনা ও প্রশমন সর্বাঙ্গীণভাবে নিশ্চিত হয়।

### পরিবেশগত, সামাজিক ও জলবায়ু পরিস্থিতির বাছাই (Screening)

এতে বিসিআইএসপি উপ-প্রকল্প এলাকার বিদ্যমান ভৌত ও জীববৈচিত্র্য, সামাজিক-অর্থনৈতিক এবং জলবায়ু পরিস্থিতির ভিত্তিমূলক তথ্য অন্তর্ভুক্ত রয়েছে।

## ভোত ও জীববৈচিত্র্য পরিবেশ

প্রকল্পটি বাংলাদেশের বিভিন্ন পরিবেশগত অঞ্চলে বিস্তৃত, যার মধ্যে বন্যাপ্রবণ এলাকা, উপকূলীয় অঞ্চল এবং জলাভূমি অন্তর্ভুক্ত। মেঘনা ও পদ্মাৰ মতো প্রধান নদী প্রকল্প এলাকার জলবিদ্যা ও জীববৈচিত্র্যে প্রভাব ফেলে। আবার সাতক্ষীরা, নোয়াখালী ও ঝালকাঠিৰ মতো কিছু উপ-প্রকল্প গুরুত্বপূর্ণ পরিবেশগত অঞ্চলে অবস্থিত, যেমন উপকূলীয় ও জোয়ার-ভাটার বন্যাপ্রবণ এলাকা। এসব অঞ্চলে সুন্দরবন পশ্চিম বন্যপ্রাণী অভয়ারণ্য এবং মধুপুর জাতীয় উদ্যানের মতো সংরক্ষিত এলাকা ও জাতীয় উদ্যানও রয়েছে।

## সামাজিক-অর্থনৈতিক অবস্থা

লক্ষ্যকৃত এলাকাগুলোতে জনসংখ্যার ঘনত্ব বেশি, যেখানে স্বল্প আয়ের নগরবাসীরা পর্যাপ্ত স্যানিটেশন ও বর্জ্য ব্যবস্থাপনা সুবিধা পাচ্ছে না। পর্যাপ্ত স্যানিটেশন সুবিধার অভাব এবং বিশুদ্ধ পানির সীমিত প্রবেশাধিকার জনস্বাস্থ্যের জন্য গুরুতর ঝুঁকি সৃষ্টি করেছে। বিসিআইএসপি প্রকল্পের মাধ্যমে প্রায় ৩০.১ লাখ মানুষ, যার মধ্যে প্রায় ১৮.৫ লাখ নগর দরিদ্র, উন্নত স্যানিটেশন ও স্বাস্থ্যবিধি সেবার সুবিধা পাবে।

## জলবায়ু পরিস্থিতি

বাংলাদেশ জলবায়ু পরিবর্তনজনিত দুর্যোগে আক্রান্ত হওয়ার দিক থেকে বিশেষ নবম সর্বাধিক ঝুঁকিপূর্ণ দেশ। ২০৫০ সালের মধ্যে সমুদ্রপৃষ্ঠের উচ্চতা বৃদ্ধির কারণে দেশের প্রায় ১৭% ভূমি হারানোর আশঙ্কা রয়েছে। সাম্প্রতিক বছরগুলোতে ঘূর্ণিঝড়, ভূমিকম্প, নদীভাঙ্গ, খরা, অতিবৃষ্টি, বন্যা, তাপমাত্রা বৃদ্ধি, লবণাক্ততা এবং সমুদ্রপৃষ্ঠের উচ্চতা বৃদ্ধি ইত্যাদি জলবায়ুজনিত দুর্যোগের ঘনঘন প্রভাব বিসিআইএসপি উপ-প্রকল্প এলাকার ওপর অতিরিক্ত চাপ সৃষ্টি করছে।

## প্রত্যাশিত পরিবেশগত ও সামাজিক প্রভাব

এগুলো হলো উপ-প্রকল্পের কার্যক্রম থেকে উদ্ভূত প্রভাব, যা দেখা দিতে পারে:

- (ক) পরিকল্পনা ও নকশা পর্যায়ে;
- (খ) নির্মাণ পর্যায়ে;
- (গ) পরিচালনা ও রক্ষণাবেক্ষণ পর্যায়ে।

## পরিকল্পনা ও নকশা (Design) পর্যায়ের প্রভাব (Impact):

উপ-প্রকল্প বিনিয়োগের নকশা থেকে সৃষ্টি প্রভাবগুলোর মধ্যে রয়েছে: পয়ঃজাত বর্জ্য প্রক্রিয়াকরণের দক্ষতা, নিষ্কাশন মানদণ্ড, পুনঃব্যবহারের সম্ভাবনা, স্লাজ ব্যবস্থাপনা, প্রাপ্ত পানির গুণমান ও ব্যবহার, নকশা ও প্রযুক্তি নির্বাচনের কারণে শব্দ ও দুর্গম্বজনিত ঝুঁকি, ক্ষতিকর/বিপজ্জনক রাসায়নিক ও উপকরণের ব্যবহার, নিকাশী জলের মান ও সম্ভাব্য পরিবর্তন, স্বাস্থ্য ও সুরক্ষাজনিত প্রভাব। এছাড়াও BCISP উপ-প্রকল্পসমূহে নিম্নলিখিত বিষয়ে বিশেষ দৃষ্টি দেওয়া প্রয়োজন:

- **অবস্থানজনিত প্রভাব (সোধারণ):** স্থানের নির্বাচনজনিত কারণে জৈব-ভোত বৈচিত্র্যের ক্ষতি এবং পার্শ্ববর্তী পরিবেশে প্রত্যক্ষ/পরোক্ষ হস্তক্ষেপ হতে পারে। মানব বসতি থেকে দুর্গম্ব ও অতিরিক্ত শব্দে অসুবিধা সৃষ্টি হতে পারে।
- **অবস্থানজনিত প্রভাব (সংবেদনশীল গ্রাহক):** যেমন বগুড়ায় প্রস্তাবিত FSTP ও নিকাশী পরিশোধনাগার যদি বসতিবহুল এলাকায় স্থাপন করা হয় তবে শিশু ও বৃদ্ধসহ ঝুঁকিপূর্ণ জনগোষ্ঠী প্রভাবিত হতে পারে।

- **অবস্থানজনিত প্রভাব (গুরুতর):** BCISP কোনো সংবেদনশীল এলাকায় কার্যক্রম হাতে নেবে না, যেখানে উল্লেখযোগ্য পরিবেশগত প্রভাব সৃষ্টি হতে পারে। অধিকাংশ স্থাপনা পৌরসভার অব্যবহৃত খালি জমিতে হবে; ব্যক্তিগত মালিকের কাছ থেকে বাজারদরে জমি কেনার বিষয় নেই।
- **অবস্থানজনিত প্রভাব (সংরক্ষিত সম্পদ):** প্রত্নতাত্ত্বিক ও ঐতিহাসিক স্থানসমূহ সংরক্ষিত সম্পদ। খনন, ভারী যন্ত্রপাতির চাপ, গাছ কেটে ফেলা, ক্ষয়প্রবণতা বৃক্ষ বা দুষ্কৃতিকারীদের জন্য সহজলভ্য করে তোলা এ ধরনের স্থানে বড় ঝুঁকি তৈরি করে।
- **ভূমি অধিগ্রহণ ও অনিচ্ছাকৃত পুনর্বাসন:** তালিকাভুক্ত পৌরসভাগুলো জানিয়েছে যে BCISP-এর উপ-প্রকল্প যেমন FSTP, DEWATS, কমিউনিটি/গাবলিক টয়লেট, সেপটিক ট্যাংক, সোকপিট, নলকূপ ইত্যাদির জন্য কোনো জমি অধিগ্রহণ প্রয়োজন হবে না।
- **বন উজাড় ও গাছ কাটা:** এটি সাধারণ নেতৃত্বাচক প্রভাব, যার ফলে জলবায়ু পরিবর্তন, জীববৈচিত্র্যের ক্ষতি, মাটির ক্ষয়, পানি দূষণ, বন্যা, অর্থনৈতিক ক্ষতি ও মানব-প্রাণীর সংঘাত বাড়তে পারে এবং মরুকরণের ঝুঁকি বৃক্ষি পেতে পারে।

## নির্মাণ পর্যায়ের প্রভাব

নির্মাণ প্রকল্প স্থানীয় পরিবেশে সাধারণত নিম্নোক্ত প্রভাব সৃষ্টি করে: বায়ুদূষণ, পানিদূষণ, শব্দদূষণ, কঠিন বর্জ্য, মাটি ক্ষয়, বর্জ্য উৎপাদন, প্রতিবেশব্যবস্থা বিন্নিপত্তি হওয়া, আবাসস্থল হারানো ও প্রাকৃতিক সম্পদের ক্ষয়। BCISP বাস্তবায়নকালে নিম্নলিখিত প্রভাব দেখা দিতে পারে:

- **ভূমি ব্যবহার পরিবর্তন:** এর ফলে স্থানীয় পরিবার, ব্যবসা ও জীবিকা ক্ষতিগ্রস্ত হতে পারে। নির্মাণ শ্রমিকদের আগমন স্থানীয় অবকাঠামো ও সেবায় চাপ সৃষ্টি করতে পারে এবং সামাজিক টানাপোড়েন ঘটাতে পারে।
- **মাটির ক্ষয়:** জমি পরিষ্কার করার কারণে উর্বরতা হ্রাস ও বন্যার ঝুঁকি পেতে পারে।
- **কর্মক্ষেত্রের স্বাস্থ্য ও সুরক্ষা:** অগ্নিকাণ্ড, বিদ্যুৎস্পষ্ট হওয়া, যন্ত্রপাতির আঘাত, উচ্চতা থেকে পড়া, PPE ঘাটতি ও প্রশিক্ষণের অভাবে শ্রমিক দুর্ঘটনার ঝুঁকিতে থাকে।
- **বায়ুর মানের অবনতি:** যানবাহন ও যন্ত্রপাতির নির্গমন থেকে  $CO$ ,  $SO_2$ ,  $NO_x$  ও  $PM$  তৈরি হবে। ধূলো ফসল ও গবাদি পশুর ক্ষতি করতে পারে।
- **জলসম্পদের অবনতি:** জ্বালানি, রাসায়নিক বা বর্জ্য ফুটো হয়ে পানির গুণমান ক্ষতিগ্রস্ত করতে পারে, যা পানীয় জলের উৎস, ফসল ও জলজ প্রাণীর ওপর নেতৃত্বাচক প্রভাব ফেলবে।
- **শব্দ ও কম্পন:** খনন, ভরাট ও যন্ত্রপাতি ব্যবহারে শব্দ ও কম্পন সৃষ্টি হবে, যা ক্লুণ ও উপাসনালয়ের মতো সংবেদনশীল স্থাপনায় প্রভাব ফেলতে পারে।
- **স্থানীয় অবকাঠামোর ক্ষতি:** রাস্তা, বিদ্যুৎ লাইন, পানি চ্যানেল ইত্যাদি পরিবহন ও নির্মাণকাজে ক্ষতিগ্রস্ত হতে পারে।
- **মাটির দূষণ:** জ্বালানি ও বিপজ্জনক উপকরণের ভুল সংরক্ষণ বা ব্যবহারে মাটি ও পানিদূষণ হতে পারে।
- **সম্পদায়ের স্বাস্থ্য ও সুরক্ষা:** ভারী যন্ত্রপাতি ও যান চলাচল স্থানীয় বাসিন্দাদের জন্য ঝুঁকি তৈরি করতে পারে।
- **শ্রমিক আগমনজনিত প্রভাব:** বাইরের শ্রমিকদের কারণে স্থানীয় সম্পদে চাপ বাড়বে এবং সামাজিক ঝুঁকি তৈরি হতে পারে।
- **ঐতিহাসিক ও সাংস্কৃতিক স্থান:** যদি উপ-প্রকল্প এলাকায় কোনো প্রত্নতাত্ত্বিক বা সাংস্কৃতিক ঐতিহ্য থাকে তবে নির্মাণকাজে তা ক্ষতিগ্রস্ত হওয়ার সম্ভাবনা থাকে।

## সম্ভাব্য সামাজিক প্রভাব (নির্মাণকালে)

- স্থানীয় জনগোষ্ঠীর স্থানচুতি বা সম্পদ হারানো;
- দুর্ঘটনা, ধূলো ও দূষণের কারণে স্বাস্থ্যবুঁকি;
- যানজট ও সড়ক দুর্ঘটনা বৃক্ষি;
- স্বল্পমেয়াদে কর্মসংস্থান সৃষ্টি;
- শব্দ, ধূলো ও সম্পদে প্রবেশাধিকার করে যাওয়ায় জীবনমানের অবনতি।

## পরিচালনা ও রক্ষণাবেক্ষণ পর্যায়ের প্রভাব

নির্মাণ সমাপ্তির পর O&M পর্যায়ে FSTP, IWTP, DEWATS ইত্যাদির কার্যক্রম চালু হবে। এ পর্যায়ে প্রভাব নির্ভর করবে ব্যবস্থাপনা ব্যবস্থার দক্ষতার ওপর।

## সম্ভাব্য পরিবেশগত প্রভাব

- অদক্ষ পরিশোধনে পানি দূষণ;
- কঠিন বর্জ্য ব্যবস্থাপনায় ব্যর্থতায় মাটি ও ভূগর্ভস্থ পানি দূষণ;
- গ্যাস নির্গমন ও দুর্গন্ধি;
- জলজ প্রতিবেশ পরিবর্তন;
- অতিরিক্ত বর্জ্য উৎপাদন ও অবৈধ ফেলা;
- পানি ও জ্বালানি ব্যবহার বৃক্ষি;
- মিথেন নির্গমন থেকে জলবায়ু পরিবর্তনের ঝুঁকি।

## সম্ভাব্য সামাজিক প্রভাব

- স্বাস্থ্য ও পরিচ্ছন্নতায় উন্নতি;
- দুর্গন্ধি ও সৌন্দর্যহানিজনিত সমস্যা;
- দীর্ঘমেয়াদে কর্মসংস্থানের সুযোগ;
- প্রাক্তিক জনগোষ্ঠীর ওপর বৈষম্যমূলক প্রভাব;
- স্থানীয় জনগণের আপত্তি বা সামাজিক টানাপোড়েন।

## পরিবেশগত ও সামাজিক প্রভাব মূল্যায়ন

BCISP প্রকল্পের পরিবেশগত ও সামাজিক মূল্যায়ন করতে হবে সরকারের পরিবেশ সংরক্ষণ আইন ও বিধি এবং AIIB-এর Environmental and Social Standards (ESSs) অনুযায়ী। স্ক্রিনিং প্রক্রিয়ায় সিদ্ধান্ত হবে পূর্ণাংশ ESIA প্রয়োজন কিনা। এতে অন্তর্ভুক্ত:

- প্রকল্প এলাকা পরিদর্শন;
- প্রধান কার্যক্রম চিহ্নিতকরণ;
- সম্ভাব্য পরিবেশগত ও সামাজিক প্রভাবের প্রাথমিক মূল্যায়ন।

## ঝুঁকি শ্রেণিবিন্যাস বিবেচনায় রাখা হবে:

- প্রকল্পের ধরণ, অবস্থান, সংবেদনশীলতা ও পরিসর;

- সম্ভাব্য পরিবেশগত ও সামাজিক ঝুঁকির প্রকৃতি ও মাত্রা;
- গৃহীত ঝুঁকি ব্যবস্থাপনা সক্ষমতা ও প্রতিশুতি;
- সাইটতিক ঝুঁকি প্রশমন ব্যবস্থা বাস্তবায়নের সম্ভাবনা।

সম্ভাব্য উপ-প্রকল্পের উপাদানসমূহের প্রাথমিক শ্রেণীবিন্যাসের মূল্যায়ন এবং এর উপযুক্ত পরিবেশ ও সামাজিক (E&S) উপকরণসমূহ নিম্নের সারণীতে সংক্ষেপে উপস্থাপন করা হলো।

উপ-প্রকল্পের নাম	AIIB	ECR, ২০২৩		
	AIIB শ্রেণি	প্রযোজ্য E&S গাইডলাইন	পরিবেশ বিধিমালা ২০২৩	প্রযোজনীয় গাইডলাইন
পারিবারিক ল্যাট্রিন (নিরাপদ সেক কনটেইনমেন্টসহ)	C	ESCoP	No Category	ESMP
পাবলিক/কমিউনিটি টয়লেট (সেপ্টিক ট্যাংকসহ)	B	ESMP, RP (যদি প্রযোজ্য হয়)	No Category	ESMP
সমন্বিত বর্জ্য ব্যবস্থাপনা প্লান্ট (কো-কম্পাস্টিং সহ)	B	Brief ESIA/ESMP, RP/IPDP	Red/Orange	IEE/EIA
DEWATS	B	ESMP, RP (যদি প্রযোজ্য হয়)	No Category	ESMP
টিউবওয়েল ও পাম্প হাউজ	B	ESMP, RP (যদি প্রযোজ্য হয়)	No Category	ESMP
নতুন পাইপলাইন বিতরণ	B	ESMP, RP (যদি প্রযোজ্য হয়)	No Category	ESMP
ট্রান্সফার স্টেশন নির্মাণ	B	ESMP, RP/IPDP	No Category	ESMP
ডেন নির্মাণ (বিভিন্ন আকারে)	B	ESMP, RP	No Category	IEE প্রযোজন

### সাইট-নির্দিষ্ট ব্যবস্থাপনা ও প্রশমন (Mitigation) পরিকল্পনা

পানীয় জল সরবরাহ ও স্যানিটেশন পরিকল্পনা:

ঠিকাদারেরa ESMP এবং ECoPs-এর ভিত্তিতে, যা বিডিং ডকুমেন্টের অংশ, এই পরিকল্পনা  
প্রণয়ন করবে।

পেশাগত স্বাস্থ্য ও সুরক্ষা (OHS) পরিকল্পনা:

প্রতিটি ঠিকাদার AIIB নীতি, ECoPs, প্রশমন পরিকল্পনা এবং অন্যান্য প্রাসঙ্গিক মানদণ্ড  
অনুযায়ী OHS পরিকল্পনা প্রণয়ন ও বাস্তবায়ন করবে।

#### ১. যানবাহন ও ট্রাফিক ব্যবস্থাপনা পরিকল্পনা:

ঠিকাদারদের ব্যবহারযোগ্য রুট নির্ধারণ, স্থানীয় সম্প্রদায়ের বিশেষ করে পথচারীদের নিরাপত্তা  
নিশ্চিতকরণের পদ্ধতি এবং যানজট এড়ানোর জন্য পর্যবেক্ষণ ব্যবস্থাপনা নির্ধারণ করা হবে।

#### ২. নির্মাণ শিবির ব্যবস্থাপনা:

শিবির স্থাপনের পূর্বে DPHE/PMU-তে পর্যালোচনা ও অনুমোদনের জন্য পরিকল্পনা জমা দেওয়া  
হবে।

৩. পুনর্বাসন সাইটের পরিবেশ ব্যবস্থাপনা পরিকল্পনা:

ঠিকাদার ESMP পুনর্বাসন সাইটের standalone নীতিমালা অনুযায়ী পরিকল্পনা প্রণয়ন করবে এবং তা মূল ESIA-তে উপস্থাপন করবে।

৪. পুনর্বাসন পরিকল্পনা (RP):

প্রতিটি প্রস্তাবিত উপ-প্রকল্পের জন্য RPF অনুযায়ী RP প্রণয়ন করা হবে।

৫. স্বাস্থ্য, সুরক্ষা ও পরিবেশ পরিকল্পনা:

DPHE/PMU/ঠিকাদারদের দ্বারা প্রণীত, যা কর্মী ও সম্প্রদায়ের স্বাস্থ্য ও সুরক্ষার জরুরি অবস্থার জন্য এবং রক্ষণাবেক্ষণকালে উৎপন্ন বর্জ্য নির্গমন সঠিকভাবে ব্যবস্থাপনার জন্য তৈরি হবে।

৬. লিঙ্গভিত্তিক সহিংসতা (GBV) ও জেন্ডার অ্যাকশন প্ল্যান (GAP):

এই ডকুমেন্টে GAP অন্তর্ভুক্ত রয়েছে।

৭. যোগাযোগ কৌশল:

প্রকল্পের বিভিন্ন যোগাযোগ চাহিদা ও সম্প্রসারণ টুলসের ব্যাখ্যা, এবং PIC-এর দায়িত্ব ব্যাখ্যা করা হবে যাতে প্রকল্পের প্রভাব ও স্টেকহোল্ডারদের জন্য তার প্রাসংজিকতা স্পষ্ট করা যায়।

৮. জীববৈচিত্র্য সংরক্ষণ ও পর্যবেক্ষণ:

সংরক্ষণযোগ্য এলাকা, অতি গুরুত্বপূর্ণ দ্বীপ/চর নির্ধারণ, বিস্তারিত সংরক্ষণ পরিকল্পনা তৈরি ও বাস্তবায়ন করা হবে। সংশ্লিষ্ট অধ্যয়ন ও নির্মাণকালীন জীববৈচিত্র্য পর্যবেক্ষণের জন্য একটি পরামর্শক সংস্থা নিয়োগ করা হবে।

৯. সাধারণ প্রশমন পরিকল্পনা:

TA Consultant উপ-প্রকল্পের বিস্তারিত নকশা প্রণয়নের সময় এই পরিকল্পনা বাস্তবায়ন করবে।

১০. BCISP উপ-প্রকল্প ESMP:

উপ-প্রকল্পের ESMP গুলি সাইট-নির্দিষ্ট ESMP তৈরি করার জন্য বিস্তারিত ব্যবস্থাপনা নির্দেশিকা প্রদান করবে। ESMP-তে সকল Environmental Subdivisions Plan, নীতি ও ESCoP অন্তর্ভুক্ত থাকবে।

### লিঙ্গ ও সামাজিক অন্তর্ভুক্তি

প্রকল্পটি লিঙ্গ সমতা ও সামাজিক অন্তর্ভুক্তিতে বিশেষ গুরুত্ব প্রদান করে। খারাপ স্যানিটেশন সেবার কারণে নারী ও প্রান্তিক সম্প্রদায় disproportionately প্রভাবিত হয়। BCISP এর লক্ষ্য এই বৈষম্য নিরসন করা, যার মধ্যে:

- জেন্ডার অ্যাকশন প্ল্যান (GAP): নারী ও মেয়েদের স্যানিটেশন সুবিধা ব্যবহারে বিশেষ হস্তক্ষেপ নির্ধারণ।
- ক্ষমতা বৃদ্ধি ও প্রশিক্ষণ: স্থানীয় সরকার ও প্রকল্প ব্যবস্থাপনায় নারীদের সিদ্ধান্ত গ্রহণে অন্তর্ভুক্তি নিশ্চিত করার জন্য প্রশিক্ষণ ও ক্ষমতা বৃদ্ধির কার্যক্রম।

### জনসচেতনতা, স্বাস্থ্য, পুনর্বাসন ও অভিযোগ নিষ্পত্তি ব্যবস্থা

### জনসচেতনতা কার্যক্রম

নারী ও ঝুঁকিপূর্ণ সম্প্রদায়কে লক্ষ্য করে সচেতনতা বৃদ্ধি কার্যক্রম পরিচালনা করা হবে, যাতে স্বাস্থ্যবিধি চর্চা ও স্যানিটেশন ব্যবস্থাপনার বিষয়ে জ্ঞান বৃদ্ধি পায়।

### পেশাগত স্বাস্থ্য ও সুরক্ষা (OHS)

প্রকল্পটি AIIB মানদণ্ড এবং জাতীয় শ্রম আইন অনুসারে OHS নির্দেশিকা বাস্তবায়ন করবে। মূল সুরক্ষা ব্যবস্থা অন্তর্ভুক্ত:

- নির্মাণ ও রক্ষণাবেক্ষণ কার্যক্রমে নিযুক্ত সকল শ্রমিকের জন্য ব্যক্তিগত সুরক্ষা সরঞ্জাম (PPE) প্রদান।
- বিশেষ করে বিপজ্জনক পদার্থ পরিচালনার জন্য শ্রমিকদের নিয়মিত নিরাপত্তা প্রশিক্ষণ।
- নির্মাণ সাইটে দুর্ঘটনা ও অনাকাঙ্ক্ষিত ঘটনা মোকাবেলার জন্য জরুরি প্রতিক্রিয়া প্রোটোকল স্থাপন।

### পুনর্বাসন নীতিমালা কাঠামো (RPF)

এই ESMPF-এ RPF অন্তর্ভুক্ত করা হয়েছে, যা BCISP-এর অধীনে বাস্তবায়িত সমস্ত উপ-প্রকল্পের জন্য ভূমি অধিগ্রহণ ও পুনর্বাসনের নীতি কাঠামো প্রদান করে। পুনর্বাসন কাঠামোর মূল নীতি:

- অনিচ্ছাকৃত পুনর্বাসনের প্রভাব এড়ানো বা সর্বনিম্ন পর্যায়ে আনা।
- প্রকল্প দ্বারা প্রভাবিত ব্যক্তিরা পুনর্বাসনের পরও আগের তুলনায় উন্নত বা অন্তর্পক্ষে অবনতি না হয়।
- তাদের সম্পদ ও জীবিকার ক্ষতি হলে পূর্ণ প্রতিস্থাপন মূল্যে ক্ষতিপূরণ প্রদান।
- প্রভাবিত ব্যক্তিদের পুনর্বাসন ও জীবিকা পুনঃপ্রতিষ্ঠার জন্য সহায়তা প্রদান।

ভূমি অধিগ্রহণ ও পুনর্বাসনের বিভাগিত নীতি ও প্রক্রিয়াগুলো AIIB ESS2 (Involuntary Resettlement) এবং GoB-এর প্রাসঙ্গিক আইন অনুযায়ী নির্ধারিত।

### RPF-এর উদ্দেশ্য:

PMU থেকে নির্ধারিত নীতি, প্রক্রিয়া ও নির্দেশিকা উপ-প্রকল্পে প্রয়োগযোগ্য করা, যাতে **AIIB ESS2** এবং GoB-এর আইন ও বিধি অনুযায়ী RP প্রণয়ন করা যায়। AIIB ESS2 ও GoB-এর আইন ও বিধির মধ্যে কোনো ফাঁক থাকলে সেগুলো শনাক্তকরণ ও নথিভুক্ত করা হবে।

### অভিযোগ নিষ্পত্তি ব্যবস্থা (GRM)

প্রভাবিত ব্যক্তিদের উদ্বেগ সমাধানের জন্য একটি GRM ব্যবস্থা প্রতিষ্ঠা করা হবে। GRM বহস্তরীয়ভাবে কার্যকর হবে:

**স্থানীয় স্তর:** প্রভাবিত ব্যক্তি স্থানীয় অভিযোগ নিষ্পত্তি কমিটিতে (GRC) অভিযোগ দায়ের করতে পারবেন।

**প্রকল্প স্তর:** প্রকল্প স্তরে DPHE-এর নিজস্ব GRS আছে (লিংক), যা স্থানীয় স্তর থেকে অমীমাংসিত অভিযোগ প্রকল্প স্তরে প্রেরণ করা যাবে।

**মন্ত্রণালয় স্তর:** GoB-এর ক্যাবিনেট ডিভিশনের GRM সিলেক্ট (grs@cabinet.gov.bd) ব্যবহার করে প্রকল্প স্তরে অমীমাংসিত অভিযোগ সমাধান করা হবে।

#### বিচারিক স্তর:

যদি প্রকল্প বা মন্ত্রণালয় স্তরের অভ্যন্তরীণ প্রক্রিয়ার মাধ্যমে অভিযোগ সমাধান সম্ভব না হয়, প্রভাবিত ব্যক্তিরা বাংলাদেশের বিচারব্যবস্থার আওতায় আইনি সহায়তা নিতে পারেন।

GRM নিশ্চিত করবে যে অভিযোগ দ্রুত ও স্বচ্ছভাবে সমাধান করা হয় এবং প্রাপ্ত ও সমাধানকৃত অভিযোগের সংখ্যা নিয়মিত রিপোর্ট করা হবে।

### স্টেকহোল্ডার অংশগ্রহণ ও অভিযোগ নিষ্পত্তি

BCISP-এর একটি গুরুত্বপূর্ণ অংশ হলো স্টেকহোল্ডার অংশগ্রহণ, যা নিশ্চিত করে যে স্থানীয় সম্পদায়, সিভিল সোসাইটি সংস্থা, এবং গৌর কর্তৃপক্ষ প্রকল্পের পরিকল্পনা ও বাস্তবায়ন পর্যায়ে যুক্ত থাকে। স্টেকহোল্ডার পরামর্শ

ইতিমধ্যে অনুষ্ঠিত হয়েছে, এবং প্রকল্পকালীন সময় আরও পরামর্শ কার্যক্রম পরিচালনা করা হবে যাতে মতামত অন্তর্ভুক্ত করা যায় এবং উদ্বেগ সমাধান করা যায়।

### প্রাতিষ্ঠানিক কাঠামো ও ক্ষমতা বৃদ্ধি

BCISP-এর সাফল্য নির্ভর করে পরিবেশ ও সামাজিক (ES) দিকের কার্যকর সমন্বয় ও ব্যবস্থাপনায়। PMU ESMPF বাস্তবায়নের জন্য দায়ী থাকবে। পাশাপাশি, স্থানীয় সরকার কর্মকর্তা, প্রকল্প কর্মী এবং ঠিকাদারদের পরিবেশ ও সামাজিক ব্যবস্থাপনা অনুশীলনে প্রশিক্ষণের জন্য একটি ধারাবাহিক ক্ষমতা বৃদ্ধির কার্যক্রম পরিচালনা করা হবে।

পরিবেশ ও সামাজিক ব্যবস্থাপনা তথ্য ব্যবস্থা (ESMIS) প্রকল্পের প্রধান সরঞ্জাম হিসেবে পরিবেশ ও সামাজিক সূচক পর্যবেক্ষণ ও রিপোর্টিংয়ে ব্যবহার করা হবে।

### পর্যবেক্ষণ ও রিপোর্টিং

পর্যবেক্ষণ ও মূল্যায়ন (M&E) নিশ্চিত করবে যে ESMPF এবং RAP কার্যকরভাবে বাস্তবায়িত হচ্ছে। প্রকল্প পরিবেশ ও সামাজিক সুরক্ষা নিরীক্ষণ, পুনর্বাসন অগ্রগতি পর্যবেক্ষণ, এবং গুরুত্বপূর্ণ সূচক যেমন সময়মত ক্ষতিপূরণ, জীবিকা পুনঃপ্রতিষ্ঠা, এবং অভিযোগ সমাধান মূল্যায়নের জন্য অভ্যন্তরীণ ও বহিঃস্থ পর্যবেক্ষণ প্রক্রিয়া স্থাপন করবে।

নিয়মিত অডিট, কমপ্লায়েন্স চেক এবং স্টেকহোল্ডার ফিডব্যাক প্রতিশুতির যথাযথ পালন নিশ্চিত করবে, পাশাপাশি স্বাধীন তৃতীয় পক্ষের মূল্যায়ক (Internal Monitoring হিসেবে) AIIB এবং জাতীয় মানদণ্ড অনুযায়ী সামগ্রিক কমপ্লায়েন্স মূল্যায়ন করবে। গুরুত্বপূর্ণ পরিবেশগত সূচক যেমন পানির মান, শব্দ স্তর এবং বায়ুর মান ক্ষেত্র ও ল্যাব পরীক্ষা মাধ্যমে পর্যবেক্ষণ করা হবে।

### ESMPF বাস্তবায়নের বাজেট

প্রস্তাবিত প্রকল্পের জন্য **DPHE**-এর উন্নয়ন প্রকল্প প্রস্তাব (DPP)-এ ESMP কার্যক্রম এবং বাজেট অন্তর্ভুক্ত থাকবে, যাতে প্রকল্পের পরিবেশ ও সামাজিক ব্যবস্থাপনা কার্যকরভাবে সম্পন্ন হয়। ESMPF বাস্তবায়নের জন্য মোট ১৭৮.৫ মিলিয়ন টাকা (BDT) অনুমান করা হয়েছে, যা AIIB থেকে প্রস্তাবিত মোট প্রকল্প বাজেটে অন্তর্ভুক্ত করা হবে। প্রকল্পের সকল উপাদানের বাজেট বরাদ্দ প্রকল্প অর্থায়নের PA (Project Assistance) অংশ থেকে প্রদান করা হবে।

### উপসংহার

এই পরিবেশ ও সামাজিক ব্যবস্থাপনা পরিকল্পনা কাঠামো (ESMPF) তৈরি করা হয়েছে মূলত প্রকল্পের সম্ভাব্য পরিবেশগত ও সামাজিক ঝুঁকি ও প্রভাবগুলো চিহ্নিত করা, তা এডিয়ে চলা এবং সঠিকভাবে পরিচালনার লক্ষ্যে, যাতে প্রতিটি উপাদান টেকসইভাবে বাস্তবায়ন করা যায়। এই কাঠামোটি ঝুঁকি ও প্রভাবগুলো ব্যবস্থাপনার জন্য স্পষ্ট দিকনির্দেশনা দেয় এবং এর মাধ্যমে সম্ভাব্য নেতৃত্বাচক প্রভাব কমিয়ে স্থানীয় জনগোষ্ঠী ও পরিবেশের জন্য সুফল নিশ্চিত করা যায়।

এটি প্রতিটি সাব-প্রকল্পের জন্য পরিবেশ ও সামাজিক প্রভাব মূল্যায়ন (ESIA), পুনর্বাসন পরিকল্পনা (RP), আদিবাসী জনগণের জন্য পরিকল্পনা কাঠামো, এবং পরিবেশ ও সামাজিক ব্যবস্থাপনা পরিকল্পনা (ESMP) তৈরির ক্ষেত্রে অনুসরণযোগ্য নীতিমালা, নিয়মাবলি, নির্দেশিকা, প্রক্রিয়া ও সাংগঠনিক ব্যবস্থা তুলে ধরে। BCISP প্রকল্পের জন্য একটি দিকনির্দেশক কাঠামো হিসেবে, এই ESMPF নিশ্চিত করে যে, প্রতিটি উপ-প্রকল্প পরিবেশ ও সামাজিক বিষয়গুলো বিবেচনায় রেখে যথাযথভাবে বাস্তবায়ন করা হবে।

# Chapter 1: Introduction

## 1.1 Background

The Environmental and Social Management Planning Framework (ESMPF) of Bangladesh City Inclusive Sanitation Project (BCISP) of Department of Public Health Engineering (DPHE) is a comprehensive guideline, designed to ensure that environmental and social issues are systematically addressed throughout the lifecycle of proposed activities of BCISP. This framework delineates a clear sequence of steps, processes, and procedures to be followed for the thorough assessment, diligent monitoring, and effective management of potential environmental and social impacts. In addition, the ESMPF gives an overview of the relevant environment and social related national legislations and legal regime of the GoB and the Asian Infrastructure Investment Bank (AIIB) Environmental and Social Standards (ESSs).

The ESMPF is intended to be a practical tool utilized during all phases of the BCISP's sub-project identifications, planning, design, implementation, operations and for intensive monitoring. Through comply the ESMPF, it will ensure that environmental and social considerations are seamlessly followed and incorporated into the project's development and implementation processes. This holistic approach helps in identifying potential risks early on, devising appropriate mitigation strategies, and continuously monitoring the effectiveness of these measures, thereby fostering sustainable and responsible project outcomes.

## 1.2 Rational of the Environmental and Social Management Planning Framework (ESMPF)

The ESMPF is developed to guide the implementation of the project activities related to physical works and relevant awareness trainings to the implementers and project beneficiaries, so that the environmental and social sustainability can be ensured in an efficient manner. Detailed site assessments will be carried out to identify specific sub-project activities and engineering designs at specific sites for the precise determination of environmental and social impacts.

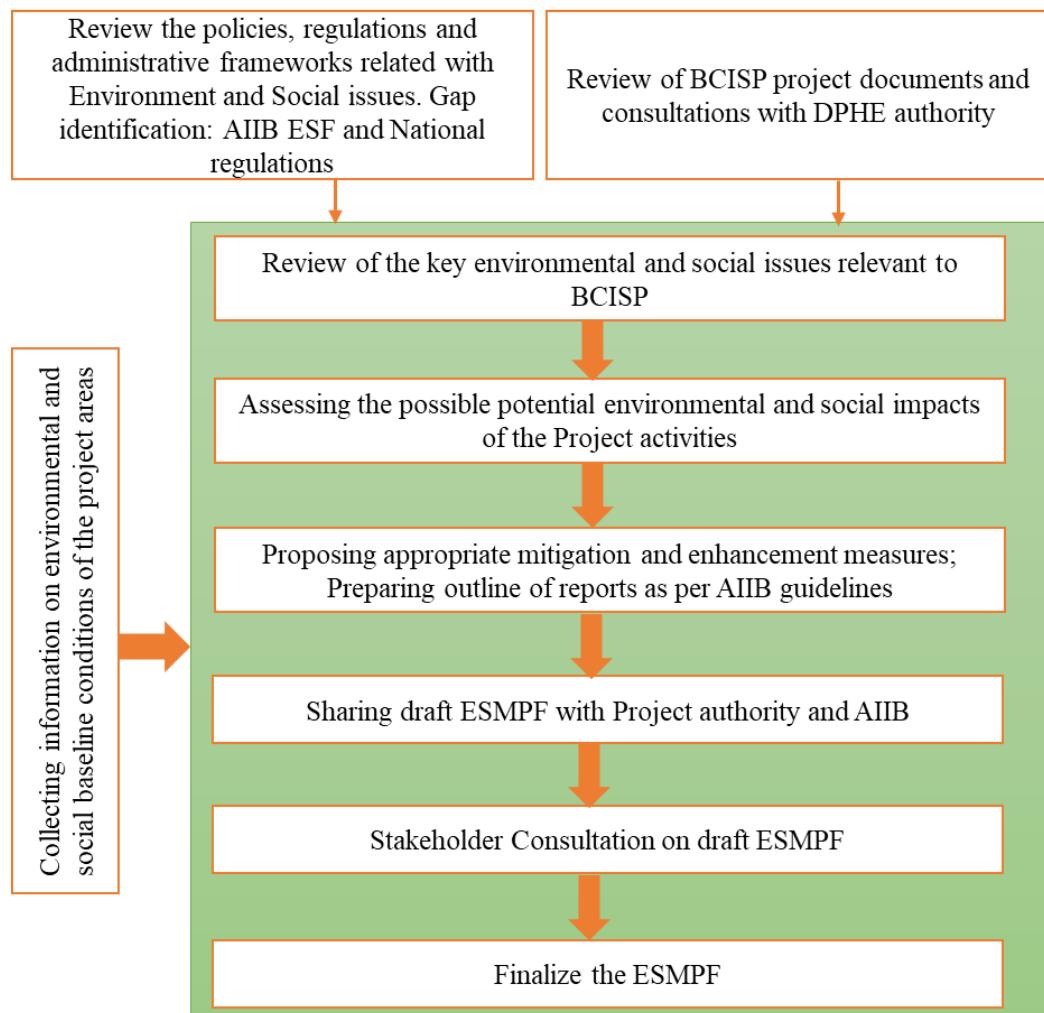
The ESMPF contains important background information on environmental and social aspects, as well as a complete environmental and social screening procedure for potential safeguard issues to address throughout sub-project design and implementation phases. The whole process makes the subproject environmentally friendly and socially acceptable to the beneficiaries.

Furthermore, the ESMPF will serve as a guideline for next course of actions during implementation and operational phases. The ESMPF is a dynamic document that will be reviewed and updated on a regular basis to ensure its applicability and effectiveness. Whenever the document will update it will be shared with AIIB and obtain “no objection or clearance”.

### **1.3 Approach and Methodologies of the ESMPF**

A systematic approach has been followed to develop the ESMPF which will be used as guiding tool to identify, assess, and manage the potential environmental and social impacts due to the sub-project implementations. This approach ensures compliance with relevant legislation and standards while promoting sustainable development. The following steps have been outlined as a comprehensive methodology to develop the ESMPF of BCISP:

- Reviewed Project documents including Project Goals and Objectives, conducted meetings/discussions with relevant stakeholders in the project areas including officials of DPHE.
- Reviewed relevant policies, legal acts, regulations (national and international) and guidelines of both GoB and AIIB.
- Conducted field surveys and identified initial scoping and screening to determine the key environmental and social parameters and aspects that are likely to be impacted by the sub-project activities.
- Collected and analyzed the environmental and social baseline data both from primary and secondary sources.
- Consultations made with the different stakeholders including beneficiaries and urban local bodies (ULB) to gather realistic and effective baseline information.
- Assessments done to collect the potential and likely impacts of the proposed project activities and suggest appropriate mitigation measures for the sub-projects.
- Outlined the detailed environmental and social assessment procedures to be followed to comply with the AIIB and GoB rules and regulations. These will help to develop the other relevant document/guidelines like environmental and social impact assessment (ESIA), environmental and social management plan (ESMP), stakeholder engagement plan (SEP), gender action plan (GAP), occupational health safety guidelines (OHS), monitoring tools, disclosure mechanism, grievance redress mechanism (GRM).



**Figure 1-1: ESMPF Preparation Approach.**

## 1.4 Contents of the ESMPF

The ESMPF of the project consists of ten chapters as follows:

<b>Chapter 1:</b>	<b>Introduction:</b> provides a brief overview of the project background, rational of the ESMPF, approach & methodology of the ESMPF.
<b>Chapter 2:</b>	<b>Project Description:</b> provides a description & objective of the project, its various components, project area, sub-project types, categories and activities.
<b>Chapter 3:</b>	<b>Policies, Legal Acts, Regulations and Guidelines:</b> contains brief description of the policy, legal and administrative framework related to the project.
<b>Chapter 4:</b>	<b>Baseline Status of Physical Environment and Socio-Economic Conditions:</b> describes the baseline condition of the project's influence area.
<b>Chapter 5:</b>	<b>Potential Environmental and Social Impact Assessments:</b> describes potential/expected environmental and social risks and impacts as well as their possible/expected mitigation of the project.
<b>Chapter 6:</b>	<b>Integrating Social and Gender Issues:</b> presents associated gender issued and the inclusion of gender in different cycles of the project.

<b>Chapter 7:</b>	<b>Occupational Health and Safety:</b> describe the potential health hazards and required PPE for the workers involved in the construction works.
<b>Chapter 8:</b>	<b>Land Acquisition &amp; Involuntary Resettlement within Sub-Project Areas:</b> discuss about the resettlement issues and land acquisition plan for the project, inclined with relevant GoB and AIIB policies.
<b>Chapter 9:</b>	<b>Indigenous Peoples Planning Framework:</b> describe the characteristics and geographical distribution of the Indigenous people and the mitigation arrangement for them in the sub-project areas.
<b>Chapter 10:</b>	<b>Stakeholder Engagement, Grievance Redress Mechanism and Information Disclosure:</b> includes stakeholder consultation and disclosure objective, methodology & tools for the stakeholder consultation. This chapter also summarizes the stakeholder consultations undertaken to date and also proposed for the project. Grievance redress mechanism outline is also provided within this section.
<b>Chapter 11:</b>	<b>Institutional Framework and Capacity Building:</b> describes institutional framework and capacity building plan to implement the ESMPF
<b>Chapter 12</b>	<b>Monitoring and Reporting:</b> describe the monitoring plan of different stages for this project and the reporting requirement.
<b>Chapter 13</b>	<b>Indicative Budget for Implementation of ESMPF:</b> includes a tentative budget for implementing the ESMPF of this project.

## Chapter 2: Project Description

### 2.1 Project Description

Bangladesh City Inclusive Sanitation Project (BCISP) is intended to improve access to inclusive urban sanitation services in selected 25 cities. Overall objectives of the project is to enhance environment, ensure good quality lives and livelihoods through implementing safe, sustainable sanitation infrastructures and waste management system including service facilities for reaching the targets of SDG.

Specific objectives of this project are:

- Improving the coverage of safely managed sanitation through the use of safe, sustainable sanitation technology in 25 Towns.
- Improving the life and livelihood of the people in the project area through establishing household, community, public toilets and containment system.
- To reach the targets of SDG 6.2 through implementing modern and innovative technology of integrated sanitation & bio-waste management system, transforming waste to resources, including enhancement of the capacity of the Municipalities and the overall environment.

To strengthen governance accountability through development of municipal level CWIS framework and guidelines.

### 2.2 Project Components

The Project will include the following components:

Components	Key Activities
Component 1 (Sanitation and Hygiene Improvement)	<ul style="list-style-type: none"><li>• Construction Integrated waste management plant (including Sludge de-watering, Co-Composting/co-treatment facilities and disposal system)</li><li>• Construction of public, community and household toilets</li><li>• Construction of Fecal Sludge (FS) containment system</li><li>• Construction of Decentralized Waste Water Treatment System (DEWATS)</li><li>• Installation of production tube wells</li><li>• Construction of pipe network with household connection including road restoration</li><li>• Construction of secondary transfer station</li><li>• Construction of primary and secondary drain</li></ul>

Components	Key Activities
Component 2 (Institutional Strengthening and Capacity Building)	<ul style="list-style-type: none"> <li>• Stakeholder workshop</li> <li>• Training on safety plan and procurement</li> <li>• Training on supervision, monitoring and reporting</li> <li>• Training on safeguard issues</li> </ul>
Component 3 (Project Management and Coordination)	<ul style="list-style-type: none"> <li>• Support for project implementation, management and coordination.</li> </ul>

## 2.3 Project Area and its Beneficiaries

Most urban households in Bangladesh have access to toilets, but the functionality of on-site sanitation systems is a concern. Without proper management of fecal sludge, there have been cases of sludge management crises, impacting human and environmental health. Women and children in slums and informal settlements are particularly vulnerable to water-borne diseases caused by unsafe drinking water and poor sanitation and hygiene conditions.

To address these challenges, the Government of Bangladesh has prioritized urban sanitation and approved an Institutional and Regulatory Framework (IRF) for Fecal Sludge Management (FSM). A National Action Plan has been developed to implement the IRF and ensure effective FSM by 2030. The establishment of a Citywide Inclusive Sanitation (CWIS)-FSM support Cell aims to facilitate integrated sanitation management.

To tackle these issues at the city level, the Government of Bangladesh conducted a feasibility study project for implementing solid waste and fecal sludge management systems in 53 district-level Municipalities and 8 city Corporations. The project received technical and financial support from the Bill and Melinda Gates Foundation. The study provided a comprehensive analysis of the existing waste and fecal sludge management situation, including demand, viable technological solutions, and environmental considerations. The findings of the study are available on the open web link [www.sanboard.gov.bd](http://www.sanboard.gov.bd) and serve as a basis for future development projects and sustainable plans.

The Government of Bangladesh (GoB), with financial support from AIIB, has undertaken a project named "Bangladesh City Inclusive Sanitation Project (BCISP)" in 25 selected cities/municipalities. These are- Chandpur, Feni, Noakhali, Jhalokathi, Madaripur, Habiganj, Sunamganj, Netrokona, Sherpur, Rajbari, Gopalganj, Tangail, Chuadanga, Jhenaidah, Meherpur, Satkhira, Bogura, Joypurhat, Naogaon, Gaibandha, Dinajpur, Panchagarh, Thakurgaon, Kurigram and Nilphamari (Location Map: Figure 2-1). The municipalities under the proposed project are:

- Large town and drought prone area
- Medium to large town with high population density and high climate vulnerability
- Small town with flash flood probability
- Medium to small town, with close proximity to large rivers
- Small town with low population density and less climate vulnerability

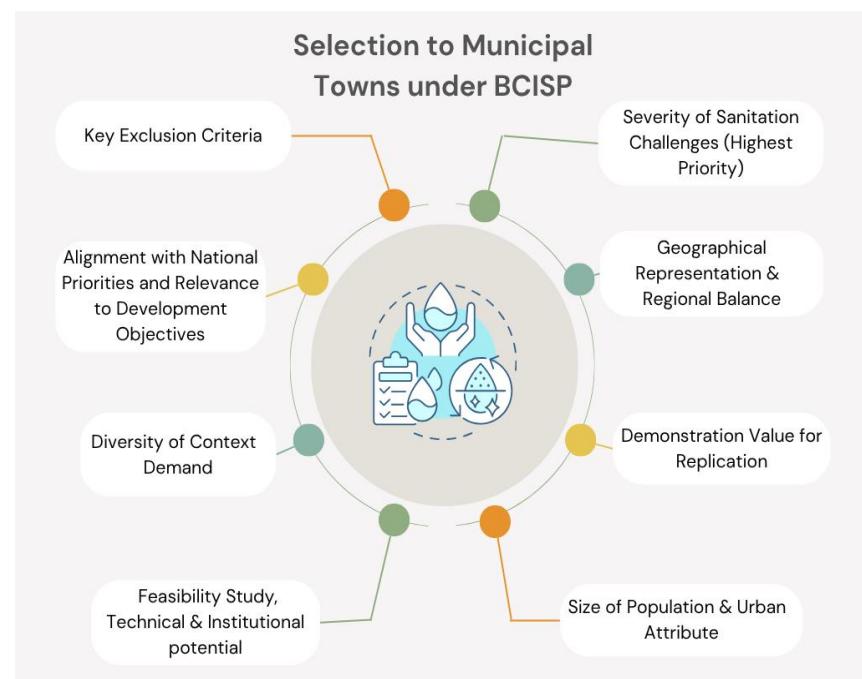
The success of the project relies on delivering safe and sustainable sanitation services, including integrated waste management, based on the Citywide Inclusive Sanitation (CWIS) approach. These services will target the urban poor, improving their living conditions and enhancing the overall health and well-being of the urban population. The key impacts of the project are expected to be:

- Direct benefits for over 1.85 million urban poor through access to sustainable sanitation and hygiene services.
- Improved living environments for 3.31 million people, with clean, healthy surroundings, safe sanitation, and better drainage systems.
- A reduction in economic losses associated with inadequate sanitation, hygiene, and waste management services.
- Creation of at least 25,000 jobs and business opportunities related to sanitation.
- A 15% increase in income for municipality through enhanced sanitation services.

## 2.4 Selection Criteria of 25 Towns under BCISP

Following a probity-in-aid review, 25 municipalities under BCISP have been chosen through a set criteria which aimed to ensure geographical balance across divisions, focus on representative mid-sized municipal towns, prioritize locations in which significant needs and serious sanitation struggles have been identified, ensure technical and institutional feasibility, diversity of contextual challenges to maximize value, and correlated with broad national development objectives. One of the source of data underpinning the need and feasibility assessments was the detailed analysis presented in the study available at [www.sanboard.gov.bd](http://www.sanboard.gov.bd).

Based on analysis of the town profiles and supplementary sources, the selection of 25 towns for the Bangladesh City Inclusive Sanitation Project (BCISP) reflects a multi-criteria decision context prioritizing environmental urgency, feasibility, and strategic impact.



### 1. Severity of Sanitation Challenges (Highest Priority)

Towns were prioritized where there are critical environmental and public health risks:

- **High groundwater contamination:** Towns like Chuadanga and Satkhira (arsenic-prone areas) where fecal sludge infiltration threatens drinking water. Around 70% of people in project Paurashavas lack municipal waste management services (DPP) whereas "81.9% of household water samples show fecal contamination" (MICS 2019). Towns like Chuadanga (arsenic), Kurigram (floods), and Netrokona (open defecation) directly address critical public health gaps.
- **Flood vulnerability:** Kurigram, Sunamganj municipalities face frequent flash flood whereas Noakhali municipality faces seasonal flooding, causing sewage overflow into waterways .
- **Open defecation hotspots:** Netrokona, Sherpur, and Gaibandha has open defecation rates, correlating with high child diarrhea incidence.
- **Waste collection gaps:** Tangail and Bogura showed greater waste collection rates, with illegal dumping in rivers. Based on Sanboard City Profile of Tangail, only 39% fecal sludge collection and 0% treatment (FSTP=0), creating groundwater contamination risks for 200,000 residents, Solid Waste Crisis: 68 tons/day generated with 60% collection and 0% treatment (SWTP=0), indicating uncontrolled dumping and SDG indicator alert: 11% safely managed sanitation (below national average), with 86% relying on basic facilities vulnerable to failure. With 0% fecal sludge treatment at Sherpur despite 43% collection, indicating uncontrolled environmental contamination. This municipality has Solid waste treatment facility of 0% (SWTP=0), with 38 tons/day generated with 68% collected. In Rajbari, despite 95% waste collection, 0% undergoes treatment (SWTP=0), risking water pollution and public health hazards from 21 tons/day of untreated waste.

The feasibility study in the targeted towns has identified major gaps and inefficiencies, environmental and public health risk in both the solid waste and fecal sludge management systems. The project addresses the issues noted in the Feasibility Study by providing preference to locations with greatest need and potential impact. Preference was given to communities in which the feasibility study showed high present-day needs, limited services, and high potential risks of environmental pollution (e.g., water bodies, groundwater,) or having immediate public health challenges related to waste and fecal sludge management.

## 2. Geographical Representation & Regional Balance

- **Rationale:** Guarantee exploitation of benefits along different areas of Bangladesh and apply solutions across different geographical contexts (coastal, riverine, northern, eastern, central).
- **Evidence:** For some selected towns, there are presence based in all administrative regions (i.e., Chandpur, Noakhali in Chattogram Division; Sunamganj, Netrokona in Sylhet Division; Rajbari, Gopalganj, Tangail in Dhaka Division; Netrokona in Mymensingh Division; Chuadanga, Meherpur in Khulna Division; Bogura, Joypurhat in Rajshahi Division; Gaibandha, Dinajpur, Panchagarh, Thakurgaon, Kurigram and Nilphamari in Rangpur Division).

- Criterion: Municipalities were selected across all divisions (Dhaka, Chattogram, Khulna, Rajshahi, Sylhet, Barishal, Mymensingh, Rangpur) to get wide geographical coverage and to not concentrate in any region.

Geographic distribution ensured equitable intervention across diverse contexts:

- Coastal zones: Noakhali (tidal flooding risks)
- Haor basins: Sunamganj (wetland-specific contamination)
- Arid northern regions: Dinajpur, Nilphamari (water scarcity challenges)
- Industrial corridors: Tangail (textile waste complexity)

### 3. Demonstration Value for Replication

Towns were chosen as typological representatives to model scalable solutions:

- High-organic waste: Madaripur for composting pilots.
- Plastic pollution hotspots: Jhenaidah and Meherpur for recycling schemes.
- Arsenic mitigation sites: Chandpur to test integrated water-sanitation systems.
- Existing vacuum tanker (1) and dump trucks (10) provide foundation for scalable mechanization models in Tangail Municipality. In Noakhali, existing conservancy tools (85 dustbins, 4 STS) and vehicles (6 dump trucks) provide foundations for scalable mechanization models, while 0 vacuum tankers highlight opportunities for technology introduction. Map from Sanboard confirmed slum settlements (red icons) enable testing pro-poor sanitation solutions in high-density communities ( $7,254/\text{km}^2$ ).
- In Sherpur, map markers confirm informal settlements (red icons), ideal for testing pro-poor sanitation solutions. Existing conservancy tools in this municipality (94 dustbins, 1 STS) and vehicles (7 dump trucks) provide foundations for scalable FSM/SWM models.
- Rajbari Town has existing 1 vacuum tanker and 3 dump trucks provide foundations for scalable mechanized FSM/SWM models. High waste collection rate (95%) paired with zero treatment infrastructure creates an ideal testbed for decentralized treatment solutions replicable in medium-density towns (pop. 61,000).

### 4. Size of Population & Urban Attributes

- Rationale: Selection was concentrated on mid-sized municipal towns which would be fairly representative of Bangladesh's secondary towns, excluding the largest City Corporations, (covered elsewhere) and the very smallest of towns where scale might be a problem.
- Evidence: The selected municipal towns are significant but not the mega-cities. The project is also in direct contrast to the City Corporations which are not selected in BCISP.
- Criterion: Municipalities selected on a representative scale of population size (e.g., medium towns), excluding the major metropolis areas (City Corporations). In Sherpur 79 waste collectors but 0 pit cleaners, highlighting capacity-building opportunities.

## **5. Feasibility, Technical & Institutional potential for successful implementation**

- Justification: To guarantee that the selected towns are likely to be able to successfully implement the systems proposed, given the time and financial support available in the project. This includes a technical, institutional and land suitability assessment.
- Proof: The feasibility study, in particular, looked at viable technological solutions and environmental considerations. The success of a project relies on its implantability. In Noakhali, documented staffing gaps indicate clear capacity-building opportunities aligned with BCISP's institutional strengthening goals.
- Criterion: Towns are selected in which technically possible and ecologically sustainable options have been identified in the feasibility study and in which there is need to show inclination, minimum capacity with possible capacity to be built up and availability of land suitable for treatment/disposal facilities by the municipality.

Selection was based on evidence of implementable solutions per feasibility studies:

- Infrastructure readiness: Feni and Jhalokathi municipalities need existing drainage networks adaptable for fecal sludge treatment plants.
- Land availability: Panchagarh and Thakurgaon municipality landfill sites meeting spatial criteria (distance from water bodies, low permeability soil) .
- Local capacity: Rajbari and Gopalganj have active community sanitation groups to support behavioral change.

## **6. Diversity of Context Demand**

- Justification: Selecting towns that are representative of different types (e.g., proximity to rivers, coastal or agricultural focused) to trial solutions in different places and develop models that can be replicated in similar towns across the country.
- Evidence: The representative selection criteria strongly implies the target to a broad spectrum of people. The list includes from towns situated at flood-prone areas (Kurigram), coastal zones (Noakhali). Rajbari embodies challenges of high-density floodplain settlements (12.66 km<sup>2</sup> area), where seasonal flooding exacerbates contamination risks (Sanboard).
- Criterion: The selection represents a range of contexts with challenges relevant to Bangladesh with respect to a high-water level/flood prone area, water scarce condition (area of water scarcity), specific topographical constraint, specific composition of waste etc.

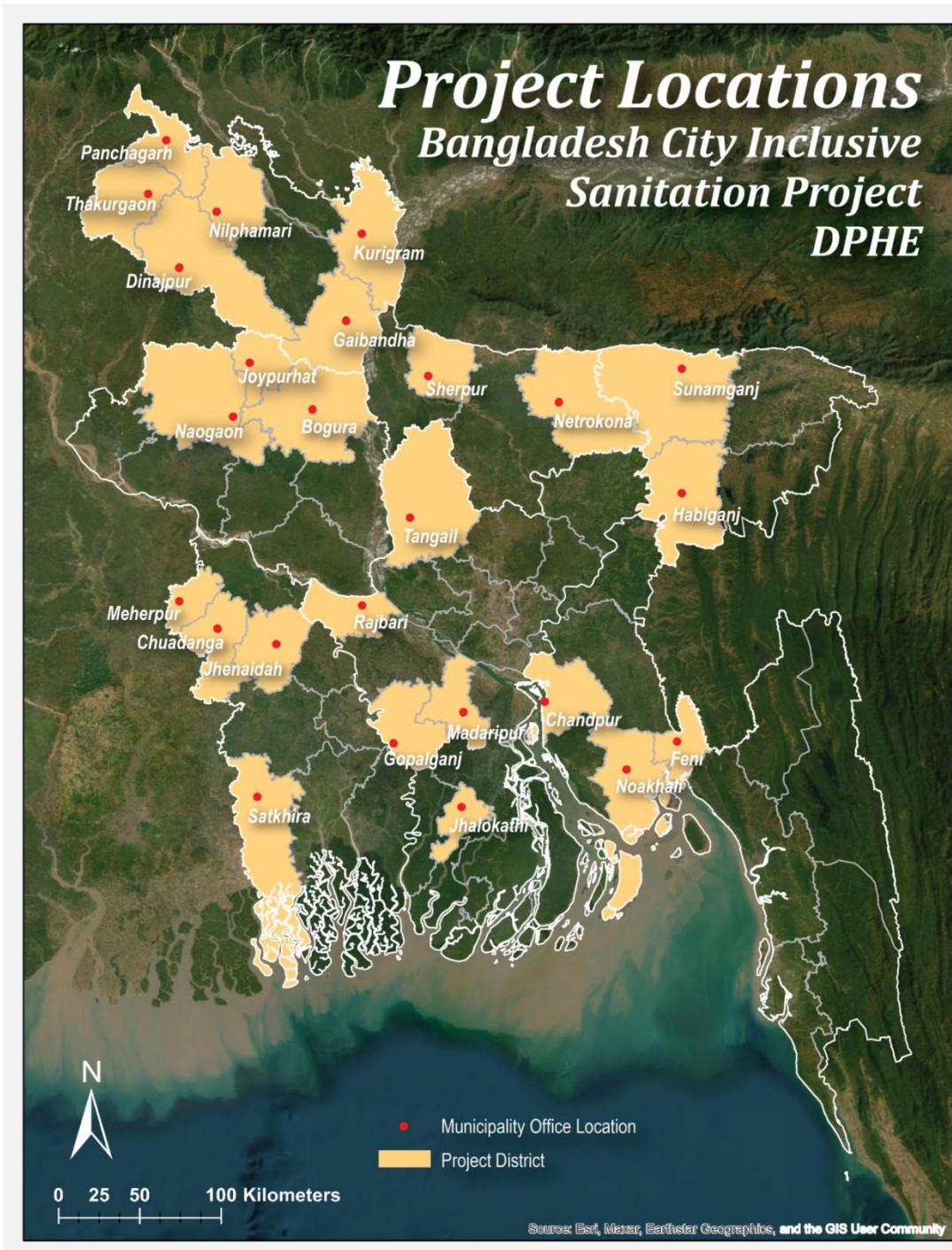
## **7. Alignment with National Priorities and Relevance to Development Objectives**

- Focusing on towns in areas slated for development or where better sanitation can make a major contribution to achievement of other national priorities (e.g., public health, tourism, environmental preservation).
- Most government projects that are part of any broader spatial or sectoral development programme (i.e., towns like Panchagarh with tourism potential), or Sunamganj with Haor region).

- Criterion Appraisal of alignment with national or regional development plans, poverty reduction strategies, and environmental conservation priorities. High "limited" (1%) and "unimproved" (2%) sanitation rates directly target national gaps in Sherpur Municipality.
- Climate resilience: Khulna received adaptation funding, creating synergy potential for Satkhira. Proximity to Jamuna River near Tangail Town increases flooding risks for open waste sites, aligning with BCISP resilience goals. Tidal flooding risks in Noakhali necessitate climate-resilient sanitation solutions a priority for BCISP's adaptation focus. This contrasts with haor (Sunamganj) or riverine (Kurigram) flood types in other selected towns.
- SDG acceleration: Habiganj and Naogaon had the peak sanitation access gaps, targeting SDG 6.2. Rajbari addresses SDG 6.2 gaps through its 3% unimproved sanitation rate and 1% limited-service households. Selection complements Bangladesh Delta Plan 2100 by mitigating Padma River pollution risks from untreated waste discharge.

## 8. Key Exclusion Criteria

- Mega-cities (e.g., Dhaka, Chittagong): Excluded as they fall under separate city corporation projects.
- Towns with recent WASH investments with greater sanitation coverage.
- Low technical adaptability: Municipality lacked land for treatment plants and showed resistance to technology adoption.



**Figure 2-1:** Location Map of the Project

## 2.5 Sub-project Types and Environmental Categories as per DoE and AIIB

Subprojects refer to one or a group of interventions that have a similar impact on the environment. Based on the cumulative environmental impacts, subprojects are classified into various environmental categories. According to the Environmental Conservation Rules 2023 (ECR-2023), projects or industries are divided into four categories. Similarly, the Asian Infrastructure Investment Bank's (AIIB) Environmental and Social Framework (ESF) also

classifies projects into four distinct categories. A Project which is likely to have significant adverse environmental and social impacts that are irreversible, cumulative, diverse or unprecedented is categorized as **A category** project. A Project which has a limited number of potentially adverse environmental and social impacts and the impacts are not unprecedented, few of them are irreversible or cumulative and are limited within the project are which even can be managed with good operating practices are categorized as **B category** project. A Project which is likely to have minimal or no adverse environmental and social impacts is categorized as **C category** project. The last one is **FI category**. If the financing structure involves the provision of funds to or through a financial intermediary for the Project, it is then categorized as FI. The table below presents the categorization of subprojects as per the Department of Environment (DoE) under ECR-2023 and the AIIB.

**Table 2-1:** Classification of subprojects according to ECR 2023 and AIIB

Subprojects	Category and E& S Instruments				
	AIIB			ECR 2023	
	Category	Risk	E&S Instrument	Category	E&S Instrument
Household latrine (Cubicle with safe containment)	C	Minimum	EsCOP	No Category	ESMP
Public toilets, community toilets with septic tank	B	Moderate	ESMP, RP/IPDP (if applicable)	No Category	ESMP
Integrated waste management plant (including Sludge dewatering, Co-Composting/co-treatment facilities and disposal system)	B	High/ Moderate	Brief ESIA/ESMP RP/IPDP (if applicable)	Red (>1000 m <sup>3</sup> /day) Orange (<1000 m <sup>3</sup> /day)	Require IEE/ EIA
Decentralized Wastewater Treatment System (DEWATS)	B	Moderate	ESMP, RP (if applicable)	No Category	ESMP
Installation of test and production tube-well with pump house	B	Moderate	ESMP/ RP (if applicable)	No Category	ESMP
Distribution new water pipe networks and associated facilities	B	Moderate	ESMP, RP (if applicable)	No Category	ESMP
Construction of Transfer Station	B	Moderate	ESMP, RP/IPDP (if applicable)	No Category	ESMP
Construction of Primary and secondary Drain of different size.	B	Moderate	ESMP, RP (if applicable)	No Category	Require IEE

## 2.6 Possible Sub-project Activities

### Construction Phase

Specific activities to be carried out for a subproject would depend on the nature of the subproject. Some typical/generic activities during construction phase of subprojects under BCISP include the following:

- Securing & developing land
- Mobilization of material, equipment & personnel (including establishment of site office & labor shed)
- Procurement of FS desludging and transportation equipment.
- Civil construction (e.g.; foundation of structure including piling works, construction of superstructure including those for STP, SPS, FSTP, construction of toilet/public toilet, septic tank, soakage pit, installation of water supply system in toilet)
- Electro-mechanical works (e.g., electrical connection/wiring, installation of pumps)
- Installation of small diameter sewer for carrying sewage to decentralized wastewater treatment plant,
- Construction of a fecal sludge treatment facility and sludge disposal system waste disposal.
- Construction of sewerage networks, sewage lifting station and sewage treatment plant
- Test boring for tube well design, testing of sediment and water quality; and finally, installation of tube well.
- Construction of storm drains

### Operations and Maintenance (including monitoring phase)

A number of activities, including monitoring activities, are very important for protection of environment, public health, and sustainability of the infrastructure to be established under the BCISP. The important activities, including monitoring activities during operational phase of the project are listed below.

- Latrine and Public Toilet: Easy accessibility by users (especially women and people with disability), regular desludging of septic tank content and its proper disposal
- FS Collection and Transportation: FS Collection and transportation from HH, commercial areas and public toilets
- FSTP: Effluent quality; By-product quality; Disposal of sludge
- DEWATS: Effluent quality; Disposal of sludge
- Drainage system: Periodic maintenance/cleaning of drainage system

## 2.7 Associated Facilities

Associated Facilities defines as “activities that are not included in the description of the Project set out in the Legal Agreements governing the Project, but which, following consultation with the Client, the Bank determines are: (a) directly and materially related to the Project; (b) carried out, or planned to be carried out, contemporaneously with the Project; and (c) necessary for the Project to be viable and would not be carried out if the Project did not exist.”

Possible associated facilities of the project but not limited to:

- Construction of access road to connect FSTP/IWM with highways.
- Electric lines with poles at FSTP/IWM site.
- Water supply line or any other water sources at FSTP/IWM or other sub projects where necessary.
- Construction of Palisading wall at treatment plant site where necessary.
- CC camera installation at sites. Etc.

## Chapter 3: Policies, Legal Acts, Regulations and Guidelines

The pertinent environmental rules and regulations shall be followed in the implementation of the Bangladesh City Inclusive Sanitation Project (BCISP). The BCISP project will be governed by the environmental legal framework that Bangladesh has built, which encourages the preservation of natural resources as well as environmental protection. Furthermore, Bangladesh has a wide range of environmental laws and regulations, many of which are cross-sectoral and only loosely connected to environmental issues many of which are cross-sectoral and partially related to environmental concerns. In addition, the BCISP project needs to follow the environmental safeguard policies that the Asian Infrastructure Investment Bank (AIIB) has established. The main national and international environmental laws and regulations that are pertinent to the BCISP project are outlined in this part, together with the institutional frameworks at the national and sub-national levels and the safeguard policies of the AIIB.

### 3.1 Relevant National Policies, Legal and Regulatory Framework

**Table 3.1** lists only the applicable key GoB acts, rules and regulations and their relevance to this project.

**Table 3-1:** Summary of Applicable Environmental and Social Regulations of GoB

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
1.	National Environment Policy 2018	<p>The policy has identified twenty-four sectors of different attributes to ensure environmental conservation and management. ‘Safe food and water’ and ‘Public Health and Health Services’ are the two important sectors among them that the policy focuses on. It also prohibits establishment of industries and waste discharge point and waste dumping centers, sanitary land fill etc. which are closed to water sources. The National Environment Policy recognizes that clean environment is the pre-requisite of good health.</p>	<p>The Policy includes outline of organizational set-up and national environmental policy compliance for different sectors.</p>
2.	Bangladesh Environmental Conservation Act (ECA), 1995 and subsequent amendments in 2000, 2002 and 2010	<p>This umbrella Act includes laws for conservation of the environment, improvement of environmental standards, and control and mitigation of environmental pollution. According to this act (Section 12), no industrial unit or project shall be established or undertaken without obtaining, in a manner prescribed by the accompanying Rules, an Environmental Clearance Certificate (ECC) from the Director General of DoE.</p>	<p>According to this act the BCISP project need to get necessary ECC from DoE.</p>
3.	Environment Conservation Rules 2023	<p>As per Environmental Conservation Rules 2023, the components (subprojects) of the project will fall into any one of the four categories (i.e., Red, Yellow, Orange and Green) and based on that environmental clearance need to be obtained from DoE for the corresponding category. Also, this rule update different parameters of drinking water, surface water and effluent water from different industries.</p>	<p>According to this rule the sub projects are needed to be categorized according to the newly proposed rules. Also, the waste water and the treated water from the FSTP needed to be meet the standards those are set in this rule.</p>

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
4.	Bangladesh Environment Court Act, 2010	Bangladesh Environment Court Act, 2010 has been enacted to resolve the disputes and establishing justice over environmental and social damage raised due to any development activities.	According to this Act, government can take legal actions if any environmental problem occurs due to project activities.
5.	The Protection and Conservation of Fish Act (1950)	This Act provides power to the government to: make and apply rules to protect fisheries; prohibit or regulate erection and use of fixed engines; and construction of temporary or permanent weirs, dams, bunds, embankments and other structures.	Construction of HH, public and community toilets, development of small-scale water supply system including deep tube wells and pipelines, construction of drainage network for grey water management in waterlogged area, etc. which has potential risk for water pollution habitat alteration, hinder of natural flow/migration.
6.	Bangladesh Wildlife (Protection and Preservation) Act 2012	The act has been formulated for the conservation and safety of wildlife to manage the protected areas. The act depicts 10 new types of protected areas. The bill, with many other provisions, proposed stern action for violation of the law. It proposed one-year imprisonment and Taka 50,000 fine for such a violation. The law also proposed at least two years and the highest seven years of imprisonment and minimum Taka one lakh and maximum Taka 10 lakh fine for killing a tiger or an elephant.	If any sub-projects area is situated in the territory of any threatened animal, then this act needs to follow strictly.
7.	Biodiversity Act, 2017	To ensure biodiversity conservation and sustainable utilization of its components, to distribute benefits and fair share obtained from the livestock and related information; this act has been composed.	Applicable for local biodiversity conservation. DPHE and the contractor shall ensure that surrounding biodiversity should not be affected by project activities.

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
8.	Forest Act 1927 (Amendment 2000)	Under this act any forest land or wasteland declare as protected forests. May stop public or private ways or watercourses in the interest of preservation of the forest. Declare a reserved forest area as Village Forests. Declare an area as a social forest or launch a social forestry program on Govt. land or private land with permission	If there is any forest or wetland is situated near any sub-projects area then this act needs to follow strictly.
9.	Embankment and Drainage Act, 1952	The Act consolidates the laws relating to embankments and drainage providing provision for the construction, maintenance, management, removal and control of embankments and water courses for the better drainage of lands and for their protection from floods, erosion or other damage by water.	The sub-projects will include interventions in the water bodies, construction of drainage network for grey water management in waterlogged area, etc.
10.	Bangladesh Water Act, 2013	As per this Act, all forms of water (e.g., surface water, ground water, sea water, rain water and atmospheric water) within the territory of Bangladesh belong to the government on behalf of the people. Without prior permission issued by the Executive Committee, no individuals or organizations will be allowed to extract, distribute, use, develop, protect, and conserve water resources, nor they will be allowed to build any structure that impede the natural flow of rivers and creeks.	The policy covers the project due to the STP/FSTP components that could potentially pollute surface water bodies and groundwater. Therefore, the project is bound to comply with or consider the requirements under this policy in its design.
11.	Bangladesh Labor Act, 2006 and 2013; Bangladesh Labor Rules, 2015	It provides the guidance of employer's extent of responsibility and workmen's extent of right to get compensation in case of injury by accident while working.  Includes rules on registration of laborers, misconduct rules, income and benefits, health and safety. it also stipulated that child	Applicable as skill, semiskilled and day labor will be worked in the project. Contractors to implement occupational health and safety measures Contractor will be liable for compensation for work-related injuries.

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
		under 18 years are not allowed to be employed during project life cycle	
12.	Bangladesh National Building Code, (BNBC), 2020	The BNBC clearly sets out the constructional responsibilities according to which the relevant authority of a particular construction site shall adopt some precautionary measures to ensure the safety of the workmen. The Code also clarifies the issue of safety of workmen during construction.	This building code is very relevant to the project. The design of the project must follow the specifications of the building code to ensure structural integrity of all infrastructures to be built.
13.	The Noise Pollution Control Rules, 2006	The Noise Pollution Control Rules have been established in order to manage noise generating activities which have the potential to impact the health and wellbeing of workers and the surrounding communities.	Allowable noise level standards are to be maintained during construction of the project
14.	Road Transport Act, 2018	The new Road Transport Act 2018 has finally come into effect at the start of November. After the long-standing Motor Vehicle Ordinance of 1983, the new act introduces a myriad of updated laws and adds new definitions for what constitutes an offence, with most of the fines and punishments receiving major bumps.	As the sub-projects will use heavy vehicles, deploy drivers and operators of machineries during construction period.  Also, the project may cause traffic due to waste vehicle movement

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
15.	National Safe Drinking Water Supply and Sanitation Policy, 1998	<p>The National Safe Drinking Water Supply and Sanitation Policy was adopted in 1998 and sets out the basic framework for the improvement of public health quality and to ensure an improved environment, together with a set of broad sectoral action guidelines. The policy has the following objectives:</p> <ul style="list-style-type: none"> <li>• To manage water supply and sanitation related basic needs for all.</li> <li>• To bring about a positive change of peoples' attitude towards water and sanitation.</li> <li>• To improve sustainable water supply and sanitation system.</li> </ul>	This policy covers the project as far as the protection of surface waters and groundwater are concerned. The project will have to ensure that its operations from all phases of implementation will not cause negative impacts to these water supply resources.
16.	The Ground Water Management Ordinance (1985)	Describes the management of ground water resources and licensing of tube wells	Construction sites of the sub-projects may require deep tube wells for meeting up water use.
17.	The Antiquities Act (1968)	Describes the preservation of cultural heritage, historic monuments, and protected sites	Yes, sub-projects areas may have elements of cultural, historic and protected value.
18.	National Land-use Policy, 2001	The policy states to take measures to prevent land pollution and to ensure the minimal use of land for construction of both government and nongovernment buildings which may be applicable for the proposed project.	The policy covers the project as its several components will be established in various areas with different land use classifications. The proposed project must adhere to the conditions of this policy, particularly in selecting the appropriate location of project components.

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
19.	Acquisition and Requisition of Immovable Property Act, 2017	<p>The principal legal instrument governing land acquisition in Bangladesh is the Acquisition and Requisition of Immovable Property Act, 2017 (ARIPA 2017). This act is a replacement for the Acquisition/ Requisition of Immovable Property Ordinance, 1982. The ARIPA 2017 requires that compensation be paid for (i) land and assets permanently acquired (including standing crops, trees, houses); and (ii) any other damages caused by such acquisition. The Act also provides for the acquisition of properties belonging to religious organizations like mosques, temples, pagodas, and graveyards if they are acquired for the public interest. The ARIPA, however, excluded the acquisition of properties used by the public for religious worship, graveyards, and cremation grounds. The Act stipulates certain safeguards for the landowners and provides for payment of “fair value” for the properties acquired.</p>	<p>Though land will not acquire for this project but in case of any avoidable situation for land acquisition this act will follow.</p>
20.	National Water and Sanitation Strategy	<p>Emphasizes resource recovery and recycling (instead of disposal) to improve urban sanitation. Recommends 50% of municipalities to have integrated waste management facilities by 2030.</p>	<p>Applicable as the project involves the development of infrastructure</p>
21.	Public Partnership regulatory framework	<p>Provides guidelines on how to implement PPP projects and the roles and responsibilities of various line ministries.</p> <p><b>Note:</b> PPPs will help develop innovative technologies and skilled manpower to promote investments in the recycling of plastic</p>	<p>For developing business model for the municipalities private organizations needs to involve in the process.</p>

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
22.	National Women Development Policy 2011	This policy was developed with the objective to establish equal rights of men and women in areas of state and public life, to ensure security and safety of women, to ensure the socio-economic, political, administrative and legal empowerment and to establish human rights of women.	Gender inclusion is one of the key tasks of this project, so this policy needs to follow.
23.	National Health Policy (NHP) 2011	National Health Policy (NHP) 2011 views access to health as a part of recognized human rights. In order to achieve good health for all people, equity, gender parity, disabled and marginalized population access in health care need to be ascertained.	Sanitation is one of the main components of this project, so this policy is needed to follow.
24.	EIA Guidelines for Industries, 2021	This guideline sets out detailed and systematic guidance on EIA study for industries. Starting from screening, through scoping, baseline data generation, impact assessment, mitigation of impacts to drawing up an EMP-all stage are incorporated clearly, with an emphasis on Stakeholder engagement/ public consultation, OSH, CSH, hazard and risk analysis, mitigation hierarchy, etc. which have been absent in most other legislative documents prepared and promulgated by the GoB.	This guideline will help minimizing the gaps among the GoB and AIIB regulatory instruments, and making the decisions to adopt the ES standards more effectively and justifiably for this project.
25.	Bangladesh Standards and Guidelines for Sludge Management, 2015	Bangladesh Standards and Guidelines for Sludge Management was promulgated in 2015 with the intention to ensure the human health and the environmental protection from any negative impacts of sludge management. As described in the standards and guidelines document, the responsibility for sludge management lies with the producer of the sludge.	The proposed project must follow the guidelines to ensure safe disposal of sludge produced in the FSTPs.

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
26.	Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009	<p>This is a comprehensive strategy to address climate change challenges in Bangladesh. Bangladesh Climate Change Strategy and Action Plan (BCCSAP) built on and expanded the National Adaptation Program of Action (NAPA). It is built around the following six themes: (1) food security, social protection and health, (2) disaster management, (3) protective infrastructure, (4) research and knowledge management, (5) Decreased carbon development, and (6) capacity building and institutional strengthening. There are 44 specific programs proposed in the BCCSAP under the above six themes.</p>	<p>Relevant as the country is vulnerable to different disasters is increasing across the country, and the project is targeting those vulnerable groups as the key beneficiaries of the project.</p>
27.	Solid Waste Management Rule 2021	<p>The Rules provides a comprehensive set of rules based on national 3R strategy and other national and international policies and guidelines pertaining to solid waste management. It defines the roles and responsibilities of relevant government ministries and agencies, including local government authorities and other stakeholders in implementing solid waste management undertakings. It also includes the environmental requirements necessary for these undertakings, provision of incentives for the promotion of sustainable waste management practices, etc.</p>	<p>This Rule is relevant as the components/activities will generate solid wastes and will implement measures to comply with rules.</p>
28.	National Plan for Disaster Management (2021-2025)	<p>National Plan for Disaster Management (NPDM) 2021-2025 exemplified the strategic plan of the Government of Bangladesh in its Vision and the Mission of the Ministry of Disaster Management and Relief (MoDMR) between 2021 and 2025 towards building resilient nation. NPDM 2021-2025 has core goals for actions to save life, reduce economic losses in every</p>	<p>As the project is targeting to help the vulnerable population in the urban areas, who are more vulnerable to any kind of disaster so this plan is applicable for this project.</p>

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
		disaster cycle stages which includes Disaster Risk Reduction (DRR), Humanitarian Response and Emergency Recovery Management. NPDM builds on GoB's past lesson learns in disaster risk management and international DRR frameworks, and adopts a phase-wise approach with 34 core targets to be implemented in partnership with relevant stakeholders.	
29.	GoB 8th Five Year Plan, 2021-25	Preparatory process of the 8th Five Year Plan is marked by the infestation of major global catastrophe 'COVID-19', which has caused consequential economic conundrum across the world. The Eighth Five Year Plan is unique compared to its preceding two plans as it blends the COVID-19 recovery strategies in the macroeconomic framework as well as developing sectoral strategies in the plan	Applicable as the project involves in the development of infrastructure.
30.	National Environmental Management Action Plan (NEMAP), 1995	<p>NEMAP was developed to address issues and management requirements related to the environment; it also sets out the framework within which the recommendations of the NCS are to be implemented. NEMAP was developed to achieve the following broad objectives:</p> <ul style="list-style-type: none"> <li>• Identification of key environmental issues affecting Bangladesh.</li> <li>• Identification of actions necessary to halt or reduce the rate of environmental degradation.</li> <li>• Improvement of the natural environment.</li> </ul>	Applicable as there are environmental issues related to construction works.

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
		<ul style="list-style-type: none"> <li>• Conservation of habitats and biodiversity.</li> <li>• Promotion of sustainable development; and</li> <li>• Improvement of the quality of life of the people.</li> </ul>	
31.	National Water Policy, 1999	<p>Endorsed by the GoB in 1999, the National Water Policy (NWP) aims to guide the major players in the water sector for ensuring optimal development and management of water. According to the policy, all agencies and departments entrusted with water resource management responsibilities (regulation, planning, construction, operation, and maintenance) are required to enhance environmental amenities and ensure that environmental resources are protected and restored in executing their tasks.</p>	<p>Applicable cause groundwater is required to be withdrawn to fulfilling water requirements for treatment plants.</p>
32.	Right to Information Act, 2009	<p>The Act makes provisions for ensuring free flow of information and people's right to information. The freedom of thought, conscience and speech is recognized in the Constitution as a fundamental right and the right to information is an alienable part of it. Since all powers of the Republic belong to the people, it is necessary to ensure right to information for their empowerment.</p> <p>The right to information shall ensure that transparency and accountability in all public, autonomous and statutory organizations and in private organizations run on government or foreign funding shall increase, corruption shall decrease and good governance shall be established. It is expedient and necessary to make provisions for ensuring transparency and accountability.</p>	<p>As project related information will be shared with relevant stakeholder at different stages of project implementation.</p>

Sl. No.	Policies/Act/Rules	Key provisions and purpose	Applicability to BCISP sub-projects
33.	Bangladesh Delta Plan 2100	The Bangladesh Delta Plan (BDP) 2100 is a broad-based long-term vision about the likely changes and necessary intervention to make the Bangladesh Delta a safe by the end of the 21st Century	As the vision of BDP-2021 is to achieve safe, climate resilient and prosperous Delta and the project is also plan for climate resilience structure so this plan is relevant to the project.
34.	Communicable Diseases (Prevention, Control, and Eradication) Act, 2018	The Act was passed in 2018, and it repealed and merged some of the existing laws and ordinances regarding infectious disease control, including the Epidemic Diseases Act (1897), the Public Health (Emergency Provisions) Ordinance (1944), the Bangladesh Malaria Eradication Board Ordinance (1977) and the Prevention of Malaria (Special Provisions) Ordinance (1978). The objective is to protect the people from the national and international spread of infectious diseases, to prevent, control, and eradicate such diseases, to issue global alerts and increase mutual support for the outbreak of the disease, to increase the capacity for precise risk management and to spread related education, to review the progress of diseases, to protect rights including systematic loss.	Applicable to manage the occupational /Community Health Safety at project site.

## 3.2 Labor Legislations

Standards for Labor and Working Conditions are defined in Bangladesh Labor Act, 2006 (amendments in 2013 and 2018) and Bangladesh Labor Rules 2015 and Occupational Health and Safety Policies 2013. Bangladesh Labor Act, 2006 is a comprehensive legislation. The Act addresses three areas:

- Conditions of service and employment including wages and payment, establishment of Wages Boards, employment of young people, maternity benefits, working hours and leave.
- Health, safety, hygiene, and welfare, and compensation for injury; and,
- Trade unions and industrial relations.
- In order to ensure a harassment-free working environment in the private sectors, Bangladesh Labor Rules introduced Rule 361 KA under Bangladesh Labor Rules 2015 (as amended in 2022). Under Rule 361 KA of the Bangladesh Labor Rules, Sexual Harassment for women includes-
- Unwelcome sexually determined behavior (whether directly or by implication) as physical contact and advances.
- Attempts or efforts to establish physical relations have sexual implications by abuse of administrative, authoritative, or professional powers.
- Sexually colored verbal representation.
- Demand or request for sexual favors.
- Showing pornography.
- Sexually colored remark or gesture.
- Indecent gestures, teasing through abusive language, stalking, and joking have sexual implications.
- Insult through letters, telephone calls, cell phone calls, SMS, e-mails, social media, photo, notices, cartoons, and writing on chair-table, benches, notice boards, walls of the office, factories, classrooms, and washrooms having sexual implications.
- Taking still or video photographs for blackmailing and character assassination.
- Preventing participation in sports, cultural, organizational, and academic activities on the ground of sex and sexual harassment.
- Making a love proposal and exerting pressure or posing threats in case of refusal to love proposal.
- Attempt to establish sexual relations by intimidation, deception, or false assurance.

Rule 361 KA (2) stipulates that in case of investigation regarding sexual harassment of the concerned woman, the concerned authority of the organization shall constitute a Complaint Committee to receive complaints, conduct investigations, and make recommendations. The Complaints Committee shall comprise a minimum of 5 members, of whom the majority shall be women. The head of the committee shall be a woman.

Rule 361 KA (3) stipulates that a Complaint Box shall be preserved at a visible place in all offices, and the complainant may drop her complaint into this Box. Provided that the Complaint Box shall be opened and examined by any member of the complaint committee/responsible

officer, and if any complaint is found, the complaint shall be deemed as received on the date of receipt. Every institution must prepare its guidelines for preventing sexual harassment in the workplace for women.

Rule 361 KA of the Bangladesh Labour Rules 2015 (as amended in 2022) reflects the High Court Division's Landmark guidelines on Sexual Harassment in Bangladesh. High Court Division of the Supreme Court issued guidelines defining sexual harassment in the workplace. High Court directed the government to enact a law based on the guidelines and ruled that the guidelines would be treated as law until the government enacted the law.

### 3.3 Applicable International Convention/Treaties Signed by GoB

Bangladesh has signed most international treaties, conventions and protocols on environment, pollution control, bio-diversity conservation and climate change. An overview of the relevant international treaties signed by GoB are shown in the following table:

**Table 3-2: Relevant International Conventions, Treaties & Protocols Signed by Bangladesh**

Conventions/ Treaties	Year	Relevance to the BCISP
Protection of birds (Paris)	1950	Protection of birds in wild state. Broadly applicable for birds in and around the project influence area.
Ramsar Convention	1971	Protection of wetlands. Broadly applicable for wetlands in and around the project influence area; mitigation measures included in ESMP address potential impacts on wetlands and associated resources as well.
World Cultural and Natural Heritage (Paris)	1972	Protection of major cultural and natural monuments. Broadly applicable for any cultural, archeological and natural heritage site in and around the project influence area.
Prevention and Control of Occupational hazards	1974	Protect workers against occupational exposure to carcinogenic substances and agents. Broadly applicable to the construction and O&M activities under the project. Appropriate mitigation and protective measures have been included in the ESMP.
Occupational hazards due to air pollution, noise & vibration (Geneva)	1977	Protect workers against occupational hazards in the working environment. Broadly applicable to the construction and O&M activities under the project. Appropriate mitigation and protective measures have been included in the ESMP.

<b>Conventions/ Treaties</b>	<b>Year</b>	<b>Relevance to the BCISP</b>
UN framework convention on climate change (Rio de Janeiro)	1992	Regulation of greenhouse gases (GHGs) emissions. Broadly applicable to the construction and O&M activities under the project
Convention on Biological Diversity (Rio de Janeiro)	1992	Conservation of bio-diversity, sustainable use of its components and access to genetic resources. Broadly applicable to the construction and O&M activities under the project.
International Convention on Climate Changes (Kyoto Protocol)	1997	International treaty on climate change and emission of greenhouse gases. Broadly applicable to the construction and O&M activities under the project.
Vienna Convention for the Protection of the Ozone Layer (Vienna)	1985	Preventing human activities that may have adverse effects on ozone layer. Broadly applicable to the construction and O&M activities under the project.
Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal)	1987	Reduction of the abundance of the substances that deplete the ozone layer in the atmosphere, and thereby protect the earth's fragile ozone Layer. Broadly applicable to the construction and O&M activities under the project.
London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (London)	1990	Control of global emissions that deplete ozone layer. Broadly applicable to the construction and O&M activities under the project.
Copenhagen Amendment to the Montreal protocol on Substances that Deplete the Ozone Layer (Copenhagen)	1992	Extending the coverage of Montreal Protocol to new substances. Broadly applicable to the construction and O&M activities under the project.
Montreal Amendment of the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal)	2001	Controls in the trade of ozone depleting substances and the use of licensing procedures to control the import and export of new, recycled and reclaimed ozone depleting substances. Broadly applicable to the construction and O&M activities under the project.
Convention Concerning Occupational Safety and Health and the Working Environment (Geneva)	1981	Ensuring occupational health and safety of workers in all branches of economic activity. Broadly applicable to the construction and O&M activities under the project.

Conventions/ Treaties	Year	Relevance to the BCISP
Convention Concerning Safety in the Use of Chemicals at Work (Geneva)	1990	Regulating the management of chemicals in the workplaces, in order to protect workers from the harmful effects of these substances. Broadly applicable to the construction and O&M activities under the project.
Agenda 21 (UNCED, Rio de Janeiro)	1992	Ensuring sustainable development. Broadly applicable to the construction and O&M activities under the project.
Sendai Framework for Disaster Risk Reduction (2015-2030)	2015	The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries. Broadly applicable to the construction and O&M activities under the project.

### 3.4 Good Industry International Practice

Effective management of environmental, health, and safety (EHS) issues involves the inclusion of EHS considerations into corporate and facility-level business processes in an organized, hierarchical approach. For BCISP, these international practices have been suggested to follow for Environmental, Health, and Safety (EHS) purposes.

The General EHS Guidelines are organized as follows:

- Environmental Conservations
- Occupational Health and Safety
- Community Health and Safety
- Construction and Decommissioning

#### 3.4.1 Environmental Conservations

Emissions of air pollutants can occur from a wide variety of activities during the construction, operation, and decommissioning phases of a project. These activities can be categorized based on the spatial characteristic of the source including point sources, fugitive sources, and mobile sources and, further, by process, such as combustion, materials storage, or other industry sector specific processes.

**Table 3-3: WHO Ambient Air Quality Guidelines<sup>3</sup>**

Pollutants/Parameters	Averaging Period	Guidelines value in $\mu\text{g}/\text{m}^3$
Sulfur dioxide $\text{SO}_2$	24-Hours	40
Nitrogen dioxide ( $\text{NO}_2$ )	Annual 24-hour	10 25

<sup>3</sup> WHO Global Air Quality Guideline 2021

Pollutants/Parameters	Averaging Period	Guidelines value in $\mu\text{g}/\text{m}^3$
Particulate Matter PM <sub>10</sub>	Annual	15
	24-hour	45
Particulate Matter PM <sub>2.5</sub>	Annual	5
	24-hour	15
Ozone	Peak season	60
	8-hour	100
CO	24-hour	4

### 3.4.2 Wastewater and Ambient Water Quality

This guideline applies to projects that discharge process wastewater, wastewater from utility operations, or stormwater—whether directly or indirectly—into the environment. It also applies to industrial discharges into sanitary sewers that release untreated effluent into the environment. Process wastewater may include contaminated wastewater from utility operations, stormwater, and sanitary sewage.

The guideline provides information on common techniques for wastewater management, water conservation, and reuse, which can be implemented across a wide range of industry sectors. Additionally, it is intended to complement the industry-specific effluent guidelines outlined in the Industry Sector Environmental, Health, and Safety (EHS) Guidelines.

For effective wastewater management, key requirements include water conservation, wastewater treatment, stormwater management, and wastewater and water quality monitoring.

**Table 3-4:** Indicative Values for Treated Sanitary Sewage Discharge<sup>4</sup>

Pollutants	Units	Guideline Value
pH	pH	6 – 9
BOD	mg/l	30
COD	mg/l	125
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Oil and grease	mg/l	10
Total suspended solids	mg/l	50
Total coliform bacteria	MPN <sup>b</sup> / 100 ml	400 <sup>a</sup>

Notes: <sup>a</sup> Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation. <sup>b</sup> MPN = Most Probable Number.

### 3.4.3 Hazardous Materials Management

These guidelines (EHS Guidelines of WBG) apply to projects that use, store, or handle any quantity of hazardous materials, defined as materials that represent a risk to human health, property, or the environment due to their physical or chemical characteristics. Hazardous Materials can be classified according to the hazard as explosives; compressed gases, including toxic or flammable gases; flammable liquids; flammable solids; oxidizing substances; toxic materials; radioactive material; and corrosive substances.

<sup>4</sup> WBG EHS (2007) Guidelines of Wastewater and Ambient Water Quality

### **3.4.4 Waste Management**

A waste is any solid, liquid, or contained gaseous material that is being discarded by disposal, recycling, burning or incineration. It can be byproduct of a manufacturing process or an obsolete commercial product that can no longer be used for intended purpose and requires disposal.

*Facilities that generate and store wastes should practice the following:*

- Establishing waste management priorities at the outset of activities based on an understanding of potential Environmental, Health, and Safety (EHS) risks and impacts and considering waste generation and its consequences
- Establishing a waste management hierarchy that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of wastes.
- Avoiding or minimizing the generation waste materials, as far as practicable Where waste generation cannot be avoided but has been minimized, recovering and reusing waste.
- Where waste cannot be recovered or reused, treating, destroying, and disposing of it in an environmentally sound manner.

*Recycling and Reuse:*

In addition to the implementation of waste prevention strategies, the total amount of waste may be significantly reduced through the implementation of recycling plans, which should consider the following elements:

- Evaluation of waste production processes and identification of potentially recyclable materials;
- Identification and recycling of products that can be reintroduced into the manufacturing process or industry activity at the site;
- Investigation of external markets for recycling by other industrial processing operations located in the neighborhood or region of the facility (e.g., waste exchange);
- Establishing recycling objectives and formal tracking of waste generation and recycling rates;
- Providing training and incentives to employees in order to meet objectives.

### **3.4.5 Noise**

Noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception. The preferred method for controlling noise from stationary sources is to implement noise control measures at source. Methods for prevention and control of sources of noise emissions depend on the source and proximity of receptors. Noise reduction options that should be considered include:

- Selecting equipment with lower sound power levels
- Installing silencers for fans
- Installing suitable mufflers on engine exhausts and compressor components
- Installing acoustic enclosures for equipment casing radiating noise

- Improving the acoustic performance of constructed buildings, apply sound insulation;
- Installing acoustic barriers without gaps and with a continuous minimum surface density of 10 kg/m<sup>2</sup> in order to minimize the transmission of sound through the barrier. Barriers should be located as close to the source or to the receptor location to be effective;
- Installing vibration isolation for mechanical equipment;
- Limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas;
- Re-locating noise sources to less sensitive areas to take advantage of distance and shielding;
- Siting permanent facilities away from community areas if possible;
- Taking advantage of the natural topography as a noise buffer during facility design;
- Reducing project traffic routing through community areas wherever possible;
- Developing a mechanism to record and respond to complaints.

**Table 3-5:** Noise Level Guidelines<sup>5</sup>

Receptor	Day Time (07.00-22.00)	Night Time (22.00-07.00)
Residential; Educational institution	55	45
Industrial, Commercial	70	70

### **Occupational Health and Safety:**

The Environmental, Health and Safety (EHS) Guidelines of the World Bank Group (WBG)/International Finance Corporation (IFC), 2008 has been followed for Environmental, Social, Health and Safety (ESHS) issues in BCISP project. This safety issues include:

#### **General Facility Design and Operation:**

- Livable of Labor Shed
- Good Workplace Structures
- Standard Access and Exit facilities
- Fire Precautions
- Lavatories and Showers
- Potable Water Supply
- Planned Eating Area
- First Aid Boxes

#### **Communication and Training:**

- Occupational Health and Safety (OHS) Training
- Training on Personal Protective Equipment (PPE) use
- New Employees and Contractor Training
- Fixing of Area Signage

#### **Physical Hazards:**

- Rotating and Moving Equipment.

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<sup>5</sup> WBG EHS (2007) Guidelines of Wastewater and Ambient Water Quality

- Noise
- Vibration
- Electrical
- Eye Hazards.
- Welding / Hot Work
- Vehicle Driving and Site Traffic.

**Chemical Hazards:**

- Air Quality
- Fire and Explosions
- Corrosive, oxidizing, and reactive chemicals

**Other Important Issues:**

- Biological Hazards.
- Radiological Hazards
- Special Hazard Environments
- Confined Space
- Monitoring of EHS Compliances
- Accidents and Diseases monitoring

### 3.5 Applicable AIIB Environmental and Social Standards

All AIIB-funded Investment Project Financing must adhere to the Environmental and Social Framework (ESF), which includes three Environmental and Social Standards (ESS). These standards outline the requirements for borrowers in identifying and assessing the environmental and social risks and impacts linked to their projects. The ESSs guide borrowers in adopting good international practices for environmental and social sustainability, help them meet national and international obligations, promote transparency and accountability, and ensure sustainable development through continuous stakeholder engagement.

ESS	Overview
<b>ESS-1: Environmental and Social Assessment and Management</b>	Environmental and Social Standard (ESS) 1 applies if the Project is likely to have adverse environmental risks and impacts or social risks and impacts (or both). The scope of the environmental and social assessment and management measures are proportional to the risks and impacts of the Project. ESS 1 provides both for quality environmental and social assessment and for management of risks and impacts through effective mitigation and monitoring measures during the course of Project implementation.
<b>ESS-2: Land Acquisition and Involuntary Resettlement</b>	Environmental and Social Standard (ESS) 2 addresses impacts of Project-related land acquisition, including restrictions on land use and access to assets

ESS	Overview
	and natural resources, which may cause physical displacement (relocation, loss of land or shelter), and/or economic displacement (loss of land or assets, or restrictions on land use, assets and natural resources leading to loss of income sources or other means of livelihood).
<b>ESS-3: Indigenous Peoples</b>	ESS 3 applies if Indigenous Peoples are present in, or have a collective attachment to, the proposed area of the Project, and are likely to be affected by the Project. The term Indigenous Peoples is used in a generic sense to refer to a distinct social and cultural group possessing the following characteristics in varying degrees: <sup>2</sup> (a) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; (b) collective attachment to geographically distinct habitats, ancestral territories or areas of seasonal use or occupation in the Project area and to the natural resources in these areas; (c) customary cultural, economic, social or political institutions that are distinct or separate from those of the dominant society or culture; and (d) a distinct language or dialect, often different from the official language or languages of the country or region in which they live.

### 3.6 Gap Analysis between AIIB ESF and National Laws

A number of national policies, regulations, and laws have been reviewed for the BCISP project, alongside a comparative analysis between national laws and AIIB's Environmental and Social Framework (ESF). The analysis reveals that Bangladesh's environmental and social risk assessment and management system for development projects remains open-ended. The Environmental Conservation Rules 2023 (ECR'23), which categorizes industries and projects based on potential risks and impacts, lacks clear guidance on how to classify projects that encompass multiple industries (e.g., construction of Fecal Sludge Treatment Plants (FSTPs), toilets, storm drains, etc.) under a single title.

According to AIIB's Environmental and Social Policy (ESP), the project has been assigned as a Category B project, as it is expected to have a limited number of potentially adverse environmental and social impacts. These impacts are not unprecedented, are largely reversible, and are contained within the project area, making them manageable through the application of good operational practices.

A comparative analysis between AIIB's policies and Government of Bangladesh (GoB) policies has been conducted, and a harmonized framework has been provided in the following table:

**Table 3-6:** Harmonized environmental and social policies of AIIB and GoB

<b>Aspect</b>	<b>AIIB ESF</b>	<b>Bangladesh National Regulations</b>	<b>Identified gaps and Harmonized Framework</b>
Environmental Policy and Regulations	There are AIIB Environmental and Social Framework, Environmental and Social Policy and Environmental and Social Standards	<p>Environment Conservation Act 1995 is currently the main act governing environmental protection in Bangladesh, which replaced the earlier environment pollution control ordinance of 1992 and provides the legal basis for Environment Conservation Rules, 1997 (ECR'97) and Environment Conservation Rules, 2023 (ECR'23). The main objectives of ECA'95 are conservation of the natural environment and improvement of environmental standards, and control and mitigation of environmental pollution. According to Article-12 of Environment Conservation Act 1995, “No industrial unit or project shall be established or undertaken without obtaining, in the manner prescribed by rules, an Environmental Clearance Certificate from the Director General”.</p> <p>The Ecologically Critical Area (ECA) is an environmentally protected zone where the ecosystem is considered to be endangered to reach a critical condition by the changes brought through various human activities.</p>	<p>In most of the cases national requirements and standards for environment quality are in match with AIIB Policy and Standards (For example, Environmental Assessment is compulsory for both requirements). However, there are some parameters when national and AIIB requirements and standards are different (For example, National legislation does not require a preparation of separate EMP/ESMP or any other environmental documents/plans/checklists for project). In such cases, more provisions that are stringent will be applied for the project.</p>

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
		<p>Section 2 of the Bangladesh Environment Conservation (Amendment) Act (2010) provides that “Ecologically critical Area” mean such area, which is rich in unique biodiversity or due to the importance of environmental perspective necessary to protect or conserve from destructive activities. ECA also falls within the category of natural and cultural heritage.</p>	
Screening and categorization	<p>For AIIB funded project the clients need to carry out project screening and categorization at the earliest stage of project preparation when sufficient information is available for this purpose</p>	<p>It is mandatory to obtain Environmental Clearance for each and every type of industry and project as per Bangladesh Environment Conservation Act, 1995 (Amended 2010). For the purpose of issuance of Environmental Clearance Certificate, the industrial units and projects shall, in consideration of their site and impact on the environment, be classified into the following four categories:</p> <ul style="list-style-type: none"> <li>• Green</li> <li>• Yellow</li> <li>• Orange</li> <li>• Red.</li> </ul>	<p>AIIB and Bangladesh project categorization could be Harmonized by accepting the following principle:</p> <p><b>AIIB category: DoE category</b></p> <p>Category A: Category Red Category B: Orange (mostly) Category B: Yellow</p> <p>Category C: Green</p> <p>The proposed subprojects can be Category A or B in accordance with AIIB ESSs. In the case where AIIB and national categorization requirements differ, the more stringent requirement will apply.</p>
Environmental and Social Impact Assessment Report	In accordance with Environmental and Social Policy (ESP of ESF 2024),	The EIA report has to include: (i) baseline data, (ii) project description, (iii) anticipated environmental impacts, (iv) waste management, (v) analysis of emergency	The present ESMPF has been prepared in fulfilling the national as well as AIIB requirements.

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	<p>A Project is categorized B if: (i) it has a limited number of potentially adverse environmental and social impacts; (ii) the impacts are not unprecedented; (iii) few if any of them are irreversible or cumulative; (iv) they can be successfully managed using good practice in an operational setting.</p> <p>The Bank requires the Client to conduct an initial review of the environmental and social risks and impacts of the Project. On the basis of this review, the Bank, in consultation with the Client, determines the appropriate instrument for the Client to assess the Project's environmental and social risks and impacts, on a case-by-</p>	<p>situation, and (vi) anticipated changes due to project implementation. Information on applicable laws and regulation usually is presented in "Introduction" part. For the projects of category Orange, the EIA report is more simplified. For Green and yellow an EIA report is not required</p>	

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	<p>case basis. The Bank may determine that an ESIA or another similar instrument is appropriate for the Project. Commonly used instruments for Category B include an ESMP or an ESMF.</p> <p>The scope of the assessment may vary from Project to Project, but it is narrower than that of the Category A ESIA. As in the case of a Category A Project, the assessment examines the Project's potentially adverse and positive environmental and social impacts and recommends any measures needed to avoid, minimize, mitigate, offset or compensate for adverse impacts and improve the environmental and social performance of the Project.</p>		

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
ESMP	ESMP should be prepared and should specify, along with the proposed mitigation activities, a monitoring plan and reporting requirements, institutional arrangements for ESMP implementation. For sub-projects category B with low impact, ESMP checklist has to be filled.	National legislation on EIA requires to identify possible impacts, but it does not require a preparation of separate ESMP or any other environmental documents/plans/checklists.	An ESMP will be prepared for all sub-projects that will be followed during implementation.
Public Consultations and Disclosure	<p>Carry out meaningful consultation with Project-affected people and other stakeholders and facilitate their informed participation in the consultations.</p> <p>23.2 Meaningful consultation is an interactive process to provide information and facilitate informed decision-making that: (a) begins early in the</p>	Conducting of public consultation is not mandatory. It may be conducted, if required at the time of the EIA (second stage of EIA). Notice to relevant agencies and no object clearance from the local Government authority must be obtained	During the ESIA study public consultation will be conducted.

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	<p>preparation stage of the Project to provide accurate information on the proposed Project, minimize misinformation and unsupported expectations, and obtain initial views on the Project; (b) is carried out on an ongoing basis throughout the implementation and life cycle of the Project; (c) is designed so that all relevant parties have a voice in consultation, including national and subnational governments, the private sector, nongovernmental organizations and people affected by the Project, including, as applicable, Indigenous Peoples; (d) provides additional support as needed so that</p>		

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	<p>women, elderly, young, disabled, minorities and other vulnerable groups participate; (e) provides timely disclosure of relevant and adequate information, including availability of the Project's GRMs and of the PPM or other Bank-approved IAM, which is understandable and readily accessible to the people affected by the Project and other relevant stakeholders; (f) is undertaken in an atmosphere free of intimidation or coercion; (g) is gender sensitive, inclusive, accessible, responsive and tailored to the needs of vulnerable groups; and (h) enables the consideration of relevant views of people</p>		

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	<p>affected by the Project and other concerned stakeholders in decision-making.</p> <p>23.3 Continue consultation with Project-affected people throughout Project implementation as necessary on issues related to environmental and social performance and implementation of the Project-level GRM.</p>		

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
Requirements on Cultural Heritages	AIIB Environmental and Social Standard 1 (ESS 1) mandates the development of a field-based Cultural Resources survey to ensure the preservation of cultural heritage and prevent its destruction or damage during the implementation of the project.	<p>Ecologically critical Area” means such area, which is rich in unique biodiversity or due to the importance of environmental perspective necessary to protect or conserve from destructive activities. ECA also falls within the category of natural and cultural heritage. Department of Archeology is the concerned authority for the preservation, presentation and promotion of our glorious cultural heritage. At present, the department owns 448 heritage sites Article 24 of the constitution of Bangladesh says that the state shall adopt measures for the protection against disfigurement, damage or removal of all monuments, objects or places of special artistic or historic importance or interest. Bangladesh also has the Antiquities Act, 1968 that provides the modes of protection and preservation of things, which are part of our national history and heritage.</p>	In the Appendix of the ESMPF, criteria for assessment of Archeological site has been added.
Involuntary resettlement	<p>Involuntary resettlement (<b>Involuntary Resettlement</b>) refers to the impacts of both physical and economic displacement and the</p>	<p>ARIPA 2017 does not require preparing RP and no additional measures are required for the vulnerable households.</p>	<p>ARIPA 2017 does not deal with the minimization of involuntary resettlement. However, the government uses this approach as a standard practice. The project fills this gap to minimize the involuntary resettlement through proper alternate engineering design and</p>

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	<p>processes to mitigate and compensate them. Resettlement is considered involuntary when the Project-affected people do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement. This occurs in cases of: (a) lawful expropriation or temporary or permanent restrictions on land use; and (b) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail.</p> <p>Prepare a LARP/LAP/RP, which may take different forms depending on the</p>		<p>adequate consultation with stakeholders. A RP will be prepared to be followed during the implementation of the project.</p>

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	nature of the displacement, elaborating on the displaced persons' entitlements, income and livelihood restoration strategy, institutional arrangements, monitoring and reporting framework, budget and time-bound implementation schedule and provisions for grievance redress.		
Biodiversity	For an AIIB-funded project focusing on biodiversity, it is essential to address the direct, indirect, and cumulative project-related impacts on biodiversity and ecosystem services. These include habitat loss, disruption of migratory routes or wildlife movement, habitat degradation and fragmentation, the	According to Bangladesh Biological Diversity Act 2017 a national committee will be formed to oversee the implementation of biodiversity conservation strategies and policies. This committee is responsible for advising the government on matters related to biodiversity and. The Act emphasizes the role of local communities in biodiversity conservation and recognizes their rights over traditional knowledge and biological resources.	For this project if any subproject location is in close proximity to an Ecologically Critical Area (ECA), a detailed ecological assessment will be conducted. Additionally, a comprehensive Biodiversity Management Plan will be developed to mitigate or prevent any potential impacts on biodiversity.

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
	introduction of invasive species, and overexploitation of natural resources. Additionally, the assessment should consider the varying values placed on biodiversity by affected communities and other relevant stakeholders.		
Health and Safety (workers & communities)	Health and Safety of Workers and Communities	No Specific EHSGs and, as appropriate, industry-specific EHSGs, to the Project.	Labor laws 2006 (as amended in 2013) are followed for the HS of Workers but no community issues are addressed in the laws. Community safeguards will be integrated into ESIA/ESMP to ensure both worker and community concerns are effectively addressed.
Occupational health and safety	Occupational Health and Safety	The National Occupational Safety and Health Policy was adopted in 2013, and work is being done toward implementing the policy in every industrial sector, except for general HS guidelines.	It is Industry-specific only. However, the government uses this approach as a standard practice. A comprehensive and standardized approach will be included in ESIA/ESMP
Labor influx	Project-induced Labor Influx	No assessment and appropriate management of risks of adverse impacts on communities that may result from temporary Project-	The EIA Guideline only mentioned the “spread of diseases due to influx of migrant labor” but no assessment/management was addressed. This issue will be addressed in the ESIA/ESMP.

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
		induced labor influx addressed in national policies/EIA guidelines.	
Involuntary resettlement	Involuntary resettlement should be avoided wherever possible.	Not defined in the Act	Act 2017 does not deal with the minimization of involuntary resettlement. However, the government uses this approach as a standard practice. This approach will be followed.
Minimizing involuntary resettlement	Minimize involuntary resettlement by exploring project and design alternatives.	Not so clearly defined in the Act. Places of worship, graveyards, and cremation grounds are not to be acquired for any purpose unless the acquisition of these places is deemed unavoidable for the people's best interest.	Act 2017 does not deal with these issues and does not comply with AIIB ESS2, as the Act 2017 has no strong provision for minimizing adverse impacts on private property or common resources, and does not deal with alternate design. The RPF clearly mentions how to minimize involuntary resettlement through proper alternate engineering design and adequate consultation with stakeholders.
Displacement and Resettlement	Conducting a census of displaced persons and resettlement planning	The Act 2017 spells out that upon approval of the request for land by the office of the DC, the Acquiring and Requiring body staff will conduct the physical inventory of assets and properties found in the land. The inventory form consists of the name of the person, quantity and quality of land, asset assets affected, and the materials used in the construction of the house. The cut-off date is the date of publication of notice that the land is subject to acquisition and that any	The Act 2017 does not require the coverage of the census survey. It only reflects the inventory of losses more in physical terms and only includes the owners' names, etc. The AIIB policy spells out a detailed census through household surveys of displaced persons in order to assess the loss of income and vulnerability of the persons going to be affected by land acquisition but also population displacement and other entitlements as per the entitlement matrix. The RPF fills this gap by incorporating

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
		alteration or improvement thereon will not be considered for compensation.	the need for a census survey for the displaced persons.
Meaningful Participation of Displaced Persons in Resettlement Processes.	Carry out meaningful consultation with displaced persons and ensure their participation in the planning, implementation, and monitoring of the resettlement program.	Section 3 of the ordinance provides that whenever it appears to the DC that any property is needed or is likely to be needed for any public purpose or in the public interest, he shall publish a notice at convenient places on or near the property in the prescribed form and manner stating that the property is proposed for acquisition.	The Act 2017 does not directly meet AIIB ESS2. This section of the ordinance establishes an indirect form of information disclosure/public consultation. However, it does not provide for public meetings and project disclosure, so stakeholders are not informed about the purpose of land acquisition, its proposed use, or compensation, entitlements, and special assistance measures. The RPF deals with the proper consultation process, which involves all stakeholders (DPs, government department/line agencies, local community, NGO, etc.), and the consultation will be a continuous process at all stages of the project development, such as project formulation, feasibility study, design, implementation, and post-implementation, including the monitoring phase.

<b>Aspect</b>	<b>AIIB ESF</b>	<b>Bangladesh National Regulations</b>	<b>Identified gaps and Harmonized Framework</b>
Grievance Redress Mechanism (GRM)	Establish the Grievance Redress Mechanism (GRM).	Section 4 allows the occupant of the land to raise objections in writing. These should be filed to the DC within 15 days of the publication. The DC will then hear the complaints and prepare a report and record of proceedings within 30 days following the expiry of the 15 days given to DPs to file their objections.	The section 4 provision is consistent with AIIB's grievance and redress policy. The RPF has a special provision for grievance procedures, which includes the formation of a grievance redress committee, the appointment of an arbitrator, and the publication of the notice of hearings and the scope of proceedings. The APs can raise any grievances relating to LA&R issues.
Livelihood Restoration and Improvement	Improve or at least restore the livelihoods of all displaced persons.	The Act 2017 does not address the issues related to income loss, livelihood, or loss of the non-titleholders. This only deals with the compensation for the loss of land, structures, crops trees, etc. for the legal titleholders.	Act 2007 does not comply with AIIB ESS2 as there is no provision to assess the impacts on incomes and livelihood from the loss of employment and business or to restore lost incomes and livelihoods. The RPF keeps the provision for a census survey that will have the data on the loss of income and livelihood, and the same will be compensated as per the entitlement matrix for both physically and economically displaced persons.

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
Land-based resettlement strategy	Land-based resettlement strategy	The Act 2017 does not address these issues.	The Act 2017 does not meet the requirements of AIIB ESS2. The RPF proposes land-for-land compensation as its priority if feasible. Attempts will be made to find alternative land for the loss of land in case it is available and if it is feasible, looking at the concurrence of the host community and land value. However, this option may be a difficult proposition, considering the urban development projects in Bangladesh.
Replacement Cost	All compensation should be based on the principle of replacement cost.	The Act 2017 states that the DC determines the amount of compensation by considering: (i) the replacement cost of the property based on the average sale value of the last 12 months preceding the publication of 1st notice of acquisition; (ii) the damage to standing crops and trees; (iii) damage by severing such property from the other properties of the person occupying the land; (iv) adverse effects on other properties, immovable or movable, and/or earnings; and (v) the cost of change of place of residence or place of business. The DC also awards a sum of 50% on the replacement cost of the property to be acquired.	Act 2017 is largely consistent with AIIB ESS2. However, there are differences in the valuation of land and prices of affected assets, where AIIB prescribes the use of current market rates in the project area. Act 2017 does not ensure replacement cost or restoration of pre-project incomes of the displaced persons. The RPF addresses all these issues and spells out a mechanism to fix the replacement cost by putting in an independent evaluator who will be responsible for deciding the replacement cost, taking into consideration the Current Market Price and titling cost of the land.

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
Relocation Assistance	Provide relocation assistance to displaced persons.	If DC considers that the structure can easily be transferred, he/she will give relocation costs but not cash compensation under the law.	The Act 2017 does not define additional relocation assistance to displaced persons, other than the compensation for the direct loss of land and property. Hence, Act 2017 does not comply with AIIB ESS2. The RPF provides the eligibility and entitlement for the relocation of displaced persons in the form of relocation assistance, which includes shifting allowances, the right to salvage materials, and additional transitional assistance for the loss of business and employment.
Inclusivity and Equity in Resettlement Programs	Ensure that displaced persons without titles to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of non-land assets.	The Act 2017 does not have this provision.	The Act 2017 is not consistent with the requirements of AIIB's ESS2. This is a major difference in the national law/policy compared to that of AIIB. The Act 2017 only takes into consideration the legal titleholders and ignores the non-titleholders. The objective of the RPF is to ensure that compensation and assistance are provided to all displaced persons, whether physically displaced or economically displaced, irrespective of the legal status of the land on which the structure is built. The end of the census survey will be considered to be the cut-off date, and displaced persons listed before the cut-off-date will be eligible for assistance.

Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
Transparency and Accountability in Resettlement Processes	Disclose the resettlement plan, including documentation of the consultation in an accessible place and a form and language understandable to affected persons and other stakeholders.	The ordinance only ensures the initial notification for the acquisition of a particular property.	There is no requirement under the Act, of Disclosure of the RPF, whereas the AIIB's ESS2 requires disclosure. This RPF will ensure that the resettlement plan for each project, along with the necessary eligibility and entitlement will be disclosed to the DPs in the local language (Bangla), in the project location and concerned government offices, and the same resettlement plan will also be disclosed on the executing agency's website and on the website of AIIB.
Cost-Benefit Analysis and Project Planning	Conceive and execute involuntary resettlement as part of a development project or program. Include the full costs of resettlement in the presentation of the project's costs and benefits.	The Act 2017 has a provision to include all the costs related to land acquisition and compensation of legal property and assets. However, it does not take into account the costs related to other assistance and involuntary resettlement.	The Act 2017 partially meets the requirement of AIIB ESS2 as it only deals with the compensation pertaining to land acquisition. The resettlement framework provides eligibility to both titleholders and non-titleholders with compensation and various kinds of assistance as part of the resettlement packages, and the entire cost will be part of the project cost.
Prioritization of Compensation and Entitlements	Pay compensation and provide other resettlement entitlements before physical or economic displacement.	The Act 2017 has the provision that all the compensation will be paid prior to possession of the acquired land by EA.	The Act 2017 meets the requirement of AIIB ESS2.

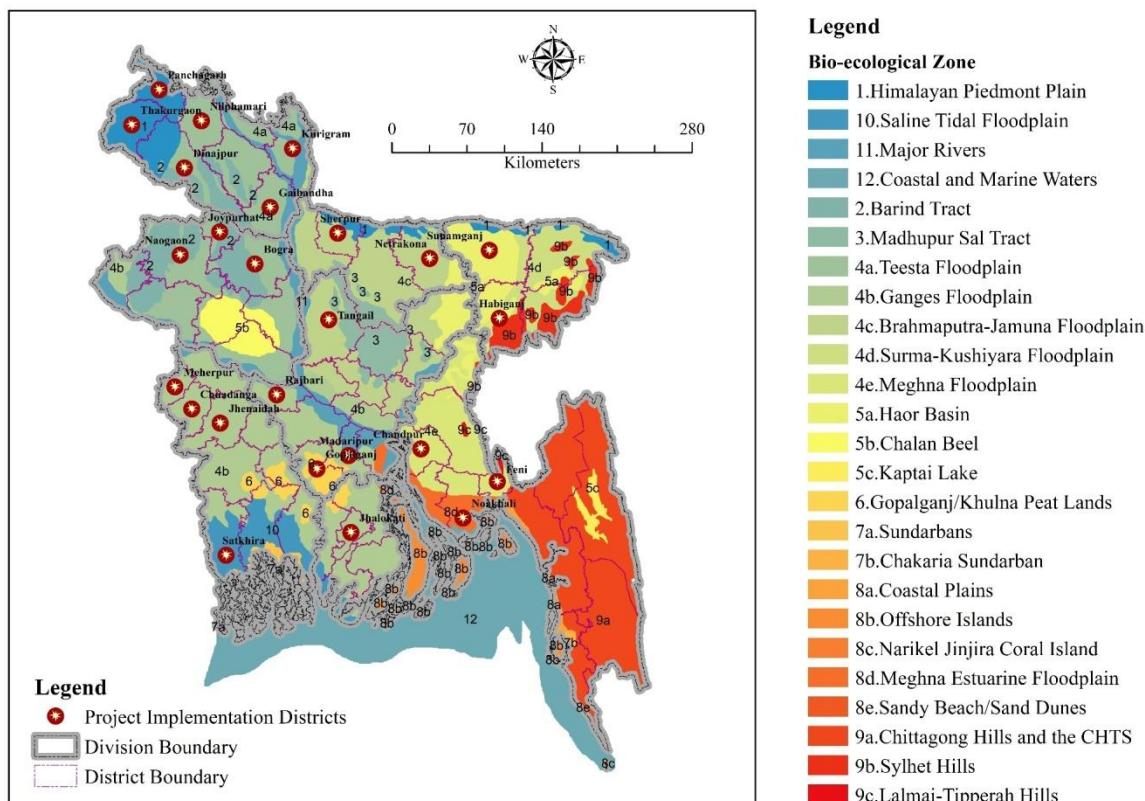
Aspect	AIIB ESF	Bangladesh National Regulations	Identified gaps and Harmonized Framework
Monitoring and Evaluation (M&E) of Resettlement Programs	Monitor and assess resettlement outcomes, and their impacts on the standards of living of displaced persons.	This is not so clearly defined in the Act 2017.	The Act 2017 does not comply with AIIB ESS2. The RPF has a detailed provision for a monitoring system within the executing agency. The executing agency will be responsible for proper monitoring of the resettlement plan implementation, and the internal monitoring will also be verified by an external monitoring expert.
Indigenous Peoples' Rights and Participation	Preparation of an Indigenous Peoples Plan (IPP)	No IPP is addressed in ECA/ECR	The EIA Guideline only mentioned the “Indigenous people rights and/or minority rights issues”. IP issues will be included in the ESIA/ESMP (No IP was identified in the feasibility study in 5 towns under task 1).
Inclusive and Effective Consultation	Special Considerations in Consultations	For IP nothing specifically addressed in the EIA national guidelines	A broader perspective of Stakeholder engagement processes/ Public consultation and participation has been addressed in the EIA guidelines of DoE. This approach will be followed.
Grievance Redress Mechanism (GRM)	Project-level Grievance Redress Mechanism (GRM)	Not clearly defined the GRM in the ECA/ECR.	There is section 14 in the Environmental Conservation Act 1995 about allowing appeals against grievances to the appellate Authority. However, no specific GRM process/method is mentioned in the ECA. The GRM is proposed in the project.

## Chapter 4: Baseline Status of Physical Environment, Socio-Economic and Climate Conditions

### 4.1 Biological Environment

#### 4.1.1 Bio-Ecological Features of the Sub-Project Area & its Surroundings

IUCN, Bangladesh in 2002 has divided the whole country into 25 Bio-ecological zones based on seven biophysical parameters (soil, physiography, rainfall, flood depth, flora distribution, fauna distribution and temperature). The following map shows the bio-ecological zones of Bangladesh marking the project implemented towns.



**Figure 4-1: Bio-ecological Zone map of Project Implemented Districts**

From the map, it is evident that most towns are located in floodplain zones, such as Bogura, Joypurhat, Naogaon, Gaibandha, Dinajpur, Panchagarh, Thakurgaon, Kurigram, and Nilphamari. Areas like Habiganj and Sunamganj are situated in the haor basin, while towns in the southwest, such as Satkhira, Jhalokathi, Feni, and Noakhali, are located in coastal plains and saline tidal floodplains. Each area has a unique character influenced by its soil type, physiography, and climate conditions.

Several major rivers flow through the municipalities, including the Dharla River in Kurigram, the Punarbhaba River in Dinajpur, the Tangon River in Thakurgaon, the Meghna River in Chandpur, the Karatoya River in Panchagarh, and the Padma River in Jarbari. Additionally, districts like Habiganj, Sunamganj, and Netrokona are characterized by extensive wetlands

known as haors. While Pourashava areas are typically dominated by built-up environments with limited vegetation coverage, land use pattern analysis reveals that agricultural land remains the predominant land type in these districts (Figure: 4.5).

#### **4.1.2 Wildlife Sanctuary, Protected Area, Park & Ecologically Critical Area (ECA)**

Bangladesh is endowed with rich biodiversity, and to conserve this natural wealth, the government has established various protected areas over time. These include Wildlife Sanctuaries, National Parks, Special Biodiversity Areas, Eco Parks, Botanical Gardens, Safari Parks, and Ecologically Critical Areas (ECA). The management and conservation of these areas are primarily overseen by the Bangladesh Forest Department and the Department of Environment. According to the Bangladesh Forest Department, there are 53 protected areas across the country, covering a total area of 817,971.613 hectares.

In the districts where the BCISP project is being implemented, there are three wildlife sanctuaries: Padma Setu Wildlife Sanctuary in Madaripur, Rema-Kalenga Wildlife Sanctuary in Habiganj, and Sundarbans West Wildlife Sanctuary in Satkhira. However, since these sanctuaries are located far from the Pourashava areas, the impact of the project on these protected zones is expected to be minimal or nearly zero.

Regarding national parks, Madhupur National Park is located in Tangail, Nijhum Dweep National Park in Noakhali, and Satchhari National Park in Habiganj. In Dinajpur, there are several national parks, including Birgonj, Dharmapur, Nawabganj, Ramsagar, and Singra National Parks. Additionally, Altadighi National Park is situated in Naogaon district. As these parks are nationally protected and distant from the project areas, the likelihood of them being impacted by the project interventions is very low.

An Ecologically Critical Area (ECA) is an environmentally protected zone where the ecosystem is at risk of reaching a critical condition due to various human activities. According to Section 2(gg) of the Bangladesh Environment Conservation (Amendment) Act (2010), an "Ecologically Critical Area" refers to an area that is rich in unique biodiversity or is of significant environmental importance, requiring protection from destructive activities. ECAs are also recognized as part of the natural and cultural heritage of the country. In 1999, the Government of Bangladesh declared eight areas as ECAs, and in 2009, four rivers surrounding Dhaka city were also designated as ECAs. None of the ECAs are fall within the project influence area. List of the ECAs and their distance from the nearest municipality are given in the following table.

**Table 4-1:** Ecologically Critical Areas of Bangladesh with the Distance from Nearest Municipality

SL	Name of ECA	Ecosystem type	Location	Nearest Municipality and Distance (Km)	Area (ha.)
1	Sundarbans (10 km landward periphery)	Coastal-Marine	Bagerhat, Khulna and Satkhira	Satkhira (81.5)	292,926

SL	Name of ECA	Ecosystem type	Location	Nearest Municipality and Distance (Km)	Area (ha.)
2	Cox's Bazar-Teknaf Peninsula	Coastal-Marine	Cox's Bazar	Noakhali (183.5)	20,373
3	St. Martin' Island	Marine Island with Coral reefs	Cox's Bazar	Noakhali (279.5)	1,214
4	Sonadia Island	Marine Island	Cox's Bazar	Noakhali (172)	10,298
5	Hakaluki Haor	Inland Fresh Water Wetland	Sylhet and Moulavibazar	Habiganj (71.5)	40,466
6	Tanguar Haor	Inland Fresh Water Wetland	Sunamganj	Sunamganj (33)	9,797
7	Marjat Baor	Ox-bow Lake	Jhenaidah	Jhenaidah (29)	325
8	Gulshan-Baridhara Lake	Urban Wetland	Dhaka City	Tangail (70)	101
9	Buriganga River	River	Dhaka	Rajbari (77)	1,336
10	Turag River	River	Dhaka	Tangail (60)	1,184
11	Sitalakhya River	River	Dhaka	Tangail (77)	3,771
12	Balu River	River	Dhaka	Tangail (63.5)	1,315
13	Jaflong-Dawki River	River	Sylhet	Sunamganj (62.5)	1,493

Source: Department of Environment (2015)

#### 4.1.3 Floral Habitat and Diversity

Floral Habitat and Diversity encompasses the range and intricacy of plant life found in various environments. This diversity can be generally divided into terrestrial habitats, which are land-based, and aquatic habitats, which are water-based. The floral habitat and diversity (both terrestrial and aquatic) of each district in Bangladesh are influenced by the unique geographical, climatic, and ecological characteristics of the area. During the initial field visit data has been collected from the local people as well as site observation regarding floral diversity in the project sites. Also, data has been collected from National Agriculture Census-2019 in this regard.

##### Terrestrial Flora

Terrestrial habitats are land environments where plants grow, and the diversity refers to the variety of plant species that thrive in these environments. Terrestrial flora in Bangladesh includes a variety of crops, plants and also medicinal plants which showcases a diverse array of plant species, each contributing to the region's ecological richness the diverse floral habitats across various districts reflect the rich biodiversity of the region. In Jhalokathi, prominent species include the mango (*Mangifera indica*), date palm (*Phoenix sylvestris*), koroi (*Albizia procera*), and rain tree (*Samanea saman*). Chandpur is home to the Sal tree (*Shorea robusta*),

used in traditional medicine for its anti-inflammatory properties, and the cotton tree (*Bombax ceiba*), which has applications in treating respiratory conditions. Rajbari's floral habitat includes chireta (*Swertia chirata*) and dhutura (*Datura metel*), whereas Tangail features the shal tree (*Shorea robusta*), ajuli (*Dillenia pentagyna*), and kundi (*Careya arborea*). The flora of coastal areas in Bangladesh is uniquely adapted to the saline and brackish environments typical of these regions. Key plant species in these areas include Sundari (*Heritiera fomes*), Keora (*Sonneratia apetala*) Water Lily (*Nymphaea spp.*) Barau (*Excoecaria agallocha*). Kurigram is notable for the karai tree (*Albizia procera*). Habiganj includes poma (*Cedrela toona*), beechwood (*Gmelina arborea*), and Sunamganj is noted for chapalish (*Gundroia*). These floral habitats are crucial for their ecological roles, including soil stabilization, erosion control, and habitat provision, as well as their medicinal and economic value to local communities.

### **Aquatic Flora**

Aquatic habitats are water-based environments where plant life exists, and the diversity here includes various species adapted to living in water. Aquatic diversity in Bangladesh varies by district: Jhalokathi and Chandpur have water hyacinth and lotus; Noakhali features coastal mangroves; Gopalganj and Madaripur boast floating plants like water lettuce; Satkhira's Sundarbans includes unique mangroves; Tangail and Chuadanga show seasonal wetland flora; Netrokona and Meherpur have diverse freshwater plants; Sherpur and Bogura are known for pond plants; Naogaon and Dinajpur include water hyacinth and lotus. Coastal regions, like the Sundarbans mangrove forest, host nipa palm (*Nypa fruticans*), which grows in brackish waters and provides valuable resources while helping to protect against coastal erosion. Aquatic flora is vital for ecological health, water quality, and coastal protection as well as these plants also hold cultural significance and are used in traditional medicine and local customs, underscoring their integral role in both environmental sustainability and community well-being.

#### **4.1.4 Faunal Habitat and Diversity**

Fauna habitat and diversity refers to the variety and distribution of animal species (fauna) in different environments, both terrestrial (land-based) and aquatic (water-based). During the initial field visit data has been collected from the local people as well as site observation regarding faunal diversity in the project sites. Also, data has been collected from National Agriculture Census-2019 in this regard.

### **Terrestrial Fauna**

Terrestrial fauna encompasses the range of animal life found in land-based ecosystems, including forests, grasslands, deserts, and wetlands. In Bangladesh, the terrestrial fauna across various districts is quite diverse, reflecting the country's rich biodiversity. For instance, Gopalganj and Madaripur feature a range of mammals such as wild boars (*Sus scrofa*) and various bird species including the common myna (*Acridotheres tristis*). Sherpur and Bogura host a variety of reptiles like the Bengal monitor (*Varanus bengalensis*) and diverse insect species. Kurigram's ecosystems contribute to the rich tapestry of terrestrial life includes species like the Khalisha (*Colisa fasciata*) and the Weaver bird (*Ploceus baya*), while Chandpur features vultures (*Sarcogyps calvus*) and kites (*Milvus migrans*). The district of Meherpur has unique inhabitants like the climbing fish (*Anabas testudineus*) and tree frogs (*Rhacophorus*

maculatus). In Satkhira, the royal Bengal tiger (*Panthera tigris*) and the Chitra deer (*Odocoileus hemionus*) roam in Sundarbans, while Sherpur hosts the clouded leopard (*Neofelis nebulosa*) and the Asian elephant (*Elephas maximus*). Each district supports its own distinctive set of terrestrial species, from the elusive clouded leopard in Sherpur to the widespread but vital mongoose populations across Bogura and Nilphamari. Overall, Bangladesh's diverse ecosystems support a wide range of terrestrial and aquatic fauna, each adapted to their specific environments.

### **Aquatic Fauna**

Bangladesh, being a riverine country, is home to countless rivers, canals, lakes (beels), wetlands (haors and baors), and ponds, which serve as key habitats for diverse aquatic fauna. The country is rich in fish species, with some of the most commonly available varieties including ruhi (*Labeorohita*), mrigel (*Cirrhinusmrigala*), kalbous (*Labeocalbasu*), katla or carp (*Catla*) etc. shoal fish (*Channa striatus*), singi (*Heteropneustesfossilis*) are also found in large quantity in beels and khals. Many other species of fishes are also found in the river and fresh water as well. Of these the principal varieties are boal/sheat fish (*Wallago attu*), koral (*Latas calcarifer*), tarsi (*Polynemusparadiseus*), dhain chital (*Notopteruschitala*), ghona, airh (*Mystusaor*), bagair (*Bagariusyarrelli*), pangas (*Pangasius pangasius*), rita (*Rita rita*), bain or eel (*Mastacembelus armatus*), chapila (*Gonialosamanmina*), bhagna (*Labeoboga*), gulsha (*Mystusbleekeri*), tengra (*Mystus vittatus*), chanda (*Mene maculata*), tekchanda (*Gerres argyreus*), kachki (*Corica soborna*), baila (*Glossogobiusgiuris*), bheda (*Nondus nondus*), ghaura, kakila (*Strongyluramerina*), phali or flat fish (*Notopterusnotopterus*), tatkeni (*Crosscheiluslatius*), pabda (*Ompok pabda*), chela (*Chela cachius*), gangchela, gazar (*Ophiocephalusmarulius*), koi or climbing fish (*Anabas testudineus*), kholisha (*Colisa fasciatus*), puti (*Puntius titteya*), sharputi (*Barbus sarana*), taki (*Channa punctata*), malandi, bashpata (*Ailia punctata*), kakra (*Scylla serrata*), meani, shrimps, and prawn are found in and around the project implemented towns.

### **4.1.5 Threatened Flora and Fauna**

The Earth's biodiversity is declining at an alarming rate, posing significant risks to global ecosystems and human societies. Current extinction rates have surged to levels hundreds or even thousands of times higher than historical norms, driven largely by human activities. Key factors include habitat destruction, overexploitation of natural resources, pollution, climate change, and the spread of invasive species. Currently, more than 163,000 species are documented on The IUCN Red List worldwide. Bangladesh is home to a diverse range of ecosystems, including the Sundarbans, which supports a wide variety of birds, animals, and plants. The country also features significant floral diversity. However, many species are at risk due to factors such as habitat loss, deforestation, and other environmental pressures.

#### **Flora:**

Bangladesh has lost seven plant species over the last century and now faces the risk of losing at least another five. The Red List categorizes five of these plants as critically endangered, meaning they are at severe risk of disappearing unless urgent conservation measures are undertaken. These critically endangered species are Bans Pata (*Podocarpus nerifolius*),

Bulborox Orchid (*Bulbophyllum roxburghii*), Chaulmoogra (*Hydnocarpus puskurzii*), KhudiKhejur (Stemless Date Palm) (*Phoenix acaulis*), and Lamba Trias Orchid (*Bulbophyllum oblongum*). Additionally, among the 1,000-plant species assessed, 127 are classified as Endangered, 262 as Vulnerable, 69 as Near Threatened, and 271 as Least Concern.

#### **Fauna:**

According to the 2015 IUCN report, of the 1,619 species evaluated in Bangladesh, 2% were Regionally Extinct, while 24% were classified as Threatened: 3.45% Critically Endangered, 11.18% Endangered, and 9.45% Vulnerable<sup>6</sup>.

**Mammals:** The assessment of mammals in Bangladesh covered 138 species, with 11 classified as Regionally Extinct, 17 as Critically Endangered, 12 as Endangered, and 9 as Vulnerable<sup>7</sup>. Notable threatened species include the Bengal Tiger, Asian Elephant, Western Hoolock Gibbon, Indian Hare, Bengal Slow Loris, Oriental Small-clawed Otter and Hanuman Langur, Rhesus Macaque, Bengal Fox, Hog, Deer.

**Birds:** Out of 566 bird species evaluated, 19 are Regionally Extinct, 10 Critically Endangered, 12 Endangered, and 17 Vulnerable, totaling 39 Threatened species. Critically Endangered birds include the White-rumped Vulture, Spoon-billed Sandpiper, and Indian Skimmer. Endangered species feature the Oriental Dwarf Kingfisher and Bristled Grassbird. Near Threatened include the Falcated Duck, Ferruginous Pochard, and Black-tailed Godwit.

**Reptiles and Amphibians:** Several reptiles and amphibians are facing critical threats to their survival. Critically endangered and endangered reptiles include the Tokay Gecko (*Gekko gecko*), Elongated Tortoise, Three-striped Roofed Turtle, Hawksbill Turtle, Reticulated Python, Gharial, Asian Gliding Lizard, Black-barred Kukri Snake, and Estuarine Crocodile. Amphibians which are in critically endangered and endangered state are Khare's Stream Frog (*Pterorhanakhare kiyasetuo*), Fuller's Caecilian, Doriae's Pigmy Tree Frog, and the Pied Warty Tree Frog. Additionally, some species categorized as vulnerable include the Large Tree Frog, Pope's Pit Viper, and Rock Python (*Python bivittatus Kuhl*). Conservation efforts are crucial for preserving these species and maintaining ecological balance.

**Freshwater Fishes:** Several freshwater fish species in Bangladesh are critically endangered or endangered. These include the Polka Dotted Loach, Boga Labeo, Pabo Catfish, Gangetic Goonch, Hill Trout, Gangetic Latia, Annandale Garra, Trout Barb, Dwarf Catfish, Pabda Catfish, and Tire-track Spinyeel.

**Butterflies and Crustaceans:** In assessing the 305-butterfly species in Bangladesh, it has been found that 62% are under the threatened category. Some crustaceans are facing critical threats to their survival. The endangered species include the Painted Spiny Lobster (*Panulirus versicolor*) and the Common Squillid Mantis Shrimp (*Oratosquilla perpensa*). Additionally,

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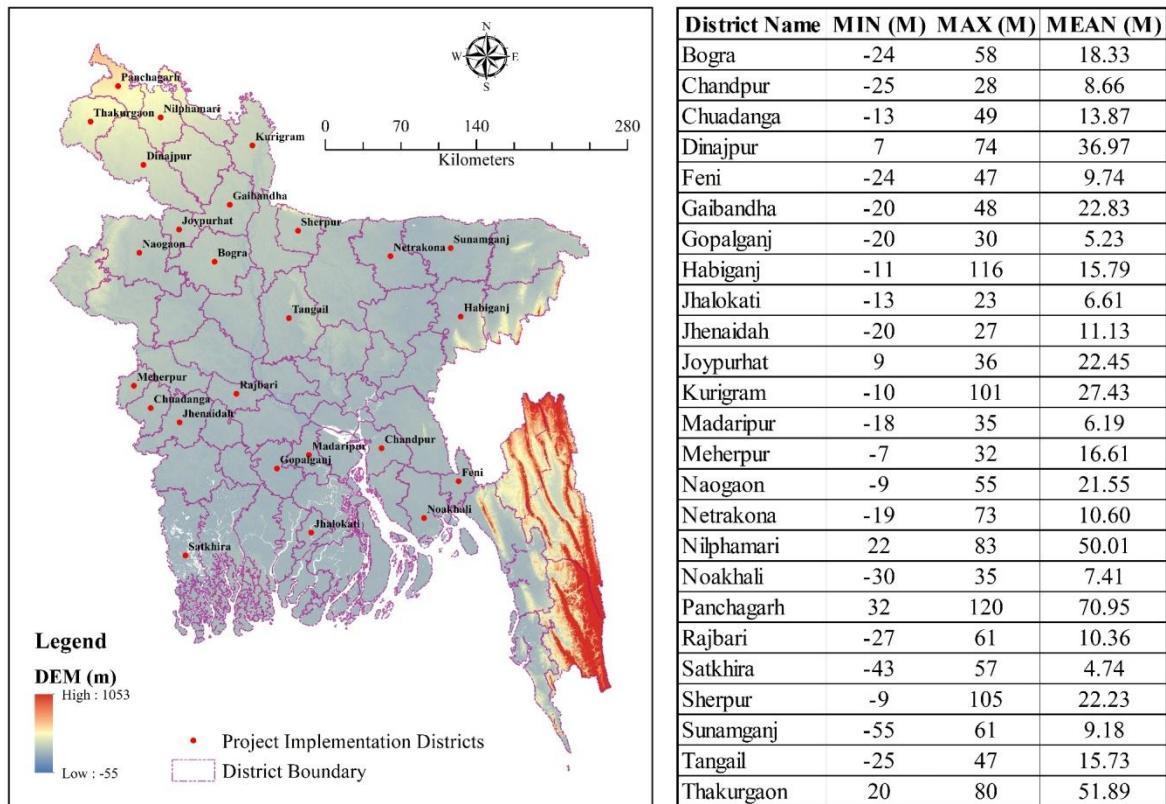
<sup>6</sup> IUCN Bangladesh. (2015a). Red List of Bangladesh Volume 1: Summary. In *Red List of Bangladesh Volume 1: Summary*. IUCN, International Union for Conservation of Nature.

<sup>7</sup> IUCN Bangladesh. (2015b). Red List of Bangladesh Volume 2: Mammals. In *Climate Change 2013 - The Physical Science Basis*.

vulnerable species including the Mud Spiny Lobster and the Common Moon Crab are also experiencing declines.

## 4.2 Physical Environment

### 4.2.1 Topography

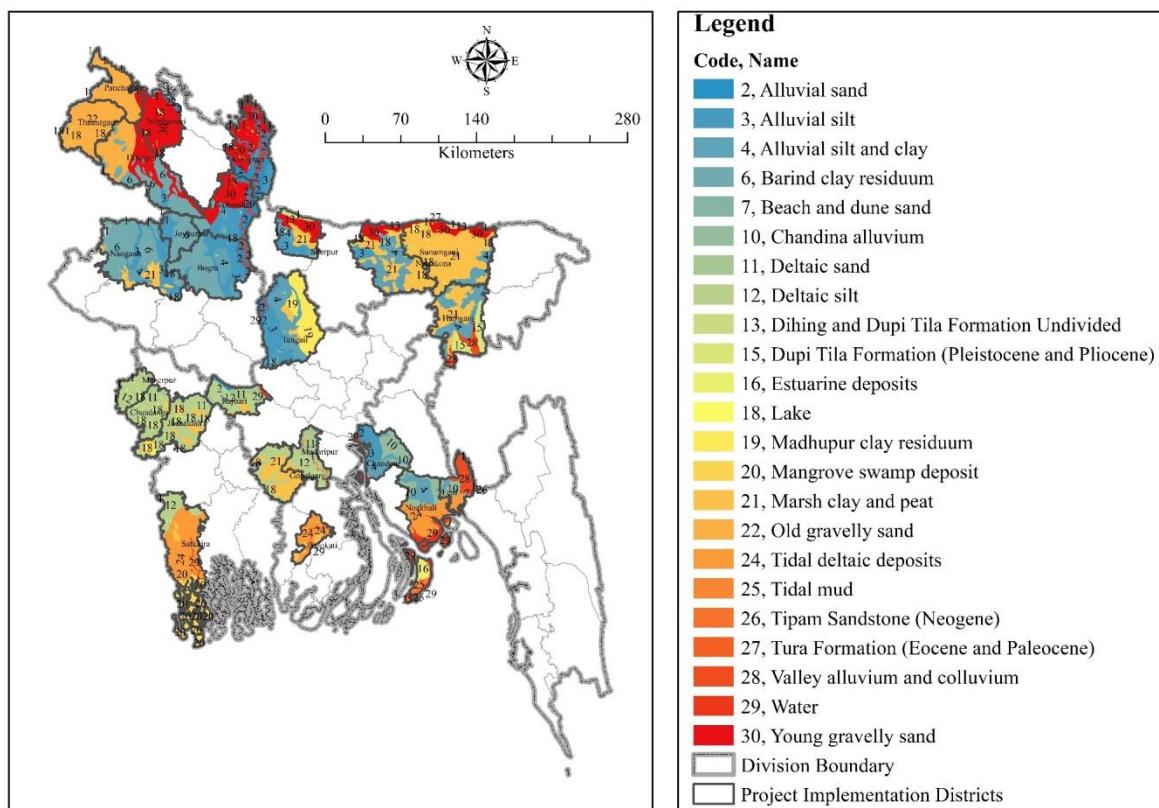


**Figure 4-2:** Digital Elevation Model highlighting Project Implementation Districts

Bangladesh's topography is primarily flat and low-lying, with most of the area situated within the Ganges-Brahmaputra Delta. The drainage system is overly complex, featuring an extensive network of rivers, channels, and wetlands. The map (Figure 4-2) of Bangladesh shows the Digital Elevation Model (DEM), highlighting the elevation levels across various districts, accompanied by a table listing the minimum, maximum, and mean elevations for each district. The elevation varies significantly, with the highest elevations found in districts like Bandarban (max 1,053 meters) and Rangamati in the southeastern hilly region. Conversely, districts like Sunamganj and Satkhira have the lowest elevations (e.g., Sunamganj with a minimum of -55 meters and Satkhira with -43 meters). Districts such as Meherpur, Kurigram and Naogaon have moderate elevations, with mean values around 20-35 meters. Most other districts, including Bogura, Gopalganj, and Dinajpur, have varying elevations but generally stay within the 10–40meter range on an average. The map focuses on districts, likely some areas that might be vulnerable to elevation-related challenges like flooding.

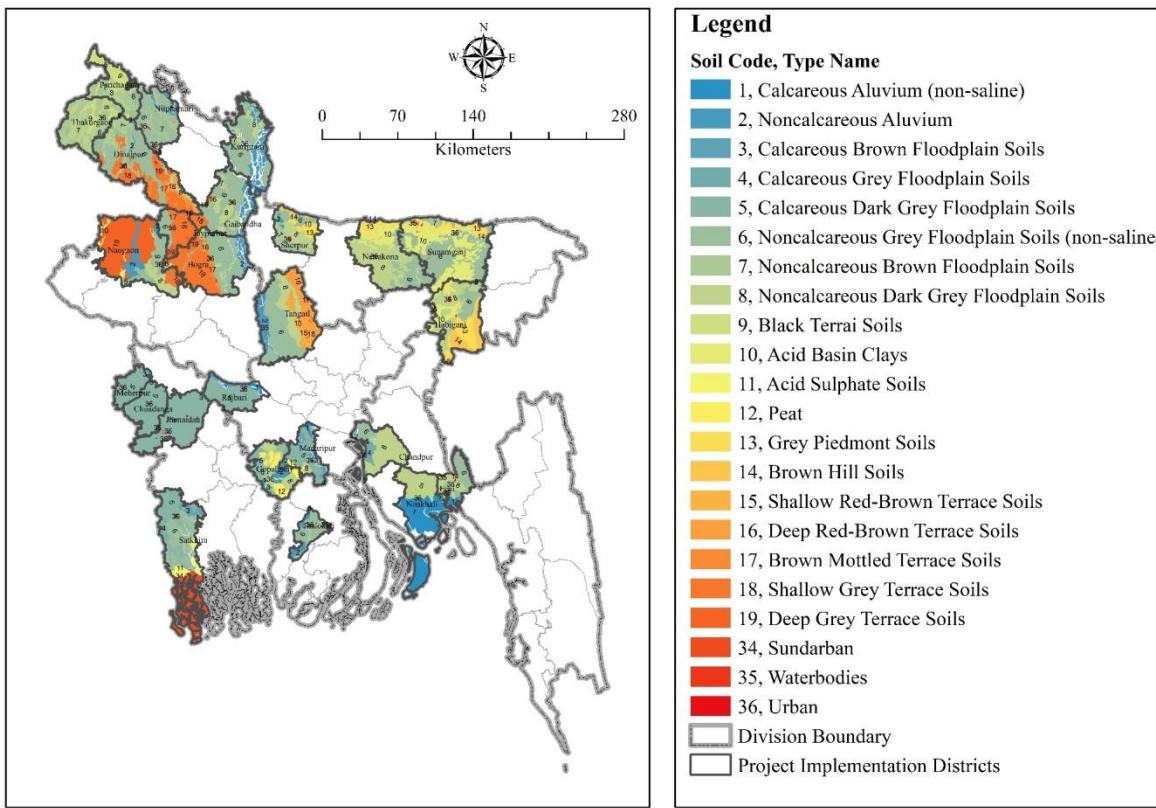
## 4.2.2 Geology and Soil

The geological development of Bangladesh is closely tied to the uplift of the Himalayan Mountains and the formation of a vast deltaic landmass, shaped by the major river systems of which most are originated from the Himalayas. As a significant delta, Bangladesh encompasses most of the present-day Bengal Basin, characterized by a substantial thickness of fluvio-deltaic sediments. These sediments have been deposited over time by the combined deltas of the Padma (Ganges), Jamuna (Brahmaputra), and Meghna rivers.



**Figure 4-3: Geology Map of Project Implementation Districts**

The geological map of Bangladesh visually represents various sedimentary and geological formations across different regions. In the northwestern area, particularly in the region Panchgarh and Thakurgaon, old gravelly sand (22) deposits are prevalent. Central Bangladesh, including districts like Dhaka and Tangail, is characterized by the Madhupur Clay Residuum (19), indicated by yellow, part of an ancient alluvial terrace. The southwestern coastal region, especially in the Satkhira, features Mangrove Swamp Deposits (20) and Tidal Deltaic Deposits (24), reflecting the Sundarbans mangrove forest and tidal influences. Western parts specifically in regions like Rajbari, Jhenaidah and Chuadanga, the map shows the presence of Alluvial silt and clay (4), marked by a light teal color. The presence of Young gravelly sand (30), Marsh clay and peat (21), and Alluvial silt and clay (4) in regions like Sunamganj, Netrokona, Habiganj, marked by diverse sedimentary deposits, reflecting a complex and dynamic geological environment. Many parts like Chandpur, Naogaon, Bogra etc. are predominantly shaped by silt and clay, Alluvial silt, Barind clay residuum.



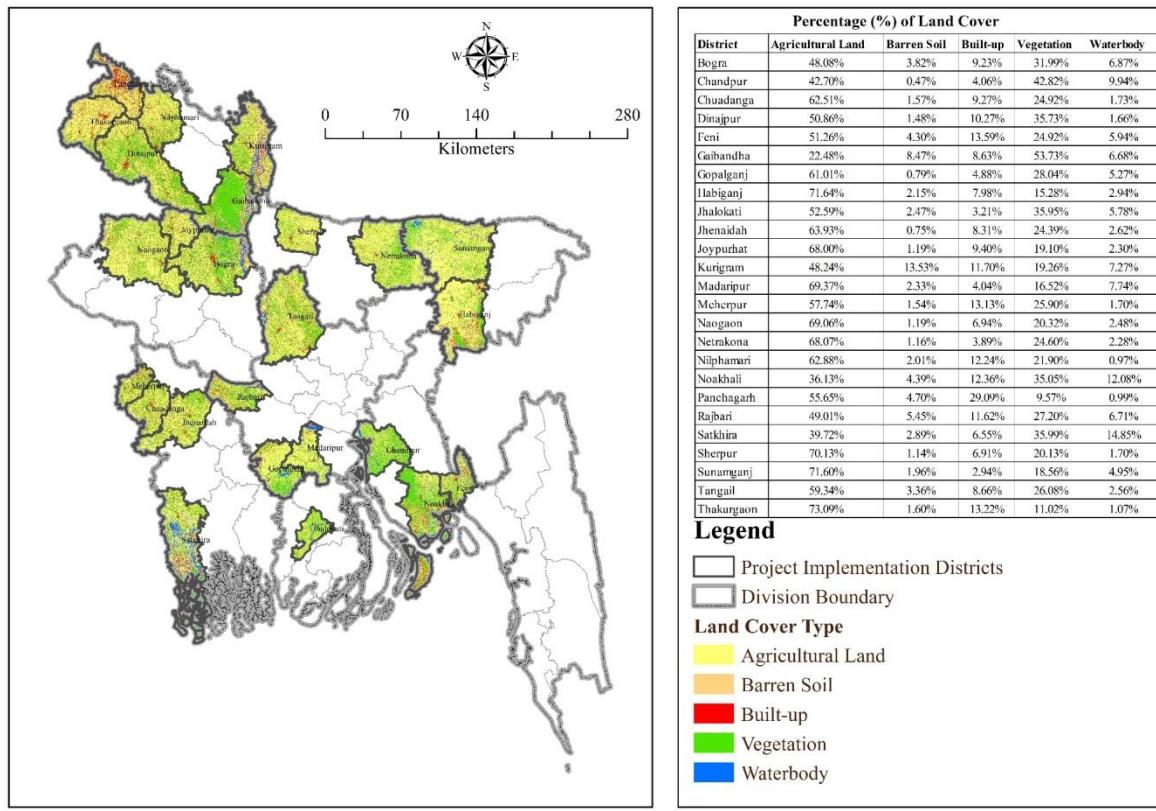
**Figure 4-4: Soil Categorization Map of Project Implementation Districts**

In Bangladesh, soil types (Figure 4-4) are diverse and regionally distributed. Alluvial soils are predominant in the central and southern regions, including districts like Dhaka, Faridpur, Jessore, and Khulna, known for their fertility. Alluvial soils, which are fertile and formed by sediment deposited by rivers, dominate the northern and western regions of the country. These soils are shown in lighter shades, indicating their widespread presence. In contrast, Floodplain soils are common near major river basins such as the Padma, Brahmaputra, and Meghna. The northern and eastern regions feature terrace soils and hill soils, with notable examples in districts like Sylhet and Rangpur. The Chittagong Hill Tracts and Madhupur Tract showcase various hill soils. Coastal areas include peat soils in the Sundarbans and urban soils in major cities like Dhaka, Chittagong, and Rajshahi. Additionally, Black Terrai Soils are found in the north, Acid Basin Clays in the central part, and Grey Piedmont Soils in the Chittagong Hill Tracts, reflecting a rich diversity across the central and west southern regions. Additionally, the map features other specialized soil types such as black terrain, which is known for its rich organic content, acid basin clays, and peat, which are localized.

#### 4.2.3 Land Use Pattern

Understanding the land use and land cover of an area is essential for planning and executing development projects. Not all land use patterns are equally suitable for development; for example, terrestrial barren land is typically the most appropriate for construction and other project activities. Conversely, agricultural land, vegetation, and water bodies should generally be avoided to minimize environmental impacts and ensure project sustainability. The following

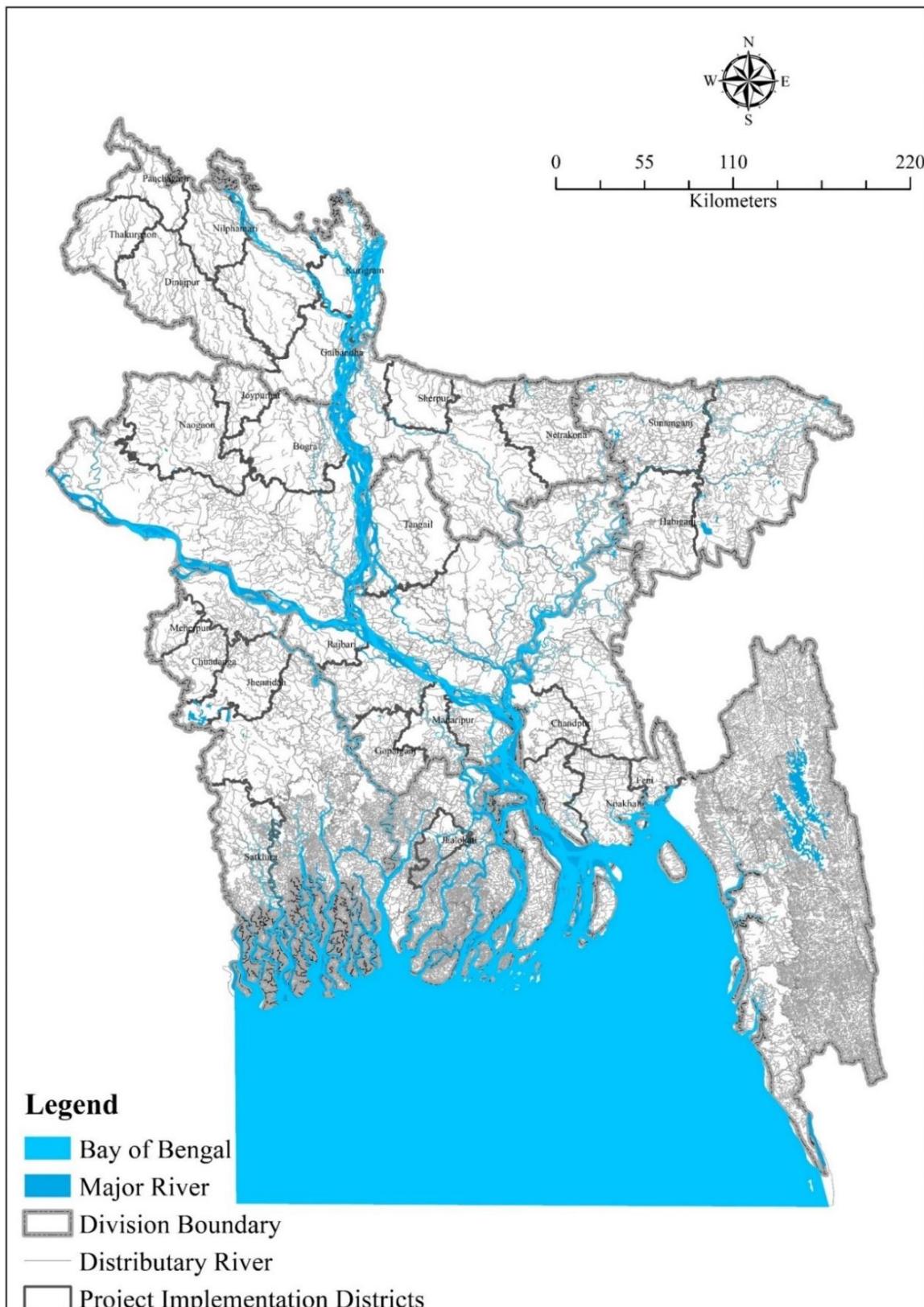
Figure (4-5) provides a district-wide overview of land use patterns to offer a clearer perspective.



**Figure 4-5:** Land cover categories in the proposed districts

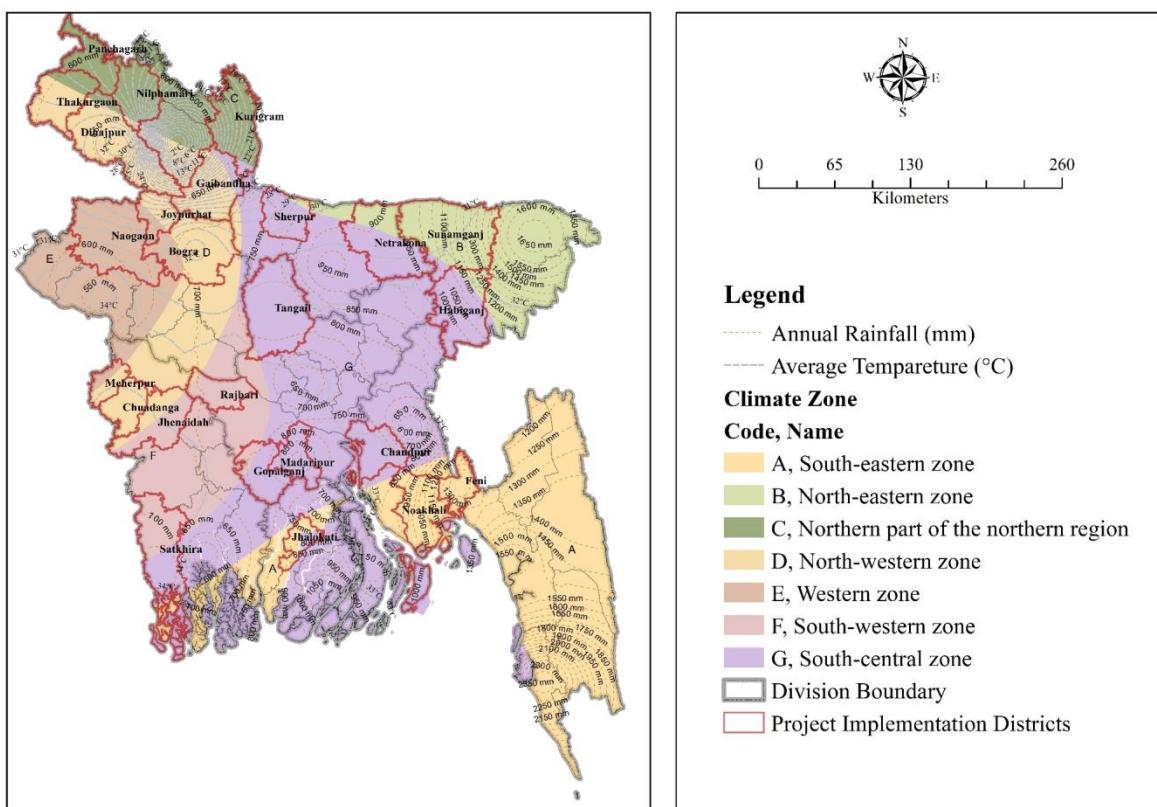
#### 4.2.4 Hydrology and Water Resources

The hydrology and water resources of these districts in Bangladesh are characterized by their dependence on the vast network of rivers, floods, and seasonal monsoon rains. From the map (Figure 4-6) it is seen that Jhalokathi, Chandpur, Feni, and Noakhali are situated in the Ganges-Brahmaputra Delta, with intricate river systems like the Padma, Meghna, and their tributaries influencing water flow and resource distribution. Gopalganj, Madaripur, Rajbari, and Tangail, positioned in the central part of the country, experience significant seasonal variations in water levels. Chuadanga, Jhenaidah, Meherpur, and Satkhira are situated in a region significantly influenced by their proximity to the Sundarbans and the Bay of Bengal. Netrokona and Sherpur, lying in the northeastern region, have a more varied landscape with numerous small rivers and beels (wetlands). Habiganj and Sunamganj in the northeast rely heavily on local river systems and wetlands. Overall, these districts face a complex interplay of river dynamics, seasonal flooding, and water resource management challenges.



**Figure 4-6:** Hydrology Map of Project Implementation Districts

## 4.2.5 Climate



**Figure 4-7:** Climatic Zone Map of Project Implementation Districts

Bangladesh has a tropical monsoon-type climate, with a hot and rainy summer and a dry winter. There are widespread differences in the intensity of the seasons at different places of the country. On the basis of entire climatic condition Bangladesh is divided into seven distinct climatic zones. Figure 4-7 represent the climate zones of Bangladesh. The South-eastern zone (A) includes Cox's Bazar and Chattogram, known for high rainfall. The North-eastern zone (B), with districts like Sylhet, Sunamganj, Habiganj also receive significant rainfall. The Northern zone (C), including Rangpur and Dinajpur, Thakurgaon, Nilphamari experience colder winters, while the North-western zone (D, E), such as Meherpur, Chuadanga experience moderate to high temperature and sometimes log season's highest temperature. The Western zone (E) has moderate rainfall and warm temperatures. The South-western zone (F), with Khulna, Satkhira, is hot and humid, while the South-central zone (G), including Barishal, Jhalokathi, sees high rainfall due to its proximity to the Bay of Bengal.

### 4.2.6 Noise

Noise is typically generated from operation of machines and equipment (e.g., excavator, bulldozer, compactor, waste collection truck etc.), and movement of vehicles. Noise is of particular importance if the sub-project components (e.g., waste collection, transportation, disposal process) are located close to sensitive installations such as educational institutions, health care facilities, religious establishments, and human settlements. Activities to be carried out during construction phase of the sub-projects would generate noise. Currently in the project

implemented municipalities baseline noise level data is not available in any secondary sources, but it is required to establish the baseline noise level data for these sub-projects. Baseline noise level should be measured and recorded, so that these could be compared with those generated during construction/operation phase of the sub-projects. The location and frequency of baseline noise level measurements would depend on physical extent of project, and presence of sensitive installations within sub-project influence area, as noted above. The consultant engaged for carrying out ESMP/ESIA should be responsible for measurement of baseline noise level at location(s) within the sub-project influence area. Both day-time and night-time noise levels should be measured, using a calibrated noise level meter. The measured noise level must be compared with national and international standards whether they comply or not. Noise quality standard both for Bangladesh and IFC is given below:

SL	Area Classification	Bangladesh Standard*		IFC Standard	
		Permissible Noise level L <sub>Aeq</sub> (dBA)			
		Day (6.0-21.0)	Night (21.0-6.0)	Day (7.0-22.0)	Night (22.0-7.0)
1	Silent	50	40	55	45
2	Residential	55	45	55	45
3	Mixed	60	50	-	-
4	Commercial	70	60	70	70
5	Industrial	75	70	70	70

\*Sound Pollution Control Rules-2006

#### 4.2.7 Air Quality

The air quality in many municipalities of Bangladesh is severely compromised, particularly in urban centers. Key factors affecting air quality include prominent levels of particulate matter (PM), especially PM<sub>2.5</sub> and PM<sub>10</sub>, which are harmful to human health. The main sources of pollution are brick kilns, vehicular emissions, construction activities, industrial processes, and open burning of waste. According to the "Air Pollution Survey Report of 64 Districts 2021" released by the Center for Atmospheric Pollution Studies (CAPS) of Stamford University<sup>8</sup>. The air quality findings within the Project areas have been furnished below:

SL	Municipality*	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
1	Madaripur	49.08
2	Rajbari	58.22
3	Meherpur	53.37
4	Joypurhat	58.24
5	Kurigram	63.33

\*Only 5 towns air quality data are available out of 25

The existing secondary data provided evidences that the air quality in the project area is compromised and the PM<sub>2.5</sub> of the 5 municipalities were higher than the WHO 24-hour guideline (15 µg/m<sup>3</sup>). This, combined with known pollution sources such as brick kilns,

<sup>8</sup> Centre for Atmospheric Pollution Studies (CAPS) at Stamford University on Thursday unveiled 'Air pollution study at 64 districts-2021

<https://en.prothomalo.com/environment/highest-air-pollution-found-in-gazipur-lowest-in-madaripur-study>

vehicular emissions, construction, industry, and waste burning suggests that the project areas are set within an air quality background that has already been significantly degraded.

Thus, any sub-projects having the possibility of air quality impacts, would require particularly stringent air quality mitigation measures in order to be implemented. The measures should ensure no deterioration of the existing air quality. In view of the high background pollution burden, project construction and operations need to be carefully planned and implemented so that they do not make the existing situation worse, and result in further health risks for the local communities.

For the subprojects which has substantial potential impacts on air quality the baseline data on air quality is required for this project. During the ESIA preparation or prior to commencing construction activities, baseline data for PM<sub>10</sub>, PM<sub>2.5</sub>, O<sub>3</sub>, CO, SO<sub>2</sub>, and NO<sub>x</sub> will be collected to establish the air quality baseline. Ambient Air quality standard both for Bangladesh and WHO is given below:

Parameters	Bangladesh Standard (ECR 2023)		WHO Standard (Global Air Quality Guideline 2021)	
	Avg. Time	Guideline Value ( $\mu\text{g}/\text{m}^3$ )	Avg. Time	Guideline Value ( $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	24 hrs	150	24 hrs	45
PM <sub>2.5</sub>	24 hrs	65	24 hrs	15
O <sub>3</sub>	8 hrs	100	8 hrs	100
CO	8 hrs	05	24 hrs	4
SO <sub>2</sub>	24 hrs	80	24 hrs	40
NO <sub>2</sub>	24 hrs	80	24 hrs	25

#### 4.2.8 Traffic

Traffic congestion is a significant issue in Bangladesh, particularly in urban areas like Dhaka, Chittagong, and Sylhet. The country's Rapid population growth, insufficient infrastructure, and poorly planned urbanization have all exacerbated the traffic situation. This problem not only causes inconvenience and delays for commuters but also negatively impacts the economy, environment, and public health.

A primary cause of traffic congestion in Bangladesh is the rapid increase in the number of vehicles on the road. With the growing population, vehicle numbers have surged, while infrastructure development and urban planning have lagged behind. This mismatch has led to a shortage of roads and transportation facilities. Additionally, the poor condition of existing roads and the absence of effective traffic management systems further aggravate the congestion.

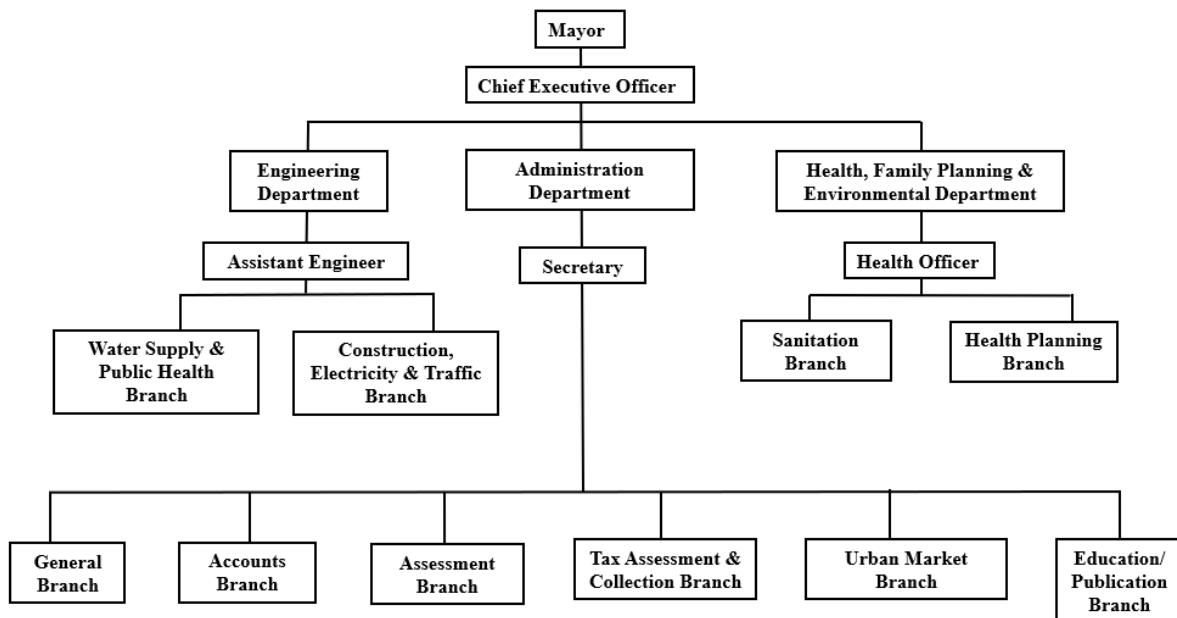
The consequences of traffic congestion are widespread. Commuters face delays and inconvenience, with long hours spent in traffic causing stress, frustration, and a loss of productivity. Moreover, congestion leads to increased fuel consumption and worsens air pollution. Vehicle emissions from prolonged traffic contribute significantly to Bangladesh's already severe air pollution, with harmful effects on human health.

## 4.3 Socio-Economic Conditions

### 4.3.1 Administration and Topography

#### Administration:

In a Municipality, elected Mayor is the head of the Pourashava Administration under the Ministry of Local Government, Rural Development and Co-Operatives (LGRD&C). All other line officers in a Pourashava directly work under the supervision of the Mayor as per below flowchart:



**Figure 4-8:** Administrative structure of Municipality

#### Topographic:

Bangladesh exhibits considerable topographic diversity. Bangladesh features three main landforms: (i) a broad alluvial plain prone to frequent flooding, (ii) a slightly elevated, relatively older plain, and (iii) a small hilly region with rapidly flowing rivers. To the south, the country has a highly irregular deltaic coastline stretching about 600 km, intersected by numerous estuarine rivers and channels that flow into the Bay of Bengal. The alluvial plain is part of the larger Bengal Plain, also known as the Lower Gangetic Plain. The elevation of these plains is generally less than 10 meters above sea level, decreasing further to near sea level in the coastal southern regions.

The hilly areas in the southeastern region of Chittagong, the northeastern hills of Sylhet, and the highlands in the north and northwest are characterized by low elevations. The Chittagong Hills are the most prominent hill system in the country, rising steeply to narrow ridgelines, with elevations ranging from 600 to 900 meters above mean sea level. Between these hilly ridges are valleys that typically run from north to south. West of the Chittagong Hills lies a narrow, wet coastal plain that runs parallel to the shoreline.

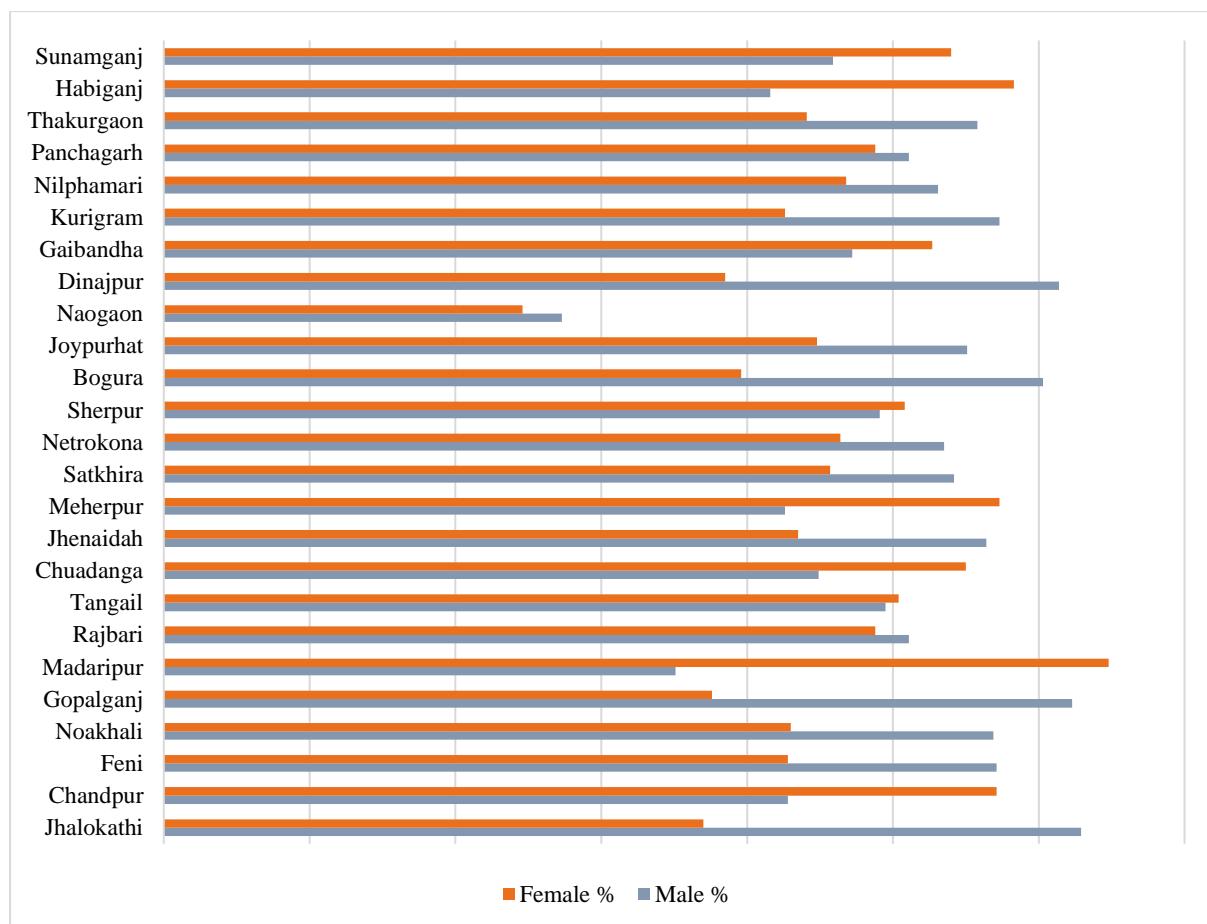
### 4.3.2 Demographic Profile

**Table 4-2:** Area, Population and Literacy Rate by Pourashava, 2022

District	Paurashava	Area (sq.km)	Total HH	Population			HH Size	Literacy Rate (7+ yrs.)
				Total	Male	Female		
Jhalokathi	Jhalokathi	16.13	16177	68188	34976	33212	3.98	89.82
Chandpur	Chandpur	22.91	48581	203436	100268	103168	4.06	83.97
Feni	Feni	22.00	55402	234350	118841	115509	4.15	86.78
Noakhali	Noakhali	16.67	28857	132185	67005	65180	4.35	90.12
Gopalganj	Gopalganj	14.25	25206	108508	55590	52918	4.08	88.62
Madaripur	Madaripur	14.22	22033	88743	43055	45688	3.91	87.41
Rajbari	Rajbari	11.65	16785	65410	32780	32630	3.72	82.73
Tangail	Tangail	33.80	52584	212858	106336	106522	3.82	86.24
Chuadanga	Chuadanga	37.37	7057	26069	12902	13167	3.66	81.16
Jhenaidah	Jhenaidah	14.33	35723	140256	71028	69228	3.73	85.67
Meherpur	Meherpur	15.90	12494	47133	23218	23915	3.71	85.15
Satkhira	Satkhira	32.39	36313	138397	69780	68617	3.68	86.41
Netrokona	Netrokona	29.39	28395	122279	61574	60705	4.09	84.55
Sherpur	Sherpur	23.40	30704	123513	61647	61866	3.89	79.21
Bogura	Bogura	68.63	126412	485944	248008	237936	3.66	87.88
Joypurhat	Joypurhat	18.55	21987	84910	42895	42015	3.60	86.04
Naogaon	Naogaon	37.08	46801	187635	89575	89060	3.64	83.18
Dinajpur	Dinajpur	20.67	51544	212275	108559	103716	3.80	88.79
Gaibandha	Gaibandha	11.29	20182	79237	39400	39837	3.74	87.66
Kurigram	Kurigram	27.04	20994	90740	46034	44706	4.07	80.19
Nilphamari	Nilphamari	19.28	17631	75483	37981	37502	4.13	81.15
Panchagarh	Panchagarh	20.72	13693	57002	28567	28435	4.02	85.80
Thakurgaon	Thakurgaon	30.03	24842	100459	50820	49639	3.80	88.42
Habiganj	Habiganj	8.97	18929	85628	42099	43529	4.41	87.11
Sunamganj	Sunamganj	17.31	16185	74570	36982	37588	4.59	81.33

(Source: BBS-2022)

The above table presents demographic and educational data for 25 Paurashavas (municipalities) across different districts in Bangladesh highlighting key demographic and educational disparities across 25 Paurashavas in Bangladesh. Bogura Paurashava stands out with the highest population of 485,944, covering the largest area of 68.63 sq. km., showcasing its significance as a densely inhabited and expansive urban center. Conversely, Habiganj Paurashava, while the smallest in area at 8.97 sq. km., supports a notable population of 85,628, indicating high population density. Sunamganj Paurashava has the highest average household size of 4.59, emphasizing larger family structures in the region. On the other hand, Jhalokathi Paurashava leads in literacy with an impressive rate of 89.82%, reflecting strong educational attainment.



**Figure 4-9:** The population distribution by gender across various municipalities

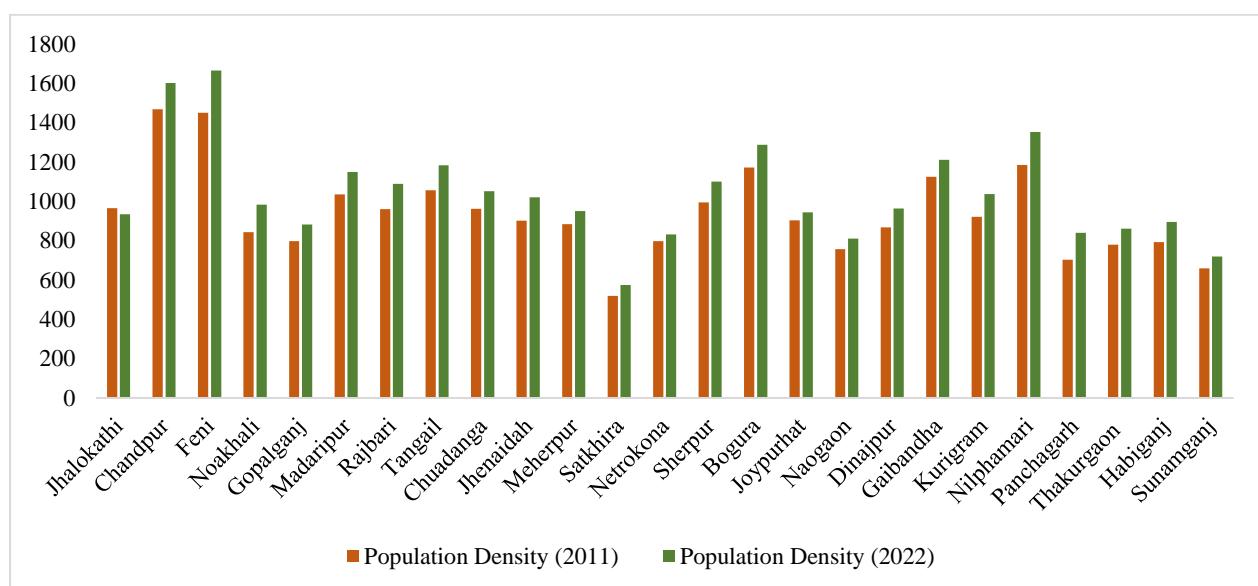
The population distribution by gender across various Paurashavas (municipalities) shows a balanced ratio of males to females, with slight variations. In most Paurashavas, the male population is marginally higher, typically ranging between 50% and 51%. Jhalokathi Paurashava has the highest male percentage at 51.48%, followed closely by Madaripur with 51.23%. On the other hand, Sunamganj Paurashava stands out with the highest female percentage at 49.59%, reflecting a relatively balanced gender ratio. Paurashavas like Noakhali and Feni demonstrate near-equal gender distributions, with male percentages around 50.30%. This pattern of minor differences in gender distribution is consistent across the regions, reflecting a near-equal gender balance in these areas.

**Table 4-3:** Population and Sex Ratio by District (BBS-2022)

District	Population Density (2011)	Population Density (2022)	Sex Ratio
Jhalokathi	966	935	91.90
Chandpur	1468	1602	87.41
Feni	1451	1665	89.86
Noakhali	843	984	91.39
Gopalganj	798	882	95.96
Madaripur	1036	1149	90.92
Rajbari	961	1089	95.79

District	Population Density (2011)	Population Density (2022)	Sex Ratio
Tangail	1056	1183	93.02
Chuadanga	962	1051	97.02
Jhenaidah	902	1021	98.60
Meherpur	884	951	93.12
Satkhira	520	574	99.14
Netrokona	798	832	96.15
Sherpur	995	1101	95.26
Bogura	1173	1288	98.50
Joypurhat	903	945	97.72
Naogaon	757	811	97.55
Dinajpur	868	963	100.47
Gaibandha	1125	1212	93.98
Kurigram	922	1037	96.83
Nilphamari	1186	1353	99.15
Panchagarh	703	840	99.68
Thakurgaon	780	861	100.47
Habiganj	792	895	94.16
Sunamganj	659	719	96.43

The Table 4-3 showcases the changes in population density from 2011 to 2022 and the sex ratio for various districts in Bangladesh. Notably, districts such as Feni and Chandpur experienced significant increases in population density, rising from 1451 to 1665 and 1468 to 1602 people per square kilometer, respectively, reflecting urban growth and migration patterns. Conversely, districts like Dinajpur and Thakurgaon, while showing modest increases in density, have high sex ratios of 100.47, indicating balanced male and female populations. In contrast, districts like Chandpur and Feni have lower sex ratios of 87.41 and 89.86, respectively, suggesting a predominance of males.



**Figure 4-10:** The population density of several districts between 2011 and 2022

The population density of several districts in Bangladesh shows both increases and decreases between 2011 and 2022. Districts like Feni and Chandpur experienced significant increases in population density, with Feni rising from 1,451 to 1,665 people per square kilometer and Chandpur from 1,468 to 1,602. This indicates rapid population growth or a reduction in land area. Conversely, Jhalokathi is the only district where population density decreased, from 966 to 935, suggesting either a population decline or an increase in land area. Most other districts show moderate increases in population density, reflecting general population growth trends across the country. The varying rates of increase highlight differences in population growth and migration patterns among the districts.

### 4.3.3 Employment and Livelihood Conditions

**Table 4-4:** Employment rate by division

Division	Employment Rate (%)	Unemployment Rate (%)
Dhaka	58.9	41.1
Chittagong	58.2	41.8
Rajshahi	59.1	40.9
Khulna	60.7	39.3
Barishal	59.0	41.0
Sylhet	57.3	42.7
Rangpur	56.3	43.7

Khulna has the highest employment rate at 60.7% and the lowest unemployment rate at 39.3%, indicating it has the most favorable employment conditions among the divisions. Khulna leads with the highest employment rate (60.7%) and lowest unemployment rate (39.3%), while Rangpur has the lowest employment rate (56.3%) and Sylhet the highest unemployment rate (42.7%).

The livelihood conditions across various Municipalities in districts such as Jhalokathi, Chandpur, Feni, Noakhali, and others are shaped by a mix of agricultural, industrial, and service-oriented activities. In more rural areas like Netrokona, Kurigram, and Naogaon, livelihoods predominantly depend on agriculture, with farming and fishing being primary sources of income. In contrast, more urbanized Municipalities like Bogura and Tangail have a more diverse economy, including trade, small industries, and services. Regions like Satkhira and Noakhali also benefit from aquaculture due to their proximity to water bodies. Overall, these Municipalities reflect a blend of traditional agricultural practices and emerging economic activities that are influenced by their geographic location, resource availability, and infrastructure development.

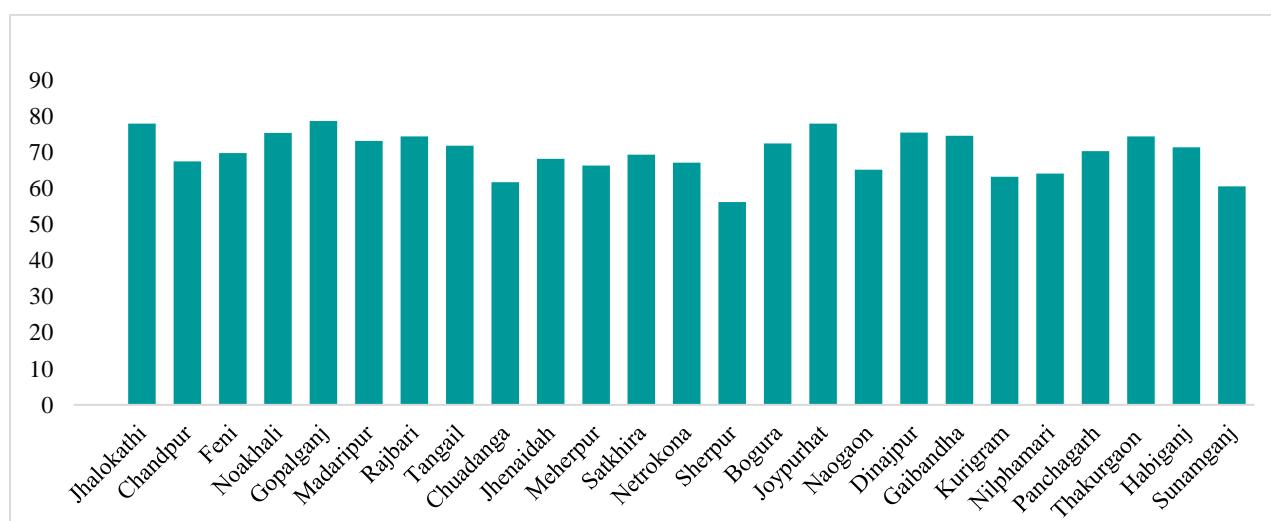
### 4.3.4 Literacy Rate

**Table 4-5:** Literacy Rate by District and by Sex (BBS-2022)

District	Total	Male (%)	Female (%)
Jhalokathi	83.08	84.01	82.25
Chandpur	78.05	78.26	77.86
Feni	80.59	82.37	79.02

District	Total	Male (%)	Female (%)
Noakhali	75.36	75.48	75.26
Gopalganj	81.25	83.46	78.86
Madaripur	74.84	76.77	73.13
Rajbari	69.37	70.66	68.16
Tangail	69.62	72.50	66.97
Chuadanga	71.12	71.96	70.31
Jhenaidah	72.70	74.82	70.63
Meherpur	68.04	68.79	67.34
Satkhira	75.23	78.57	72.94
Netrokona	66.13	67.27	65.04
Sherpur	63.57	65.63	61.63
Bogura	72.44	75.39	69.56
Joypurhat	73.63	76.81	70.54
Naogaon	72.14	74.66	69.70
Dinajpur	76.04	78.92	73.16
Gaibandha	66.87	70.15	63.83
Kurigram	64.99	68.19	61.93
Nilphamari	69.13	72.08	66.23
Panchagarh	73.59	76.59	70.62
Thakurgaon	74.30	78.27	70.34
Habiganj	69.32	70.50	68.22
Sunamganj	64.77	66.00	63.61

The Table 4-5 presents literacy rates for both males and females across various districts in Bangladesh. Jhalokathi has the highest overall literacy rate at 83.08%, with males at 84.01% and females at 82.25%, indicating a balanced literacy level between genders. In contrast, Sherpur has the lowest overall literacy rate at 63.57%, with a notable gap between males (65.63%) and females (61.63%).



**Figure 4-11: Literacy Rate by Municipality (BBS-2011)**

Literacy rates across various Municipalities in Bangladesh is depicted from the chart and growth. Gopalganj (78.6%), Jhalokathi (77.9%), and Joypurhat (77.9%) have the highest literacy rates, indicating better educational outcomes. In contrast, Sherpur (56.2%) and Sunamganj (60.5%) have the lowest, highlighting educational challenges. Middle-ranking Municipalities include Dinajpur (75.4%), Noakhali (75.3%), and Bogura (72.4%). The disparities reflect differences in educational resources and socioeconomic conditions.

#### 4.3.5 Housing and Other Infrastructure

**Table 4-6:** Household by Structure of Main Dwelling by District, 2022

District	Type of Structure				
	Total HH	Pucca/ Permanent HH	Semi-Pucca/ Semi-permanent HH	Kancha/ Temporary HH	Jhupri/ Makeshift HH
Jhalokathi	160925	28971	16715	113331	1908
Chandpur	630386	146430	53333	428493	2130
Feni	370079	133845	59868	172169	4197
Noakhali	766850	145778	69847	543638	758
Gopalganj	304318	42482	42644	218397	795
Madaripur	310427	50762	35637	223230	798
Rajbari	292934	27945	46941	216952	1096
Tangail	1053707	86947	90099	875393	1268
Chuadanga	325441	116084	43056	165327	974
Jhenaidah	516157	135667	78854	299512	2124
Meherpur	194749	78975	30071	85041	662
Satkhira	564173	140954	109889	305392	7938
Netrokona	544542	21833	73472	444295	4942
Sherpur	394200	11286	48993	332790	1131
Bogura	1018752	134960	201039	682040	713
Joypurhat	268398	32684	55301	180118	295
Naogaon	761693	93274	129532	538013	874
Dinajpur	831763	66480	217753	545205	2325
Gaibandha	697320	29811	132642	533343	1524
Kurigram	603579	12604	79764	509505	1706
Nilphamari	503373	20005	107514	373740	2114
Panchagarh	280273	8299	63342	206805	1827
Thakurgaon	380021	19483	110939	247608	1991
Habiganj	487395	44569	118541	322887	1398
Sunamganj	525449	54934	76521	388642	5352

The Table 4-6 shows household distribution by dwelling structure type across various districts. The structure types include Pucca (permanent), Semi-Pucca (semi-permanent), Kancha (temporary), and Jhupri (makeshift). Most districts have the majority of households in Kancha structures, indicating a predominance of temporary housing. For instance, districts like Jhalokathi (113,331 out of 160,925) and Noakhali (543,638 out of 766,850) have most of their households in Kancha structures. Pucca (permanent) dwellings are less common, with districts

such as Feni (133,845) and Tangail (86,947) having relatively more permanent homes compared to others. Semi-Pucca structures are moderately present in some areas, while Jhupri (makeshift) structures have the smallest numbers, highlighting varied housing conditions across districts.

**Table 4-7:** Information on Additional Infrastructure (Roads, Drains) in Municipalities

Municipality	Total Road Km	Total Drain Km
Jhalokathi	67.166	25.37
Chandpur	78.77	25.56
Feni	236.55	217.75
Noakhali	193	63.62
Gopalganj	153.75	40.89
Madaripur	86.04	28.95
Rajbari	181	177
Tangail	363.7	74.74
Chuadanga	263	53.905
Jhenaidah	248	102
Meherpur	108.15	38.22
Satkhira	295.41	185
Netrokona	118.79	31.60
Sherpur	111.10	59.37
Bogura	651	710
Joypurhat	196.96	92.85
Naogaon	293.76	55.16
Dinajpur	181	177
Gaibandha	95	45.5
Kurigram	163.89	41.13
Nilphamari	141.5	54.044
Panchagarh	121	63
Thakurgaon	126.7	78.09
Habiganj	145	80
Sunamganj	63	27

The infrastructure data for various Municipalities reveals a range of road and drainage developments across different regions. Feni stands out with the highest total road length of 236.55 km and an extensive drainage network of 217.75 km. In contrast, regions like Jhalokathi and Chandpur have relatively shorter road and drain lengths. Bogura has the most extensive drainage system at 710 km, despite its road network being lower compared to some other Municipalities. In general, there is significant variation in infrastructure across the Municipalities, reflecting differences in regional development and investment.

#### 4.3.6 Housing status with Water supply and Toilet facilities

Table 4-8 highlights the primary drinking water sources for households across various districts of Bangladesh in 2022. Tube-wells dominate as the main source, with usage exceeding 90% in most districts, including Gaibandha, Nilphamari, and Thakurgaon, which report over 99% reliance. Tap water usage is highest in Feni (10.49%) and Chandpur (8.05%), while bottled water is notably significant only in Satkhira (14.78%), which also relies on pond or rainwater

sources. Other alternatives like water wells and springs are rarely used. Overall, tube-wells remain the most common source across all regions, with minor variations based on local infrastructure and geography.

**Table 4-8:** Household Drinking Water Source by District, 2022

District	Source of Drinking Water %						
	Tap/Pipe (Supply)	Tube-well (Deep/Shallow)	Bottled/Jar	Water Well	Pond/River/Canal/Lake	Rainwater	Others
Jhalokathi	1.65	94.86	0.1	0.04	3.34	0	0
Chandpur	8.05	90.74	0.16	0.04	0.99	0	0.03
Feni	10.49	88.27	0.23	0.2	0.65	0	0.15
Noakhali	4.56	93.58	0.32	0.21	1.16	0	0.17
Gopalganj	5.29	90.17	4.17	0	0.37	0	0
Madaripur	1	98.9	0.09	0	0.02	0	0
Rajbari	1.71	97.98	0.14	0.02	0.06	0	0.08
Tangail	2.38	97.53	0.02	0.03	0.01	0	0.03
Chuadanga	2.64	97.15	0.16	0	0.01	0	0.04
Jhenaidah	2.34	97.55	0.1	0	0	0	0
Meherpur	2.78	96.8	0.37	0.03	0	0	0.01
Satkhira	2.33	71.19	14.78	0.01	7.66	4.01	0.03
Netrokona	1.12	98.3	0.08	0.22	0.25	0	0.03
Sherpur	1.14	98	0	0.85	0.01	0	0
Bogura	1.39	98.57	0.02	0	0.01	0	0.01
Jaypurhat	3.08	96.9	0.01	0	0.01	0	0
Naogaon	7.58	91.98	0.03	0.38	0.01	0	0.02
Dinajpur	1.36	98.59	0.02	0.01	0.01	0	0.01
Gaibandha	0.63	99.31	0.01	0	0.03	0	0.01
Kurigram	0.82	99.02	0.09	0.01	0.03	0	0.03
Nilphamari	0.31	99.64	0.01	0.02	0	0	0.02
Panchagarh	0.8	99.11	0.01	0.08	0	0	0
Thakurgaon	0.88	99.05	0.01	0.05	0	0	0.01
Habiganj	1.55	97.65	0.04	0.31	0.44	0	0.02
Sunamganj	0.68	96.87	0.21	0.86	1.36	0	0.03

Source: BBS, 2022

**Table 4-9:** Household Toilet Facilities by District, 2022

District	Safe Disposal with Flushing /Pouring Water	Unsafe Disposal with Flushing/ Pouring Water	Pit Latrine with Slab/ Ventilated Improved Latrine/ Composting Latrine	Pit Latrine without Slab/ Open Pit	Kancha/ Open/ Hanging Latrine (Permanent/Temporary)	Open Defecation/No Latrine Available
National	55.69	12.9	21.97	4.13	4.07	1.23
Jhalokathi	42.15	12.2	39.32	4.58	1.58	0.18
Chandpur	65.13	11	21.38	1.8	0.5	0.18
Feni	64.32	12.83	18.01	3.05	1.41	0.37
Noakhali	54.7	11.84	27.35	3.43	1.91	0.77
Gopalganj	48.33	9.67	39.41	1.97	0.56	0.06
Madaripur	42.67	7.05	46.1	3.25	0.82	0.1
Rajbari	49.6	12.23	28.62	5.41	3.63	0.5
Tangail	53.65	9.17	31.31	2.91	2.37	0.6
Chuadanga	55.78	11.17	20.14	5.01	7.28	0.62
Jhenaidah	53.28	9.29	30.5	3.4	3.26	0.27
Meherpur	52.65	11.69	22.03	5.62	7.57	0.43
Satkhira	48.83	15.92	24.48	4.3	6.06	0.42
Netrokona	28.36	21.65	24.56	12.4	10.05	2.98
Sherpur	32.48	14.3	36.99	9.24	5.83	1.16
Bogura	58.48	10.5	22.97	3.43	3.32	1.29
Joypurhat	55.88	9.27	19.15	3.28	7.62	4.8
Naogaon	57.96	9.71	18.07	3.31	6	4.96
Dinajpur	54.28	10.05	17.46	2.67	9.08	6.45
Gaibandha	47.02	11.84	24.23	4.76	8.44	3.72
Kurigram	33.41	12.45	38.21	6.32	8.59	1.02
Nilphamari	43.08	14.83	25.01	3.67	5.67	7.74
Panchagarh	27.82	9.36	48.74	4.82	6.51	2.76
Thakurgaon	36.55	10.99	26.2	3.37	16.74	6.16
Habiganj	43.37	21.81	17.43	9.13	6.18	2.07
Sunamganj	28.22	19.80	19.06	12.65	16.70	3.57

Source: BBS, 2022

Nationally, safe disposal with flushing/pouring water is the most common type of sanitation facility, used by 55.69% of households, followed by pit latrines with slabs or ventilated improved latrines (21.97%). A small percentage (1.23%) still practices open defecation or lacks latrines. District-level variations are significant. Chandpur and Feni have high rates of safe disposal facilities (65.13% and 64.32%, respectively), while Netrokona records the lowest (28.36%), with a substantial percentage (21.65%) relying on unsafe disposal systems. Pit

latrines with slabs are more prevalent in districts like Panchagarh (48.74%) and Madaripur (46.1%), while open defecation is highest in Dinajpur (6.45%) and Thakurgaon (6.16%). Districts such as Kurigram, Meherpur, and Gaibandha also show a higher reliance on substandard facilities like kancha, open, or hanging latrines, with usage exceeding 7%. The data highlights varying access to improved sanitation across regions, reflecting disparities in infrastructure and hygiene awareness.

**Table 4-10: Type of Toilet Use by District, 2022**

Division and District	Types of Toilet Use						
	Total %			Rural %		Urban %	
	Total	Not Shared	Shared	Not Shared	Shared	Not Shared	Shared
Jhalokathi	100	90.65	9.35	90.69	9.31	90.55	9.45
Chandpur	100	84.5	15.5	85	15	83.08	16.92
Feni	100	78.15	21.85	76.92	23.08	81.14	18.86
Noakhali	100	84.03	15.97	83.81	16.19	85.07	14.93
Gopalganj	100	87.28	12.72	86.9	13.1	88.87	11.13
Madaripur	100	86.48	13.52	86.64	13.36	86.02	13.98
Rajbari	100	75.8	24.2	75.69	24.31	76.39	23.61
Tangail	100	72.37	27.63	71.09	28.91	76.93	23.07
Chuadanga	100	73.63	26.37	72.27	27.73	77.95	22.05
Jhenaidah	100	73.58	26.42	72.07	27.93	79.32	20.68
Meherpur	100	75.33	24.67	74.02	25.98	80.01	19.99
Satkhira	100	78.74	21.26	78.35	21.65	80.33	19.67
Netrokona	100	73.06	26.94	71.82	28.18	79.81	20.19
Sherpur	100	65.53	34.47	63.72	36.28	71.35	28.65
Bogura	100	69.28	30.72	67.8	32.2	73.74	26.26
Joypurhat	100	68.25	31.75	66.29	33.71	74.80	25.20
Naogaon	100	69.94	30.06	68.25	31.75	79.67	20.33
Dinajpur	100	72.35	27.65	70.88	29.12	78.41	21.59
Gaibandha	100	67.2	32.8	65.57	34.43	76.22	23.78
Kurigram	100	65.9	34.1	64.72	35.28	70.23	29.77
Nilphamari	100	70.1	29.9	68.96	31.04	73.38	26.62
Panchagarh	100	73.74	26.26	72.69	27.31	79.13	20.87
Thakurgaon	100	74.52	25.48	73.77	26.23	77.68	22.32
Habiganj	100	77.77	22.23	77.37	22.63	79.95	20.05
Sunamganj	100	75.47	24.53	74.59	25.41	80.22	19.78

Source: BBS, 2022

The table provides a breakdown of sanitation practices in 25 districts, revealing notable urban-rural differences and district-level disparities. Urban areas tend to have better access to not-shared toilets, as evidenced by districts like Sunamganj (80.22%) and Meherpur (80.01%),

whereas shared toilet use is more frequent in rural areas, particularly in Kurigram (35.28%) and Sherpur (36.28%). With Jhalokathi leading in not-shared toilet usage (90.65%) and Sherpur lagging (65.53%).

**Table 4-11: Household Handwashing Facilities by District, 2022**

District	Soap & Water	Only Soap	Only Water	No Separate Arrangement
Jhalokathi	70.85	1.2	18.74	9.22
Chandpur	72.57	1.27	20.31	5.85
Feni	75.73	1.59	15.23	7.45
Noakhali	62.85	1.84	26.12	9.19
Gopalganj	71.04	2.93	16.35	9.68
Madaripur	68.54	1.37	19.87	10.21
Rajbari	67.09	2.55	17.85	12.52
Tangail	74.23	2.02	14.3	9.45
Chuadanga	69.83	3.97	13.42	12.77
Jhenaidah	71.36	2.11	15.42	11.11
Meherpur	75.75	4.66	10.51	9.09
Satkhira	66.12	2.27	17.21	14.4
Netrokona	37.88	2.22	33.76	26.15
Sherpur	54.33	0.33	27.7	17.64
Bogura	74.84	1.86	12.91	10.4
Joypurhat	65.92	2.43	10.91	20.74
Naogaon	70.62	2.59	12.77	14.02
Dinajpur	75.81	1.47	10.6	12.13
Gaibandha	60.87	3.38	18.7	17.05
Kurigram	72.38	2.41	16.5	8.71
Nilphamari	68.59	1.96	15.51	13.94
Panchagarh	62.11	1.58	17.15	19.16
Thakurgaon	68.01	1.9	15.2	14.89
Habiganj	50.76	1.88	32.65	14.71
Sunamganj	37.93	1.4	37.71	22.96

Source: BBS, 2022

### 4.3.7 Vulnerability Profile of the People Living Below the Poverty Line

**Definition:** Vulnerable Populations generally refer to individuals or groups who face heightened risks of marginalization, discrimination, or hardship due to systemic, socioeconomic, or circumstantial factors. This includes:

- 1) Individuals living at or below the poverty line, who lack access to basic resources for survival and well-being.

- 2) Women who are single, heads of households, or caregivers with dependents, particularly those with limited income or financial stability.
- 3) Elderly individuals or people with disabilities who lack adequate financial, medical, or social support.
- 4) Those experiencing displacement or loss of livelihood, such as individuals losing their primary source of income (e.g., agricultural land, housing, or employment).
- 5) Indigenous peoples or ethnic minorities facing systemic exclusion, cultural erosion, or unequal access to rights and opportunities.
- 6) Marginalized social groups or castes subjected to entrenched discrimination or restricted social mobility.

**Table 4-12:** Incidence of poverty (head count rate) by Divisions

Sl.	Division	Districts under BCISP	*Poverty %	Criteria
1	Barishal,	1. Jhalokathi	11.8%	<b>*Lower Poverty Line:</b> HIES-2022 uses the lower poverty line, in 2022, the per capita income of the poor was Tk.3032.0 at the national level.
2	Chattogram,	2. Chandpur 3. Feni 4. Noakhali	5.1%	
3	Dhaka	5. Madaripur 6. Rajbari 7. Tangail 8. Gopalganj	2.8%	
4	Khulna	9. Chuadanga 10. Jhenaidah 11. Meherpur 12. Satkhira	2.9%	
5	Mymensingh	13. Netrokona 14. Sherpur	10.0%	
6	Rajshahi,	15. Bogura 16. Joypurhat 17. Naogaon	6.7%	
7	Rangpur	18. Dinajpur 19. Gaibandha 20. Kurigram 21. Nilphamari 22. Panchagarh 23. Thakurgaon	10.0%	
8	Sylhet	24. Habiganj 25. Sunamganj	4.6%	

\*Source: HIES-2022

### 4.3.8 Indigenous Minorities

According to the BBS Census 2022, Joypurhat has the highest percentage of Indigenous minorities at 1.60%, while Jhalokathi and Meherpur have the lowest at 0.01%. Naogaon has the largest total Indigenous minority population (107,292), while Kurigram and Nilphamari have the smallest (275 and 127, respectively). Netrokona and Tangail also have significant Indigenous minority populations, with rates of 1.31% and 1.44%. The data on indigenous minorities presents here primarily reflects the overall scenario of the district rather than being

specific to the municipality, as municipality-specific data is unavailable. During the initial site visit and discussions with the municipal authority, it was confirmed that no indigenous minorities reside within the project's area of influence (AOI). Furthermore, no indigenous minorities will be affected by the project's activities. Therefore, ESS-3 will not be triggered for this project.

**Table 4-13:** Indigenous Minority Population by District and by Sex (BBS-2022)

District	Total	Male	Female	Percentage (%)
Jhalokathi	203	98	105	0.01
Chandpur	2,863	1,422	1,441	0.17
Feni	906	583	323	0.05
Noakhali	1,003	533	470	0.06
Gopalganj	2,470	1,336	1,134	0.15
Madaripur	508	243	265	0.03
Rajbari	3,324	1,681	1,643	0.20
Tangail	23,708	11,955	11,753	1.44
Chuadanga	707	355	352	0.04
Jhenaidah	5,624	2,737	2,887	0.34
Meherpur	161	42	119	0.01
Satkhira	3,865	1,983	1,882	0.23
Netrokona	21,604	10,539	11,065	1.31
Sherpur	11,081	5,484	5,597	0.67
Bogura	5,993	2,979	3,014	0.36
Joypurhat	26,324	13,136	13,188	1.60
Naogaon	107,292	53,248	54,044	6.50
Dinajpur	52,939	25,946	26,993	3.21
Gaibandha	4,149	2,043	2,106	0.25
Kurigram	275	136	139	0.02
Nilphamari	127	61	66	0.01
Panchagarh	2,011	1,051	960	0.12
Thakurgaon	15,511	8,080	7,431	0.94
Habiganj	41,563	20,736	20,827	2.52
Sunamganj	5,285	2,666	2,619	0.32

### 4.3.9 Historical, Cultural and Archeological Sites

Historical, cultural, and archaeological sites are crucial components of a nation's heritage, offering insights into the past and preserving the cultural identity of its people. They often hold significant cultural value, representing the traditions, beliefs, and practices of a community. By studying and preserving these sites, we not only honor the legacy of our ancestors but also provide educational opportunities for future generations to learn about their heritage.

#### Jhalokathi

Jhalokathi, a district in southern Bangladesh, is rich in historical, cultural, and archaeological heritage, with several key sites that highlight its past. The ancient Suktagarh Fort stands out for its historical significance, representing the district's role in regional defense and governance in

earlier times. The Gabkhan Bridge, renowned for its scenic beauty, is not only a vital infrastructure but also holds cultural importance, offering a picturesque view that attracts both locals and tourists. Additionally, the Khan Jahan Ali Mosque is a historic site that reflects the district's deep Islamic heritage, showcasing traditional architecture and serving as a symbol of the region's religious and cultural identity.

### **Chandpur**

Chandpur district, known for its blend of historical and cultural landmarks, features several noteworthy sites that highlight its rich heritage. The Chandpur Town Hall is a historical building that exemplifies colonial architecture, standing as a reminder of the district's past under British rule. The Chandpur DC Lake, famous for its natural beauty, is a popular spot for recreational activities, offering a serene environment for locals and visitors alike. Additionally, the Kachpur Mosque, an old mosque in the district, showcases traditional Islamic architectural styles, reflecting the deep-rooted Islamic heritage of the region.

### **Feni**

Feni district, rich in historical and cultural landmarks, features several sites of significant heritage. The Bijoy Singha Dighi, a large ancient tank, holds historical importance as a testament to the region's past. The Muhuri Project, crucial for its agricultural and irrigation contributions, reflects the district's role in supporting local agriculture. Additionally, the Feni Shahi Mosque, an ancient structure, is renowned for its historical significance, representing the deep Islamic heritage of the area through its enduring architecture and cultural relevance.

### **Noakhali**

Noakhali district is home to a rich tapestry of historical, cultural, and archaeological sites that reflect its diverse heritage. The Noakhali Kali Bari is a renowned Hindu temple, significant for its cultural importance and as a center of religious activity for the local Hindu community. The district also features the ruins of Somapura Mahavihara, an ancient Buddhist monastery that underscores the region's historical ties to Buddhism and its role in the religious history of Bengal. Additionally, the Sona Mosque, an old mosque in Noakhali, is valued for its architectural beauty and historical significance, embodying the Islamic heritage and architectural prowess of the area.

### **Gopalganj**

Gopalganj district is rich in historical and cultural heritage, with several key sites that reflect its significance in the region's history. The Orakandi Temple is a crucial religious site for the Hindu Matua community, serving as a center of spiritual and cultural activities. Additionally, the Gopalganj Rajbari, a historic palace, played an important role in the country's independence movement, symbolizing the district's contribution to Bangladesh's struggle for freedom and its historical legacy.

### **Madaripur**

Madaripur district boasts a rich collection of historical, cultural, and architectural landmarks that showcase its diverse heritage. The Khan Mohammad Mridha Mosque stands as a fine example of Mughal architecture, reflecting the district's Islamic history and architectural

grandeur. The Madaripur Jora Deul, a pair of historical twin temples, highlights the region's religious diversity and its ancient cultural practices. Additionally, the Madaripur Palace, a significant structure from the pre-colonial era, offers a glimpse into the district's past, symbolizing its historical importance and architectural legacy.

### **Rajbari**

Rajbari district is rich in historical and cultural heritage, with several significant sites that highlight its past. The Baliakandi Zamindar Bari, a historic mansion, represents the legacy of the local landlords and offers insight into the region's feudal history. The Padma Resort, located by the river Padma, is not only a site of natural beauty but also a cultural hub that draws visitors to experience the district's serene riverine environment. Additionally, the Rajbari Zamindar House, an old mansion, reflects both the colonial and pre-colonial history of the region, showcasing architectural styles and historical significance that mark the district's storied past.

### **Tangail**

Tangail district is home to several notable historical, cultural, and archaeological sites that reflect its rich and diverse heritage. The Dhanbari Nawab Palace, a historic palace that has been transformed into a hotel, offers visitors a chance to experience the grandeur of the region's aristocratic past. The Atiya Mosque, an ancient mosque built in 1609, stands as a testament to the district's long-standing Islamic heritage, featuring remarkable architecture from the Mughal period. Additionally, the Buddhist Monastery at Tangail, an ancient site with stupas and ruins, highlights the district's historical significance as a center of Buddhist learning and culture, adding to the region's spiritual and archaeological wealth.

### **Chuadanga**

Chuadanga district is notable for its historical, cultural, and commemorative sites that capture its rich heritage. The Alamdanga British Memorial stands as a tribute to soldiers from the British era, honoring their contributions and sacrifices. The Chandrabati Mandir is a significant Hindu temple that serves as a vital religious site for local devotees, reflecting the district's spiritual traditions. Additionally, the Liberation War Memorial commemorates the pivotal events of the 1971 Liberation War, preserving the memory of the struggle for independence and serving as an important site of national pride and remembrance.

### **Jhenaidah**

Jhenaidah district is rich in historical, cultural, and archaeological sites that reflect its diverse heritage. The Naldanga Temple Complex, a series of ancient temples, offers a glimpse into the district's historical religious practices and architectural styles. The Garai River, renowned for its cultural and historical context, has played a significant role in the region's development and local traditions. Additionally, the Jhenaidah Mosque, a historic mosque, holds cultural significance, representing the Islamic architectural and spiritual heritage of the area. These sites collectively highlight Jhenaidah's rich historical and cultural legacy.

### **Meherpur**

Meherpur district is distinguished by its historical and cultural landmarks that reflect its rich heritage. Amjhupi is notable for its colonial-era buildings, offering a glimpse into the

architectural styles and historical context of the British period. Additionally, the Meherpur Shaheed Minar stands as a significant monument commemorating the martyrs of the 1971 Liberation War, honoring their sacrifice and preserving the memory of the district's pivotal role in the struggle for independence. These sites collectively underscore Meherpur's importance in both colonial and post-colonial history.

### **Satkhira**

Satkhira district is renowned for its historical, cultural, and archaeological sites that highlight its diverse heritage. The Sundarbans, part of the world's largest mangrove forest, is not only a natural wonder but also holds historical and ecological significance. The Kalaroa Shahi Mosque, a historical mosque from the Mughal period, reflects the architectural and cultural richness of the era. Additionally, the Shyamnagar Ruins provide a glimpse into ancient civilizations with their remnants of past architectural and cultural practices. These sites collectively underscore Satkhira's importance in both historical and natural contexts.

### **Netrokona**

Netrokona district is celebrated for its rich historical, cultural, and archaeological heritage. Birishiri is renowned for its scenic beauty and vibrant cultural heritage, making it a significant site for both natural and cultural tourism. Susang Durgapur stands out for its ethnic communities and archaeological remains, providing valuable insights into the region's diverse cultural and historical background. Additionally, the Netrokona Temple is a historic site with notable architectural and cultural importance, reflecting the district's spiritual traditions and historical depth. These landmarks together highlight Netrokona's multifaceted heritage.

### **Sherpur**

Sherpur district is distinguished by its rich natural beauty and cultural diversity. The Garo Hills, renowned for their scenic landscapes, offer a blend of lush greenery and vibrant cultural traditions, reflecting the district's unique heritage. Madhutila Eco Park is celebrated for its biodiversity, serving as a haven for various flora and fauna and highlighting the region's commitment to preserving its natural environment. Together, these sites underscore Sherpur's significance in both environmental and cultural contexts.

### **Bogura**

Bogura district is home to significant historical and cultural landmarks that reflect its rich heritage. Mahasthangarh, an ancient city dating back to at least the third century BCE, offers a profound glimpse into the region's early history and civilization with its extensive ruins and archaeological remains. Additionally, the Behula Lakshindar Basor Ghar is a mythical site linked to the famous Behula-Lakhindar legend, adding a layer of cultural and folklore significance to the district. These sites collectively highlight Bogura's importance in both historical and cultural contexts.

### **Joypurhat**

Joypurhat district boasts notable historical and cultural sites that underscore its rich heritage. The Paharpur Buddhist Vihara, a UNESCO World Heritage site, is a significant archaeological landmark dating back to the 8th century, representing a major center of Buddhist learning and

culture in ancient Bengal. Additionally, the Joypurhat Sugar Mills stands as one of the oldest sugar mills in the region, highlighting its historical importance in the local economy and industrial development. Together, these sites reflect Joypurhat's profound historical and cultural legacy.

### **Naogaon**

Naogaon district is renowned for its rich historical, cultural, and archaeological sites. Patisar holds a special place in literary history as it is associated with Nobel Laureate poet Rabindranath Tagore, who drew inspiration from the area. The Kusumba Mosque, with its exquisite stone carvings, stands as a significant historical monument reflecting the architectural brilliance of the past. Additionally, the Nalanda University Ruins, though not in Naogaon itself, are linked to the region's historical context, reflecting the ancient Nalanda University's influence on local scholarship and culture. These sites collectively highlight Naogaon's cultural and historical importance.

### **Dinajpur**

Dinajpur district is rich in historical and cultural heritage, featuring several notable landmarks. The Kantajew Temple is renowned for its intricate terracotta artwork, showcasing exquisite craftsmanship and artistic detail from the medieval period. Additionally, the Dinajpur Rajbari, a historical palace of local kings, offers a glimpse into the region's regal past and architectural heritage. These sites together highlight Dinajpur's significant contributions to historical and cultural traditions.

### **Gaibandha**

Gaibandha district features significant historical and cultural sites that reflect its rich heritage. Bhulagari is an archaeological site with ancient ruins that provide valuable insights into the region's past civilizations and historical development. Additionally, the Gaibandha Rath Mela, a vibrant cultural fair, holds historical significance as a traditional event that celebrates local customs and community spirit. These sites together underscore Gaibandha's importance in both historical research and cultural traditions.

### **Kurigram**

Kurigram district is notable for its historical, cultural, and architectural heritage. Nageshwari is renowned for its vibrant cultural festivals, which play a key role in preserving and showcasing local traditions. Chilmari, a historic river port, holds significance due to its role in regional trade and transportation throughout history. Additionally, the Kamarjuri Mosque, an important historic site, reflects the district's rich Islamic heritage and architectural style. Together, these sites highlight Kurigram's diverse historical and cultural landscape.

### **Nilphamari**

Nilphamari district is home to notable historical and cultural sites that reflect its rich heritage. The Nilsagar, an ancient tank, holds significant historical value as a testament to the region's past engineering and water management practices. Additionally, the Tomb of Hazrat Pir Mohiuddin is an important religious site, serving as a center of spiritual significance and

reverence for the local community. These landmarks together highlight Nilphamari's historical depth and cultural importance.

### **Panchagarh**

Panchagarh district features notable historical and cultural sites that showcase its rich heritage. Maharaja Dighi, a large ancient tank, stands as a significant historical landmark reflecting the region's past engineering and water management. Additionally, the Tetulia Dak Bungalow, a colonial-era rest house, holds historical importance as a symbol of the district's past under British rule. Together, these sites highlight Panchagarh's historical depth and cultural significance.

### **Thakurgaon**

Thakurgaon district is rich in historical and cultural sites that highlight its heritage. The Jomidar Bari, a grand mansion of local landlords, offers insight into the region's feudal past and architectural style. Ramsagar National Park is renowned for the Ramsagar tank and its picturesque surroundings, providing both ecological value and historical context. Additionally, the Thakurgaon Rajbari, a historic mansion, holds cultural significance as a symbol of the district's regal and architectural history. These sites collectively underscore Thakurgaon's importance in historical and cultural landscapes.

### **Habiganj**

Habiganj district is notable for its significant historical and cultural sites. The Rema-Kalenga Wildlife Sanctuary is renowned for its rich biodiversity, offering a crucial habitat for various species and highlighting the region's commitment to conservation. Additionally, Murari Chand College, a historic educational institution, represents the district's dedication to education and its historical role in advancing academic and cultural development. Together, these sites reflect Habiganj's diverse heritage and its contributions to both natural and educational fields.

### **Sunamganj**

Sunamganj district is distinguished by its remarkable historical and cultural sites. Tanguar Haora vast wetland, is renowned for its significant biodiversity, serving as a crucial habitat for numerous bird species and reflecting the region's natural richness. Additionally, Hason Raja's Palace, the residence of the famed mystic poet Hason Raja, holds cultural importance as a historic site linked to the poet's legacy and contributions to Bengali literature and mysticism. These landmarks together highlight Sunamganj's rich natural environment and cultural heritage.

## **4.4 Climatic Condition**

### **4.4.1 Background**

The World Risk Index 2023 ranks Bangladesh as the ninth most vulnerable country globally to climate-related disasters. By 2050, it is projected that Bangladesh will lose 17% of its land due

to rising sea levels<sup>9</sup>. In recent years, the frequency of climate-induced disasters has significantly increased, placing additional strain on the country. In light of this, various climate-induced disasters and their impacts on BCISP project locations are discussed in the following:

#### 4.4.2 Tropical Cyclones and Strom Surge

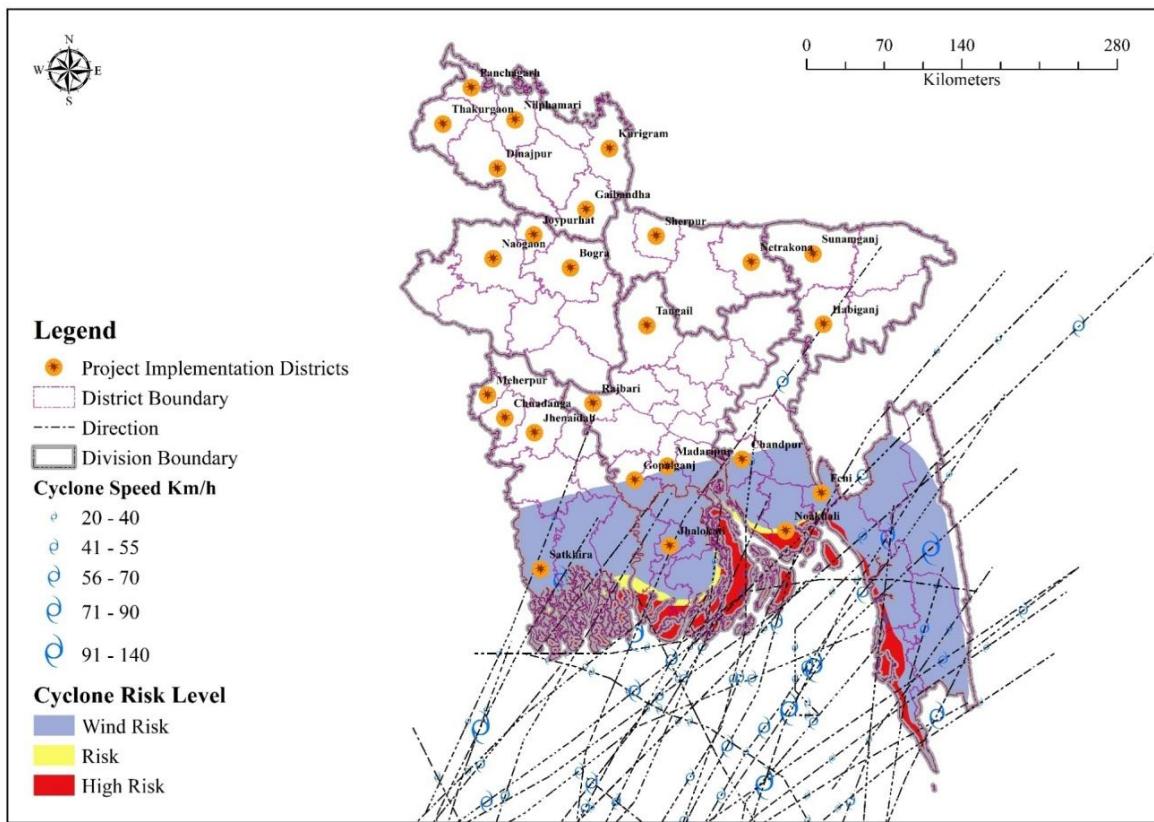
Due to its geographic location, Bangladesh is highly vulnerable to severe tropical cyclones, especially because the funnel-shaped northern Bay of Bengal intensifies these storms, leading to large storm surges and widespread damage. These cyclones usually occur in early summer (April-May) or late in the rainy season (October-November) due to low atmospheric pressure over the Bay of Bengal.

The figure below shows that among the 25 locations assessed, Jhalokathi and Noakhali are the most vulnerable to the risk of cyclones and storm surges. Satkhira, Gopalganj, Chandpur, Feni, and Madaripur are the next highest risk areas, falling within the wind risk zone, where strong cyclone winds are likely. The remaining cities are not that much susceptible to cyclone and storm surges.

**Table 4-14:** Cyclone Risk of the Municipalities

SL	Municipality	Cyclone Risk
1	Jhalokathi	-
2	Chandpur	H
3	Feni	-
4	Noakhali	L
5	Gopalganj	-
6	Madaripur	-
7	Rajbari	-
8	Tangail	-
9	Chuadanga	-
10	Jhenaidah	-
11	Meherpur	-
12	Satkhira	-
13	Netrokona	-
14	Sherpur	-
15	Bogura	-
16	Joypurhat	-
17	Naogaon	-
18	Dinajpur	-
19	Gaibandha	-
20	Kurigram	-
21	Nilphamari	-
22	Panchagarh	-
23	Thakurgaon	-
24	Habiganj	-
25	Sunamganj	-

Source: Integrated Coastal Zone Management Plan, 2003



**Figure 4-12:** Cyclone vulnerability Map of Project Implementation Districts

#### 4.4.3 Drought

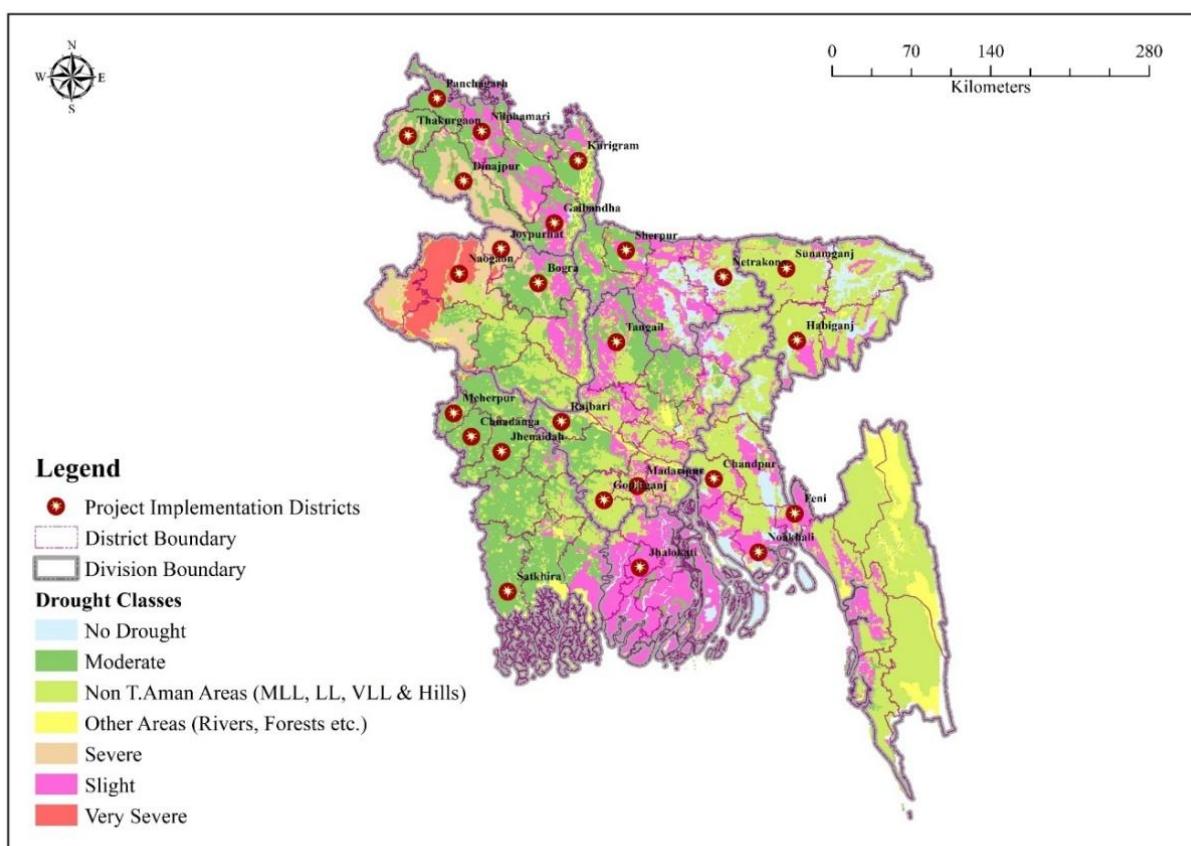
The northwest region of Bangladesh is particularly vulnerable to frequent droughts, primarily driven by high temperatures and limited rainfall. These droughts are most common during the dry season, from November to May, when precipitation levels are extremely low. The effects of these droughts are widespread, significantly disrupting agricultural activities, especially during critical cropping seasons. Reduced water availability hampers crop growth, leading to lower yields and increased food insecurity. The districts of Naogaon, Dinajpur, Thakurgaon, Nilphamari, Bogra, Joypurhat, and Panchagarh are the most affected by droughts (Figure 4.13). Drought Risk of the municipalities are shown in the below table:

**Table 4-15:** Drought Risk of the Municipalities

SL	Municipality	Drought Risk
1	Jhalokathi	Low
2	Chandpur	Very Low
3	Feni	Low
4	Noakhali	Low
5	Gopalganj	Very Low
6	Madaripur	Very Low
7	Rajbari	Medium
8	Tangail	Very Low
9	Chuadanga	High
10	Jhenaidah	High

SL	Municipality	Drought Risk
11	Meherpur	High
12	Satkhira	High
13	Netrokona	Very Low
14	Sherpur	Low
15	Bogura	High
16	Joypurhat	High
17	Naogaon	High
18	Dinajpur	High
19	Gaibandha	High
20	Kurigram	High
21	Nilphamari	High
22	Panchagarh	High
23	Thakurgaon	Very High
24	Habiganj	Very Low
25	Sunamganj	Very Low

Source: Disaster and Climate Risk Information Platform



**Figure 4-13:** Drought map of Bangladesh indicating Project Implementation Districts

#### 4.4.4 Earthquake

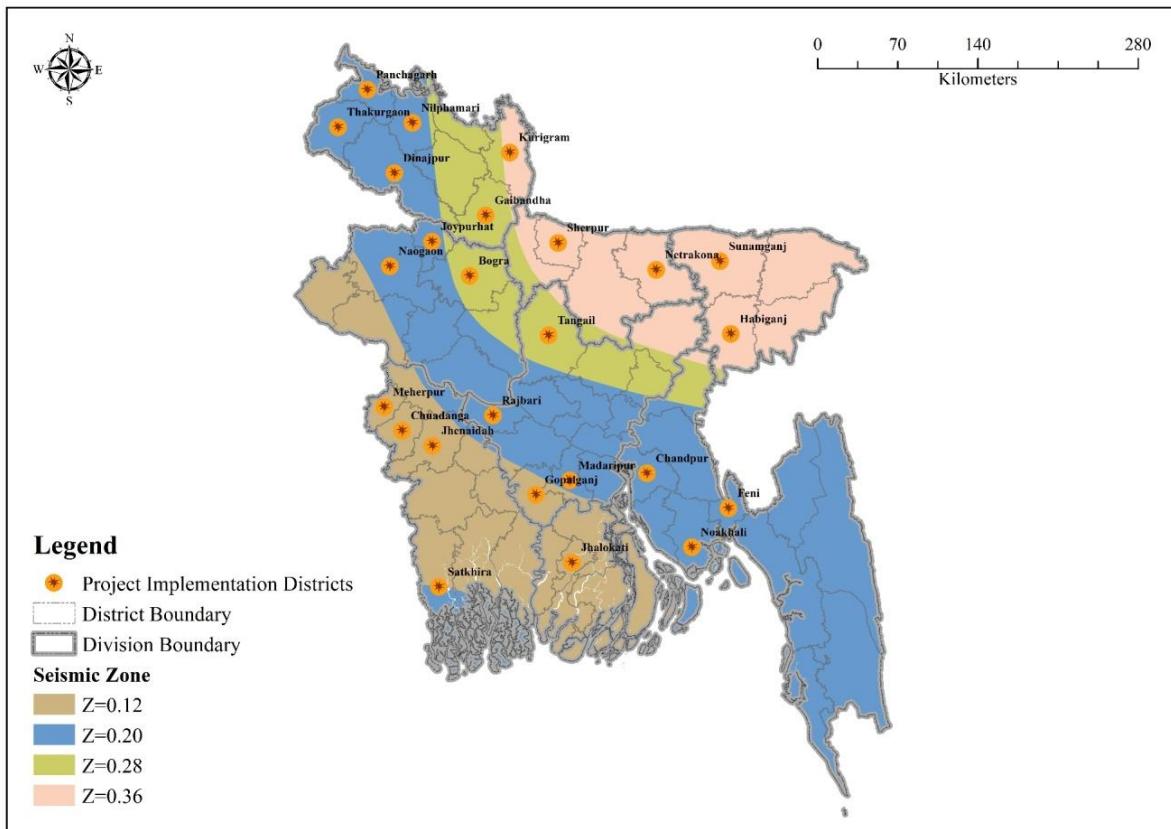
Bangladesh, though not on a highly active fault line, has experienced 552 earthquakes with a magnitude of 4.0 or above within 300 km over the past decade, averaging 55 per year. The strongest recent earthquake occurred on January 4, 2016, with a magnitude of 6.7, 180 km east

of Sylhet<sup>10</sup>. Seismic risks vary across the country, with high-risk areas like Kurigram, Sherpur, Netrokona, Sunamganj, and Habiganj having a Z value of 0.36. Districts such as Gaibandha, Joypurhat, Bogura, and Tangail are moderately vulnerable (Z value 0.28), while the rest of the towns fall within Z values of 0.12 to 0.20. These frequent seismic activities, coupled with the country's dense population and vulnerable infrastructure, highlight the urgent need for improved earthquake preparedness, stricter building codes, and resilient urban planning to mitigate potential risks.

**Table 4-16:** Earthquake Risk of the Municipalities

SL	Municipality	Seismic Zone	Risk Potential
1	Jhalokathi	Zone 1	Low
2	Chandpur	Zone 2	Moderate
3	Feni	Zone 2	Moderate
4	Noakhali	Zone 2	Moderate
5	Gopalganj	Zone 1	Low
6	Madaripur	Zone 2	Moderate
7	Rajbari	Zone 2	Moderate
8	Tangail	Zone 3	High
9	Chuadanga	Zone 1	Low
10	Jhenaidah	Zone 1	Low
11	Meherpur	Zone 1	Low
12	Satkhira	Zone 1	Low
13	Netrokona	Zone 4	Very High
14	Sherpur	Zone 4	Very High
15	Bogura	Zone 3	High
16	Joypurhat	Zone 2	Moderate
17	Naogaon	Zone 2	Moderate
18	Dinajpur	Zone 2	Moderate
19	Gaibandha	Zone 3	High
20	Kurigram	Zone 4	Very High
21	Nilphamari	Zone 2	Moderate
22	Panchagarh	Zone 2	Moderate
23	Thakurgaon	Zone 2	Moderate
24	Habiganj	Zone 4	Very High
25	Sunamganj	Zone 4	Very High

10 The complete Bangladesh earthquake report (up-to-date 2024)



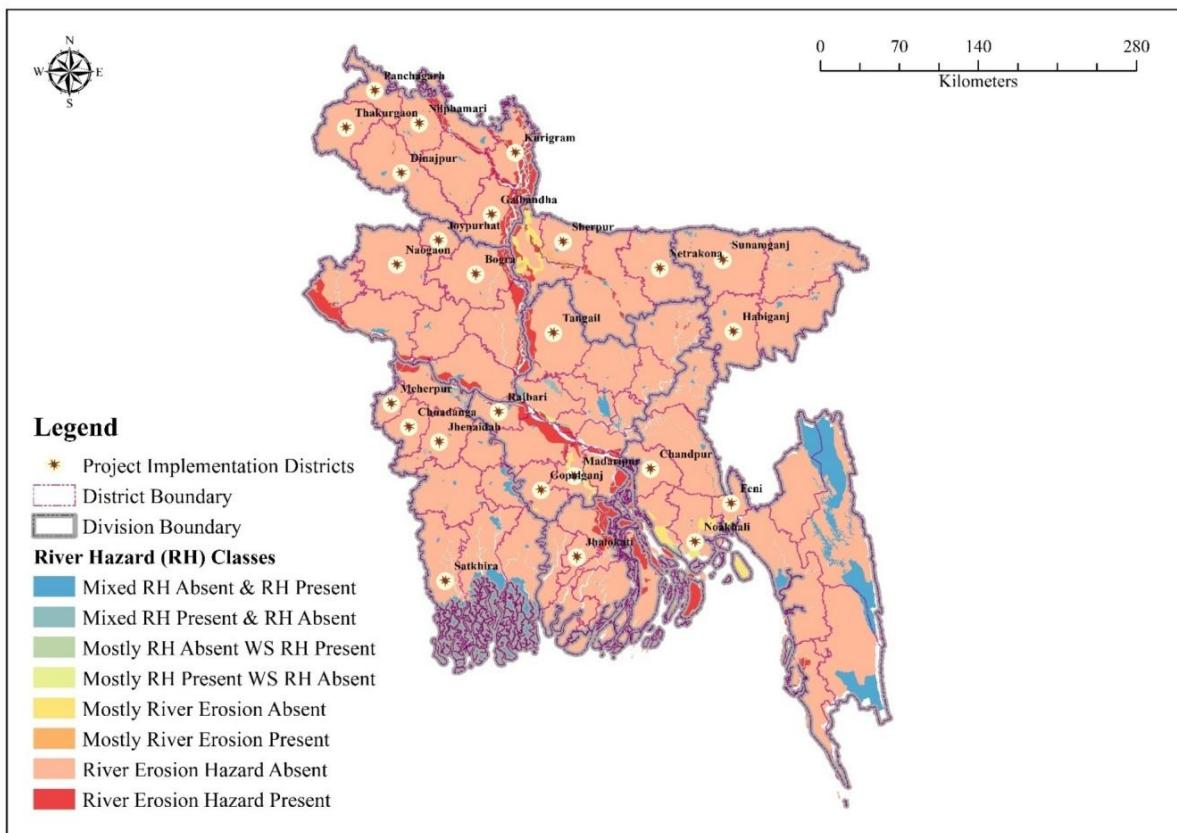
**Figure 4-14:** Earthquake Zone Map of Project Implementation Districts

#### 4.4.5 Erosion

Riverbank erosion poses a critical challenge in Bangladesh, significantly affecting both land and local communities. Major rivers such as Brahmaputra and Meghna are particularly prone to erosion due to their strong currents and high sediment loads. This ongoing process leads to the loss of extensive tracts of land each year, displacing thousands of families and resulting in the loss of valuable agricultural areas. The erosion impacts approximately 30,000 families annually, causing widespread disruption and hardship for those affected<sup>11</sup>.

Among the 25 towns Kurigram, Rajbari, Madaripur, and Jhalokathi are the most vulnerable to river erosion hazards. In these regions, the impact of river erosion is particularly severe, leading to substantial land loss, displacement of communities, and damage to infrastructure.

<sup>11</sup> Bangladesh Water Development Board (BWDB)



**Figure 4-15:** River Erosion Map of Project Implementation Districts

#### 4.4.6 Extreme Precipitation and Floods

Bangladesh is potentially a hotspot of climate change impacts as it is vulnerable to a combination of increasing challenges from record-breaking temperatures, extreme rainfall events, more intense river floods, tropical cyclones, and rising sea levels (The World Bank, 2012). Bangladesh has a tropical monsoon climate, flat and low-lying topography, and unique geographical location in the Ganges–Brahmaputra–Meghna Basin. For these features, heavy rainfall events in the pre-monsoon (during March–May) and monsoon (during June–September) seasons are associated with a high risk of flooding and landslides almost every year. The frequencies of observed high-intensity rainfall events are increasing in recent years<sup>12</sup>.

For instance, in 2017, heavy rainfall in the upstream Meghalaya hills of India and parts of Bangladesh led to pre-monsoon floods in March, affecting the northeastern regions of the country. Similarly, in 2024, Bangladesh is facing one of the most devastating floods in its history in Noakhali, Feni, and Cumilla, due to record-breaking rainfall in these areas.

Bangladesh typically experiences various types of floods, including flash floods, river floods, and floods caused by storm surges and extreme rainfall. The northeastern regions, such as Sherpur, Netrokona, Sunamganj, and Habiganj, are most prone to flash floods, while areas like

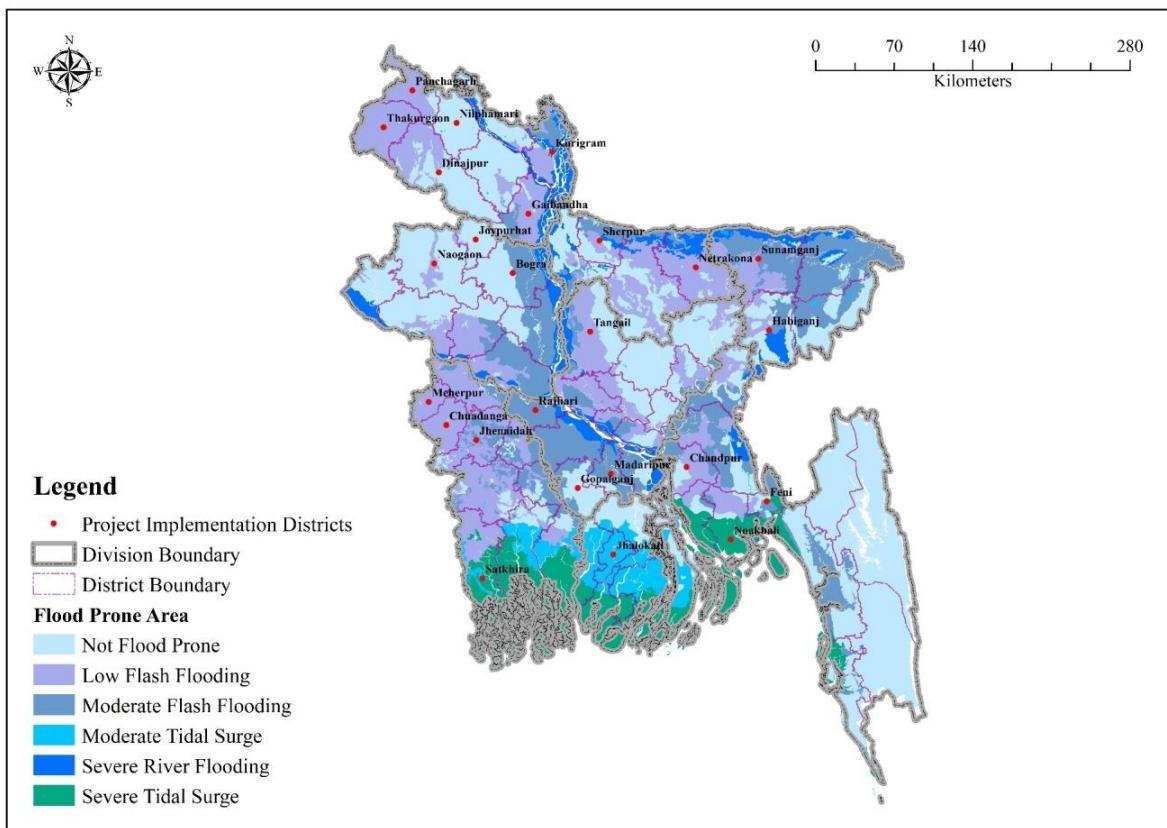
<sup>12</sup> Murshed, S. B., Islam, A. K. M., and Khan, M. S. A.: Impact of climate change on rainfall intensity in Bangladesh, Dhaka, Bangladesh.

Kurigram, Nilphamari, Gaibandha, Rajbari, and Madaripur are more susceptible to river flooding. Flood risk status of the project districts are given in the following table:

**Table 4-17: Flood Risk of the Municipalities**

SL	Municipality	Flood Risk Potential	
		Riverine Flood	Flash Flood
1	Jhalokathi	Low	Very Low
2	Chandpur	Very Low	Very Low
3	Feni	Low	High
4	Noakhali	Low	Very Low
5	Gopalganj	Medium	Very Low
6	Madaripur	Low	Very Low
7	Rajbari	Medium	Very Low
8	Tangail	Medium	Very Low
9	Chuadanga	Low	Very Low
10	Jhenaidah	Low	Very Low
11	Meherpur	Low	Very Low
12	Satkhira	Very Low	Very Low
13	Netrokona	Low	Very High
14	Sherpur	Low	Very High
15	Bogura	Very High	Very Low
16	Joypurhat	Low	Very Low
17	Naogaon	Low	Very Low
18	Dinajpur	Low	Very Low
19	Gaibandha	Very High	Very Low
20	Kurigram	High	Very Low
21	Nilphamari	Low	Very Low
22	Panchagarh	Low	Low
23	Thakurgaon	Medium	Low
24	Habiganj	Medium	High
25	Sunamganj	Very Low	High

Source: Disaster and Climate Risk Information Platform



**Figure 4-16:** Flood Prone Area Map of Project Implementation Districts

#### 4.4.7 Extreme Temperature

Bangladesh experiences significant temperature variations, particularly during the summer months. Extreme temperatures are commonly observed in the pre-monsoon and post-monsoon periods. The country faces severe heat waves, with temperatures often exceeding 40°C (104°F) in several regions, particularly in the northwestern and central parts. These extreme temperatures can lead to health crises, including heatstroke and dehydration, and exacerbate water and food shortages. The heat wave of April 2023 was particularly severe, with temperatures reaching up to 44°C (111°F) in some areas. Such extreme heat events have been increasingly frequent and intense due to climate change, affecting agriculture, energy consumption, and overall quality of life<sup>13</sup>.

#### 4.4.8 Strong Winds

Bangladesh frequently experiences strong winds, particularly during the monsoon season and cyclonic events. The country's geographical location in the Bay of Bengal makes it highly susceptible to tropical cyclones, which can bring intense wind speeds and cause significant damage. Strong winds associated with these cyclones can reach speeds exceeding 200 km/h (124 mph), leading to widespread destruction of infrastructure, homes, and crops<sup>14</sup>. These winds

13 Bangladesh Meteorological Department (BMD).

14 Bangladesh Meteorological Department (BMD)

also contribute to flooding and storm surges, further exacerbating the impacts of severe weather events.

#### **4.4.9 Salinity Intrusion**

Bangladesh is highly vulnerable to soil and water salinization due to its geographic location. The southwestern coastal region faces the most severe impacts from salinity intrusion. As climate change progresses, this salinity is gradually spreading further inland, affecting both water and soil. This expanding intrusion poses significant threats to the country's primary production systems, coastal biodiversity, and public health. Over the past 35 years, salinity levels have risen by about 26%, now extending into non-coastal areas as well<sup>15</sup>. Out of the 19 coastal districts in Bangladesh, six of the 25 towns included in the BCISP project are situated within the coastal zone, rendering them particularly vulnerable to the risks associated with salinity intrusion.

#### **4.4.10 Sea Level Rise**

Rising sea levels are becoming a major concern for coastal regions, with significant impacts expected on human settlements and ecosystems. In Bangladesh, official data indicates a sea level rise of 5.73 mm per year at Char Changa in Hatiya and 3.38 mm per year at Hiron Point in the Sundarbans. Coastal areas such as Patuakhali, Bhola, and Hatiya Island are particularly vulnerable, facing high risks of flooding and land loss. Meanwhile, the Sundarbans and Barguna are also identified as high-risk areas due to the ongoing rise in sea levels<sup>16</sup>. Some of our project areas are located within these vulnerable regions, meaning they are likely to face increased risks from flooding, erosion, and salinization in the coming years.

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<sup>15</sup> Soil Resources Development Institute (SRDI)

<sup>16</sup> United Nations Development Program

## Chapter 5: Potential Environmental and Social Risks and Impacts & Mitigation Measures

This chapter describes procedures for screening, development, and clearance of environmental and social instruments for the subprojects, followed by subproject selection guidelines and anticipated environmental impacts associated with various subprojects level under BCISP.

### 5.1 Positive and Negative Impacts through Environmental and Social Screening

Environmental and social screening is an essential procedure employed to evaluate the prospective effects of proposed initiatives on the environment and surrounding populations. It functions as a mechanism to detect, forecast, and assess the beneficial and detrimental effects of development efforts, therefore promoting sustainable practices and mitigating harm. Environmental and social screening effectively protects ecosystems, fosters biodiversity conservation, promotes sustainable land use, and facilitates pollution management. It promotes responsible resource management and enhances public health and well-being by tackling social issues such as equitable resource access and just treatment of impacted populations.

In contrast, the adverse effects of projects—such as deforestation, pollution, and the relocation of local communities—can be detected early in the screening process. This facilitates the execution of mitigation techniques to diminish damage. Nonetheless, inadequate screening or neglect in addressing critical concerns may result in environmental deterioration, biodiversity loss, and societal discord. Environmental and social screening is essential for fostering growth that is economically sustainable and socially responsible by weighing positive and negative consequences, therefore maintaining a harmonious interaction between human activities and the natural environment.

#### 5.1.1 Ecological Impacts

An Ecological Impact Screening Format (EISF) is a structured tool used to evaluate potential ecological impacts of a proposed project or activity. It helps identify, assess, and document the potential effects of development or industrial activities on the surrounding environment, with a focus on ecosystems, species, and natural resources. Ecological Impacts screening form is provided in **Appendix F** that will be used to identify possible ecological impacts during this project implementation.

#### 5.1.2 Physico-Chemical Impacts

An Ecological Impact Screening is a structured tool designed to assess the potential ecological impacts of a project, focusing on ecosystems, biodiversity, and natural resources. This screening typically evaluates the project's location in relation to sensitive areas such as protected zones, critical habitats, and ecological corridors. It will help to examine the impact on habitats, biodiversity loss, and the introduction of invasive species. The screening also addresses water, soil, and air quality, assessing risks like contamination, erosion, and emissions that could harm local flora, fauna, or ecosystem services. In addition to direct environmental effects, screening considers impacts on local communities that rely on natural resources,

ensuring that livelihoods and cultural values are preserved. Once potential impacts are identified, screening format outlines the magnitude, duration, and geographic extent of the effects, and provides mitigation measures, such as habitat restoration or pollution controls, to minimize harm.

### **5.1.3 Socio-Economic Impacts**

Socio-economic screening for a development project involves assessing the potential social and economic impacts on local communities and stakeholders. The process begins by defining the objectives, such as understanding potential risks, opportunities, and compliance with regulations. Key stakeholders, including affected communities, government entities, NGOs, and vulnerable groups, are identified and engaged through consultations to ensure their perspectives are considered. The screening evaluates economic benefits like job creation, income generation, and local development, while also identifying possible negative impacts, such as displacement, inequality, or environmental concerns.

### **5.1.4 Analysis of Alternatives**

The analysis of project alternatives is a critical step to ensure sustainable development outcomes. This process involves defining clear project objectives and identifying multiple potential solutions that align with these goals. Each alternative has to be evaluated against established criteria, including economic feasibility, social impacts, and environmental sustainability. By engaging stakeholders throughout the assessment, consultants will ensure that diverse perspectives are incorporated, fostering community support and minimizing opposition. A comprehensive risk assessment will further inform the decision-making process, allowing for the identification of potential challenges associated with each alternative. Ultimately, this systematic analysis will facilitate the selection of the most viable option, promoting a balanced approach that meets development needs while safeguarding environmental and social resources.

## **5.2 Anticipated Environmental and Social Impacts of the sub-projects**

The subsequent paragraphs examine the implications resulting from the project's location, design, construction, and operation. Planning concepts, subproject selection criteria, and design concerns have been evaluated and integrated into the site planning and design process whenever feasible; thus, the environmental consequences attributed to the project design or location were negligible. Mitigation techniques have been designed to diminish all adverse effects to acceptable thresholds. Discussions were held with specialists overseeing the engineering components, resulting in the incorporation of substantial measures into the subproject designs. In most instances, mitigation strategies may be formulated using straightforward techniques often employed at building sites and familiar to civil engineering contractors. Upon the commencement of subproject operations, the facilities will function under standard maintenance protocols that will not impact the environment. Enhanced system functionality shall adhere to the operation and maintenance manual and standard operating procedures to be established for all subprojects.

### 5.2.1 During Planning and Design Phase

These impacts include impacts arising from Investment subproject design, including technology used, scale of operation/throughput, waste production, discharge specifications, pollution sources and ancillary services. Design impacts may vary, and an alternative design may result in minimal or no impacts. The design aspects of sanitation including FSM subprojects that determine the significance of impacts include: Fecal treatment process efficiency, discharge standards, reuse potential, sludge management, receiving water quality and water uses, noise and odour nuisance resulting from system design and selected technology, use of harmful/hazardous chemicals, materials, inlet sewage quality and potential changes, health and safety impacts.

**Impacts due to location – general.** Located impacts are associated with site selection and include loss of on-site biophysical array and encroachment either directly or indirectly on adjacent environments. It also includes impacts on people who will lose their livelihood or any other structures by the development of that site. Location of facilities- some facilities close to sensitive areas / human habitations may create nuisance and inconvenience local people from emitting bad odors and high noise.

**Impacts due to location – Sensitive Receptors.** Proposed works are primarily located in urban areas and surroundings where there is various type of sensitive receptors. Given the nature of infrastructure proposed, most of the facilities will have no impacts on sensitive receptors except during the construction phase. However, facilities such as FSTP and sewage treatment plants (in case of Bogura), if located close to habitations will have adverse impacts, and may significantly affect the vulnerable groups like children and old people. Generation of bad odours and fugitive air emissions on the surrounding population needs to be considering in selecting the sites. For FSTP/STPs, especially, a 500 m buffer distance, duly considering the future growth potential of towns, shall be ensured. This distance may be reviewed based on the proposed FSTP/STP technology, and its odour potential. During the construction phase, especially during laying of pipelines and sewers along the roads, there may be significant disturbance. There are sensitive receptors like schools, hospitals, monuments, religious places etc., which may be negatively impacted from construction dust, noise, access blockage and safety risk. The sensitive receptors need to be identified prior to start of construction, specific measures to be put in place, including adoption of construction method and schedule that is appropriate for such sensitive locations.

**Impacts due to location – Critical Habitat.** Almost all of the design impacts can generally be mitigated while there can be significant impacts if the components will be located in environmentally-sensitive areas (in or near wildlife sanctuaries, national parks, forest areas, wetlands, etc.), or in or near physical cultural resources (protected monuments/sites or world heritage sites). BCISP will not undertake activities within such sensitive areas and will exclude projects which will cause significant environment impacts<sup>17</sup>. Most of the facilities will be in Pourashava owned vacant unused lands, and where not possible, lands will be purchased from

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<sup>17</sup> AIIB Environmental and Social Exclusion List

private parties on willing buyer willing seller principle at prevailing market rate. Pipelines will be laid along public roads, avoiding sensitive areas like forests. Tree cutting will be minimized. Locating components obstructing/encroaching natural drainage channels, ponds etc., will significantly impact natural drainage pattern and may lead to water logging and flooding, and related public health issues.

**Impacts due to location – Physical Cultural Resources.** Archeological and historical sites are protected resources. Damage of such sites by digging, crushing by heavy equipment, uprooting trees, exposing sites to erosion, or by making the sites more accessible to vandals are of particular concern. Based on the stakeholder consultation with the Municipalities, suggests that it is unlikely that the site has any cultural, historical, or archaeological significance.

**Land Acquisition and Involuntary Resettlement** – The listed Municipalities have informed that no land will be acquired for implementation of BCISP sub-projects like FSTP, community/public toilets, septic tanks, soak pits, tube wells etc. All the required sub-projects will be constructed on their own lands. If any additional land is required, resettlement plans (RP) will be prepared and followed as per GoB, ARIPA-2017 and AIIB ESP.

Due to Land Acquisition and Involuntary Resettlement it often results in the loss of natural habitats, biodiversity, and soil degradation, along with potential alterations to water bodies and pollution due to construction activities. Socially, it disrupts communities by displacing people from their homes and livelihoods, causing economic hardship and social fragmentation. Loss of access to essential resources, such as agricultural land or fisheries, can exacerbate poverty, while cultural and social dislocation may occur, particularly among indigenous populations. Moreover, challenges related to fair compensation, inadequate infrastructure in resettlement areas, and health risks are common.

### **5.2.2 During Construction Phase**

#### **Change of Land use**

Altering land use often leads to displacement of adjacent households, business and livelihoods. Soil erosion and degradation can occur due to land clearing, leading to reduced fertility and increased vulnerability to flooding. Construction activities can also generate pollution, including dust, noise, and waste, further degrading air and water quality.

The loss of productive land may force people to seek alternative income sources, which can lead to economic hardship and displacement. The influx of construction workers can strain local infrastructure and services, such as housing, healthcare, and sanitation, potentially leading to social tension.

#### **Occupational Health and Safety**

Given the nature of civil work, the workers may be subject to various construction-related incidents, including fire, electrocution, stuck by machines, falls, lack of PPE, lack of OHS-related training, etc. A risk hazard assessment must be carried out before the Contractor commences work, following the law of proportionality. Contractors must engage a minimum of one safety representative. Smaller contracts may also permit the safety representative to

carry out other assignments. The safety representative ensures day-to-day compliance with specified safety measures and records of any incidents. Minor incidents shall be reported to the respective PMU monthly; serious incidents shall be notified immediately. Minor incidents will be reflected in the quarterly reports to AIIB; major issues will be flagged to AIIB immediately. The reporting criteria will follow ESCP guidelines (notice within 24 hours of occurring), and the Contractor will carry out a Root Cause Analysis (RCA) as well as develop and implement a Safeguard Corrective Action Plan (SCAP) with the assistance of the PMU. The Contractor must follow OHS international best practices (ILO OSH 2001-Guidelines on occupational safety and health management systems, ILO Code of Practice Safety and Health in Construction 1991).

### **Air Pollution**

Construction works may generate emissions from construction equipment, other machinery, and construction traffic. The emissions may also include greenhouse gases (GHGs) from engine fuel combustion (exhaust emissions) and evaporation and leaks from vehicles (fugitive emissions), and emissions from asphalt work. The emissions from construction activities will deteriorate the ambient air quality and affect public health. In addition, dust generated from the above activities will also affect crops and livestock near the subprojects.

### **Noise Pollution**

Noise will be produced by vehicular movement, excavation machinery, concrete mixing, and other construction activities. The schools, religious places, and crowded market areas are particularly vulnerable to the increased noise levels.

### **Water Pollution**

During the construction phase, ponds/canals/water streams-rivers can potentially cause some localized increase in water turbidity. However, this increase in turbidity is not likely to significantly impact overall water quality and the aquatic fauna primarily because of its temporary and localized nature. The construction camps and other site facilities such as offices and warehouses will also generate considerable waste. Other causes of land or water contamination include accidental leakage or spillage of fuels, oils, chemicals, and waste effluents released from construction sites. These effluents can contaminate the area's drinking water sources and can also harm the natural vegetation, cultivation fields, water bodies, aquatic flora, and fauna.

### **Damage to Local Infrastructure**

There could be some inadvertent damage to the roads, electricity lines, water channels, and other structures during the construction phase, for the transportation of equipment and material, and associated vehicular traffic.

### **Deterioration of Air Quality**

Exhaust emissions from construction machinery and Project vehicles will include carbon monoxide (CO), Sulphur dioxide (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), and particulate matter (PM). These emissions have the potential to degrade the air quality in the region of the Project locations. Furthermore, excavation, leveling, filling, and automobile movement on unpaved

tracks can all result in fugitive dust emissions. These emissions endanger the health of nearby residents and sensitive receptors such as schools/madrasha, mosques as well as construction workers. The settlements around the operating zones, in particular, will be vulnerable to air pollution induced by project activities.

### **Noise and Vibration**

Noise and vibration are expected to be generated as a result of construction activities, including the demolition of existing water control structures, excavation, compaction, and the use of construction equipment and vehicles. In addition to that, camping sites can frequently be noisy. The increased noise levels may cause annoyance, disruption, and even health risks for the adjacent communities and for the construction workers. In particular, the residents that are located in close proximity to the construction sites will be subjected to the noise and vibration that will be generated by the project. Therefore, the noise from the construction works will likely have a greater impact on sensitive receptors such as school, madrasha adjacent to the subprojects.

### **Degradation of Water Quality**

During the construction activities, nearer ponds, drainage canal and surrounding rivers water can potentially cause some localized increase in water turbidity due to release of effluents, soil or sand into water bodies or washout of loose construction soil to these water body. The water may also be contaminated by the sewerage generated in the camps and liquid wastes from washing of construction equipment and vehicles and also by the accidental spills/leaks of chemicals, oils and fuels at the storage areas.

### **Soil Contamination**

Like water pollution discussed above, soils in the construction area and nearby lands used for agriculture will be prone to pollution from the construction activities, construction yards, workers' camps, and other construction areas. Fuel and hazardous material storage sites and their handling are also potential soil and water pollution sources. Improper siting, storage, and handling of fuels, lubricants, chemicals, hazardous materials, and potential spills will severely impact the soil and water quality and cause safety and health hazards.

### **Waste generation**

Some solid wastes will be generated during the construction phase at the construction sites. In addition, some hazardous wastes will also be generated from the construction vehicle maintenance activities. Such waste must be responsibly disposed of to avoid adverse environmental, human health, and aesthetic impacts. Inappropriate disposal of these wastes can lead to soil and water contamination and health hazards for the local communities, livestock, and aquatic and terrestrial fauna.

### **Impacts on aquatic habitat**

Construction activities are not likely to directly impact terrestrial or aquatic wildlife or their habitat since no sensitive ecological hot spots have been identified at the ESMF stage. However, accidental leakage, spillage of contaminants, or solid waste/debris dumping on land

or water bodies can potentially affect these habitats. These can cause injuries and even fatalities to these species.

## **Community Health and Safety**

Heavy construction machinery, vehicular traffic will all be part of the construction activities. These activities may provide certain safety risks, not only to the construction workers, but also to the residents of the area they are taking place in. Construction workers and residents in the area could be exposed to health risks due to improper waste disposal at the camps and construction sites. Construction workers' health will be jeopardized if conditions are unhygienic and safe drinking water is not readily available. In addition, the surge of construction workers has the potential to spread contagious diseases to the neighboring populace.

## **Hazardous and non-hazardous wastes**

The Project will generate both solid non-hazardous and hazardous wastes throughout the construction phase. The anticipated non-hazardous wastes types include excavated material, construction material, municipal solid waste, wastewater. While hazardous waste may include used oil, empty drums or replaced parts of the construction machinery, used battery, chemical for concreting like admixture etc. There are potentially a number of risks to human health and the environment that may be associated with the handling, storage and disposal of waste, both on and off-site. These toxic wastes will be generated in the labor camp site. Incorrect handling and storage could result in possible cross contamination of air, soil and water resources, as well as direct and indirect effects on human health. Environmental pollution with organic and non-organic waste generated from project activities may occur due to uncontrolled disposal and inadequate management of waste during construction and operation of the camps for construction workers. Discharge of untreated waste waters can result in pollution to soils, water bodies and have adverse effects on human health, flora and fauna and surface and groundwater.

## **Impacts on Labour Influx**

At the peak of construction, it is expected that more labourers will be working at the site. The influx of workforce will put additional pressure on existing resources. The workforce normally consists of solitary migrant males and that can be potential risk for host population. Specifically, influx of labour force can lead to:

- Risk of conflict and social unrest due to cultural differences between the labourers and local community
- Risk of spread of communicable diseases due to interaction of the labourers and the local community
- Risk of gender-based violence
- Health hazard for host community due to lack of sanitation facilities and waste management.

## **Related on Impacts on Cultural Heritage**

In the area of the project may have any ancient monuments, heritage like Sundarbans/ mangrove forest and/or archaeological site(s); Thus, cultural heritage management plan have

to prepare due to the construction of the project, if there is any cultural heritage within the project influence area.

### **5.2.3 During Operation & Maintenance Phase**

Anticipated impacts of sanitation activities including SWM, FSM and drainage subprojects during O&M will be related to operation of FSTP, IWTP, DEWATS and repair and maintenance activities. Implementation of fecal sludge treatment plant (FSTP), and decentralized wastewater treatment (DEWATS) systems are likely to significantly improve surface water quality in the project areas because fecal sludge and untreated domestic wastewater are currently being discharged in open water bodies and low-lying areas. Operation of public toilets would also contribute to improvement of water quality through discouraging open defecation. All these projects would contribute to the improvement of overall environmental condition in the project areas, and support achievement of SDG Target 6.2 (safely managed sanitation). However, discharge of poor-quality effluent from FSTP and DEWATS could adversely affect the receiving water bodies. Poor quality drainage water could also adversely affect the receiving water bodies.

Routine repairs and maintenance works will be very small in scale, to be conducted manually by small teams and works will be very short thus will not cause significant physical impacts. Pourashava waste and sewage may contain disease-causing organisms that may be dispersed in water or air.

Subprojects like fecal sludge treatment system including construction of FSTP, decentralized wastewater treatment system (DEWATS), SWM system, and public toilets would significantly improve the sanitation situation in the project areas and would support attainment of SDG Target 6.2 (safely managed sanitation). Improvement of sanitation services together with improvement of water supply situation is likely to contribute significantly to the improvement of public health in the Municipalities where these subprojects would be implemented.

Implementation of the sub-project involving fecal sludge management (collection of fecal sludge using vacuum trucks, transport to plant, etc.), DEWATS would significantly improve overall environmental condition and reduce the risk of widespread environmental pollution from indiscriminate disposal of fecal sludge and wastewater. However, lack of solid waste disposal facility at the Municipalities is a concern.

It ultimately aims to reduce poverty with and uplift the existing level of livelihood accompanied by increased income, employment and access to improved health and sanitation services. Considering the nature and scope of the project there can be multitude of positive environmental and social impacts:

- To help and achieve the Millennium Development Goal (MDG) targets directly or indirectly
- Helps poverty reduction through improved sanitation
- Helps to decrease workload of women, vulnerable people
- Helps to establish small business firm, other business activities and market economics related to the access of improved sanitation.

## **5.2.4 Activity Wise Predictions of Environmental and Social Impacts of Sub-projects during Construction and Operational Phases**

### ***Environmental and Social Impacts of Sub-Projects during Construction phases***

#### **Potential Environmental Impacts:**

- Air Pollution: Dust from excavation, emissions from machinery, and increased vehicle traffic can degrade local air quality.
- Water Pollution: Construction runoff carrying sediments, oils, and construction materials can contaminate local water bodies.
- Noise Pollution: Machinery and construction activities contribute to noise disturbances, affecting nearby communities and wildlife.
- Soil Erosion and Sedimentation: Land clearing can lead to erosion, increasing sedimentation in water bodies.
- Habitat Destruction: Clearing land for sewage treatment or waste facilities may disrupt local ecosystems and biodiversity.
- Waste Generation: Construction debris, non-recyclable waste, and hazardous materials can contribute to local pollution if not properly managed.

#### **Potential Social Impacts:**

- Displacement: Local communities may be displaced or lose access to land or resources due to construction activities.
- Health and Safety Risks: Construction workers and local communities may face hazards from accidents, increased dust, and air pollutants.
- Traffic Congestion: Increased movement of construction vehicles can lead to traffic disruptions and road safety risks.
- Job Creation: Construction work can provide short-term employment for local communities.
- Community Disturbances: Noise, dust, and reduced access to resources (e.g., water) may temporarily affect the quality of life for nearby residents.

### ***Environmental and Social Impacts of Sub-Projects during Operational Phase***

Once the construction is complete, the sub-project enters the operational phase. The impacts in this phase are typically long-term and vary depending on the efficiency and type of management system in place.

#### **Potential Environmental Impacts:**

- Water Pollution: Inefficient sewage treatment or pipeline leaks can lead to water contamination, affecting groundwater and nearby water bodies.
- Soil Contamination: Poor management of solid waste landfills can result in leachate leakage, contaminating soil and groundwater.
- Air Pollution: Emissions from gasification plants, if not properly controlled, can release harmful pollutants. Sewage treatment plants can also emit odors or gases.

- Biodiversity Impact: Ongoing discharge of treated (or untreated) sewage into water bodies may alter local aquatic ecosystems.
- Waste Generation: Solid waste facilities may struggle to manage waste volumes, leading to overflow, illegal dumping, or harmful disposal methods (e.g., open burning).
- Resource Depletion: High water usage and energy demands for sewage treatment plants may strain local resources.
- Greenhouse Gas Emissions: Methane emissions from landfills or poorly managed waste can contribute to climate change.

#### **Potential Social Impacts:**

- Public Health Concerns: If sewage or solid waste is poorly managed, communities can face risks of waterborne diseases, air pollution, and other health issues.
- Improved Sanitation and Hygiene: Well-functioning sewage and solid waste systems can improve overall public health and quality of life by reducing contamination and waste.
- Odor and Aesthetic Issues: Sewage treatment plants and waste processing facilities can cause unpleasant odors and visual pollution, affecting nearby residents.
- Job Opportunities: Long-term employment opportunities in facility operations, maintenance, and waste collection can benefit local communities.
- Social Inequality: In some cases, marginalized communities may face disproportionate exposure to pollution or may not fully benefit from improved waste services.
- Community Tensions: If the facilities are built near residential areas, local opposition may arise due to concerns about pollution, noise, or property devaluation.

#### **5.2.5 Cumulative Impacts**

Cumulative impact assessment for a development project involves evaluating the combined effects of the project alongside other existing, planned, or foreseeable activities within a specific area and timeframe. This process involves identifying relevant projects and valued environmental and social components (VECs) that are sensitive to change, such as biodiversity, water resources, air quality, and community livelihoods. Under the current scope of the BCISP project, there are no provisions for conducting a Cumulative Impacts Assessment by DPHE. However, if future circumstances require consideration of cumulative impacts, AIIB and DPHE will review the project scope and incorporate the necessary activities accordingly.

#### **5.2.6 Indirect Impacts**

In the indirect impact assessment of the BCISP project, experts will identify and evaluate the less apparent, secondary impacts of the project that may manifest distant from the project site or over time. Experts will delineate the spatial and temporal parameters and ascertain any indirect effects, like heightened traffic, alterations in land use, or stimulated economic activity. Experts conduct a baseline assessment to assess the existing environmental, social, and economic factors. They examine the potential indirect consequences of the project, like rapid urbanization, shifts in population dynamics, or disturbances to ecosystems resulting from variables such as resource exploitation or migration. The experts will evaluate the amount, scope, and duration of these impacts and propose mitigation solutions to counteract possible

adverse effects. They frequently conduct stakeholder engagements to obtain local ideas and ensure that indirect effects are incorporated into the decision-making process. Experts will provide technical skills, insight, and pragmatic advice to assist project developers in comprehending and managing the extensive, long-term impacts of development projects.

## 5.3 Methodology and Procedures of ES Assessment

The environmental and social assessment of BCISP projects need to be carried out based on the Environment Conservation Acts and Rules of GoB and the relevant AIIB's Environmental and Social Standards (ESSs). This chapter outlines the methodology and procedures for assessing and managing environmental and social issues in different subprojects. It also provides necessary tools for screening and evaluating environmental and social impacts

### 5.3.1 Screening of Sub-project Activities

The formal environmental and social assessment in the sub-projects starts with the Environmental and Social Screening of proposed interventions using the screening format. Screening is usually carried out with the help of a simple matrix that includes a set of check list to identify the baseline status and possible potential impacts of the project intervention. A screening checklist is already developed (Appendix D) for this purpose. The environmental and social assessment team members of Supervision and Monitoring Consulting Firm in collaboration with PMU will use this format to collect updated information during site visits, interviews/consultations with stakeholders, and in focus group discussions in the project intervention sites at the later stages. Environmental and Social Screening will determine whether sub-project interventions require a full-scale ESIA or not, including the ESMP.

The environmental and social screening would involve (i) reconnaissance of the sub-project area and its surroundings; (ii) identification of major sub-project activities; and (iii) preliminary assessment of the impacts of these activities on the ecological, Physico-chemical, and socio-economic environment of the sub-project surrounding areas and considerations that need to be further investigated through ESIA. Likely affected persons and their communities will be consulted during the screening process.

Environmental and social risk classification takes into account relevant potential risks and impacts, such as:

- The type, location, sensitivity, and scale of the Project, including the physical considerations of the Project; kind of infrastructure (e.g., dams and reservoirs, power plants, airports, major roads); volume of hazardous waste management and disposal;
- The nature and magnitude of the potential E&S risks and impacts, including impacts on greenfield sites; impacts on brownfield sites (e.g., rehabilitation, maintenance, or upgrading activities); the nature of the potential risks and impacts (e.g., whether they are irreversible, unprecedented or complex); resettlement activities; and possible mitigation measures considering the mitigation hierarchy;
- The capacity and commitment of the Borrower to manage such risks and impacts in a manner consistent with the ESSs, including the country's policy, legal and institutional framework; laws, rules, and procedures applicable to the Project sector, including

regional and local requirements; the technical and institutional capacity of the Borrower; the Borrower’s track record of past Project implementation; and the financial and human resources available for management of the Project;

- Other areas of risk that may be relevant to the delivery of E&S mitigation measures and outcomes, depending on the specific Project and the context in which it is being developed, including the nature of the mitigation and technology being proposed, considerations relating to domestic and regional stability, conflict or security.

Part of the screening process will also screen for any associated facilities to the project. If any associated facility is identified, the requirements of assessments will be applied in the similar way and the completed screening report will be furnished to AIIB for review and no objection prior to finalizing.

### **5.3.2 Impact Assessment and Risk Classification**

The significance of potential impacts was assessed using the risk assessment methodology that considers impact magnitude and sensitivity of receptors, described below. The same methodology shall also be applied in E&S studies for subprojects under this project.

#### **5.3.2.1 Magnitude of Impact**

The magnitude of each identified impact was thoroughly assessed through a comprehensive framework that incorporated five distinct parameters:

- i. **Duration of the impact**, referring to the time period over which the impact persists, whether temporary base, short-term, medium-term, or long-term;
- ii. **Spatial extent of the impact**, which describes the geographical area or scale affected, ranging from project site to localized or even national or global;
- iii. **Reversibility of the impact**, assessing whether the effects can be fully or partially reversed, or if they are irreversible;
- iv. **Likelihood of the impact**, evaluating the probability or chance of the impact occurring, from highly unlikely to almost certain; and
- v. **Intensity of the impact**, which measures the severity or strength of the impact’s consequences, from insignificant to high.

A systematic approach was used to evaluate these parameters through a four-point Likert scale (Table 5-1). This scale, ranging from 1 to 4, quantified the severity of impacts, with 1 signifying a minimal or negligible effect and 4 indicating a major or highly significant effect.

Each parameter was assessed separately and assigned a corresponding score. The individual scores were then combined to calculate a composite score, offering a quantitative measure of the overall impact magnitude. The composite scores were further classified into defined categories, as detailed in Table 5-2, ensuring a consistent interpretation of the results and their significance.

**Table 5-1:** Four-Point Likert Scale for Parameter Evaluation

S/N	Parameter	Qualitative Scale for Parameter Quantification			
		Minimal (Rating: 1)	Minor (Rating: 2)	Moderate (Rating: 3)	Major (Rating: 4)
1	Duration of impact	Temporary base - Impact duration is very low and has a low probability of being detected	Short Term - Impact duration is only limited to construction period	Medium Term - Impact duration 5 to 10 years	Long Term - Impact duration more than 10 years
2	Spatial Extent of the impact	Project Site	Local	Regional/National	Transboundary/Global
3	Reversibility of the impact	Negligible - No significant impact; the baseline environment remains almost unchanged	Easily Reversible - Impact is minimal, and with appropriate mitigation measures, it can be reversed or restored to baseline conditions relatively easily within a short time	Reversible with effort - The impact is moderate, and reversible, it requires considerable effort, time, and resources.	Irreversible -The potential impact is effectively permanent, causing significant, long-lasting changes to the environment. Full restoration to baseline conditions is very difficult and would require considerable intervention, time, and resources.
4	Likelihood of the impact	Unlikely - The impact is very unlikely to occur	Low - There is a small chance that the impact may happen, but it's not expected under normal circumstances.	Medium -There is a reasonable chance the impact might happen under certain conditions or scenarios.	High - The impact is very likely to occur either under current conditions or in the foreseeable future
5	Intensity of the impact	Insignificant - The impact is barely noticeable. It has little to no effect on the environment or system, and it doesn't cause any measurable harm	Low - The impact is minor and may have a slight effect, but it doesn't significantly alter the environment or system	Medium - The impact is moderate, and it causes noticeable changes to the environment or system	High - The impact is severe and causes significant, widespread changes to the environment or system. It could result in long-lasting damage or major disruptions, requiring substantial mitigation efforts and resources to manage.

**Table 5-2:** Scoring System for Magnitude Assessment

Magnitude of Impact	Composite Score to determine magnitude
Minimal	1 - 6
Minor	7 - 12
Moderate	13 - 16
Major	17 - 20

### 5.3.2.2 Sensitivity Receptor

The sensitivity of each receptor to the impact was assessed based on its ability to cope with or absorb the effects. This evaluation considered various factors such as the receptor's proximity, population size, vulnerability, and other relevant characteristics. A four-level scale was used to classify sensitivity into four categories: "low," "medium," "high," and "very high." Each class was assigned a score, ranging from 1 for the "low" sensitivity class to 4 for the "very high" sensitivity class.

The definitions of these sensitivity classes, along with their corresponding ratings, are provided in Table 5-3, which offers a structured framework for evaluating the degree of sensitivity based on the receptor's specific attributes and vulnerabilities.

**Table 5-3:** Sensitivity Receptor and Classification

Sensitivity Class	Definition	Rating
Low	Vulnerable receptor with good capacity to absorb proposed changes and/or good opportunities for mitigation	1
Medium	Vulnerable receptor with some capacity to absorb proposed changes or moderate opportunities for mitigation	2
High	Vulnerable receptor with little capacity to absorb proposed changes or limited opportunities for mitigation.	3
Very High	Vulnerable receptor with no capacity to absorb proposed changes or minimal opportunities for mitigation.	4

### 5.3.2.3 Significance of Impact

The significance of the impact will be determined by multiplying the magnitude of the impact by the sensitivity of the receptor. This calculation follows the formula:

$$\text{Significance} = \text{Magnitude} \times \text{Sensitivity}$$

**Table 5-4:** Significance of Impact Scoring and Classification

Significance of Impact Score (Magnitude $\times$ Sensitivity)	Significance Class	Description
5-12	Very low	No action required.

Significance of Impact Score (Magnitude × Sensitivity)	Significance Class	Description
13-22	Low	<ul style="list-style-type: none"> <li>Impacts are within the acceptable range.</li> <li>Potential/possible impacts such as localized or short-term effects.</li> </ul>
23-34	Medium-Low	<ul style="list-style-type: none"> <li>Impacts are within the acceptable range but should be mitigated to lower significance levels wherever possible.</li> <li>Potential/possible impacts such as localized, long-term degradation of sensitive habitat or widespread, short-term impacts on habitat, species, or environmental and social media.</li> </ul>
35 -50	Medium-High	<ul style="list-style-type: none"> <li>Potential/possible impacts are significant and require attention;</li> <li>mitigation is required to reduce the negative impacts to acceptable levels;</li> <li>Potential/possible impacts such as localized but irreversible habitat loss or widespread, long-term effects on habitat, species, or environmental and social media.</li> </ul>
51-65	High	<ul style="list-style-type: none"> <li>Impacts are of great importance, mitigation is crucial.</li> <li>Potential impacts such as significant, widespread, and persistent changes in habitat, species, or environmental and social media.</li> <li>Potential impacts such as persistent reduction in ecosystem function on a landscape scale or significant disruption of a sensitive species.</li> </ul>
66 -80	Very High	<ul style="list-style-type: none"> <li>Impacts are unacceptable.</li> <li>Potential impacts such as loss of a significant portion of a valued species or loss of effective ecosystem function on a landscape scale.</li> </ul>

#### 5.3.2.4 Mitigation Measures

Once the significance of an impact is determined, the next step is to identify appropriate mitigation and enhancement measures. These measures are often included as commitments within the project. The goal of mitigation is to prevent, minimize, or manage significant negative impacts to the lowest level possible, while also optimizing and maximizing any potential benefits of the project where applicable.

Mitigation efforts should prioritize addressing the source of the impact first. This means taking action to avoid or reduce the magnitude of the impact arising from the project's activities. After reducing the impact at the source, the next step is to manage the resulting effects on the resource or receptor through abatement, compensatory measures, or offsets. These actions help further reduce the significance of the effect; particularly once all reasonably practicable measures have been applied to minimize the impact itself.

#### 5.3.2.5 Residual Impact Evaluation

Residual impact refers to the remaining effect after mitigation measures are applied. It evaluates the effectiveness of the measures in reducing the original impact and identifies any persisting significant effects. After the application of mitigation and enhancement measures,

the next step in the impact assessment process is to reassess the impact, considering the assumed implementation of these measures to determine the residual impact significance.

### 5.3.3 Identification of Sub-project E&S Instruments

As locations of sub-projects and types of activities are not clearly designed at this stage, it is important to have appropriate tools in place to assist PMU in screening these activities for potential impacts and selecting appropriate E&S instruments to effectively address them.

As the first step, PMU will check on eligibility of the sub-project against AIIB's Environmental and Social Exclusion List<sup>18</sup>. The second step will be categorization of each subproject. The PMU will guide the E&S Specialists from TA Consultant to determine the environmental category of the subproject in accordance with national ECR 2023 and the E&S category in accordance with AIIB's ESP. According to the category of subproject, the appropriate E&S instrument will be selected to meet both national and AIIB's requirements. Categorization of subproject and their associated tools are described in Table 2-1 previously.

As compared in Chapter 3, there are some differences in the categorization and required actions between AIIB's ESP and national environmental legislation. As shown above, for category B subprojects, a brief IEE or an ESMP shall be prepared in accordance with AIIB's ESP. An IEE report will be needed for DoE clearance in case of Orange category subprojects..

### 5.3.4 Subproject Influence Area

A project influence area (PIA) will vary depending on the level and type of impact on human health, surrounding physical features and community, close proximity to the biodiversity or sensitive areas etc. In addition, some of the remediation and rehabilitation activities can have indirect impacts that lead to a larger project influence area compared to that if only direct impacts are considered. So, depending upon the activities of different subprojects the project influence area will also be different. In some cases, sourcing locations of raw materials also need to be considered within the project influence area. In order to establish a sub-project influence area, the activities to be carried out and processes that would take place during both construction phase and operational phase of the sub-project need to be carefully evaluated. Based on the field visits to sub-project sites, it is apparent that the sub-project influence area would depend not only on the type of sub-project (i.e., wastewater collection and transportation, treatment and Disposal), but also on the nature of site/ area where it will be implemented

In Table 5-5 influence area for different types of subprojects to be implemented under the project is described.

**Table 5-5:** Influence Area for Different Types of Subprojects

Subproject	Influence Area
Household latrine (Cubicle with safe containment)	Areas and communities within about a quarter kilometer surrounding the proposed location of latrine with safe containment.

<sup>18</sup> See Appendix A

Subproject	Influence Area
Public toilet, community toilets	Areas and communities within about half a kilometer surrounding the proposed location of the toilet.
Integrated waste management plant (including Sludge de-watering, Co-Composting/co-treatment facilities and disposal system)	Areas and communities within about one kilometer surrounding the proposed location of the treatment plant.
DEWATS	Areas and communities within about half kilometer surrounding the proposed location of DEWATS
Installation of test and production tube-well with pump house	Areas and communities within about half a kilometer surrounding the proposed location of the tube well.
Distribution new water pipe networks and associated facilities	For installation of water pipe networks, the PIA would be 20 m on each side of the pipe network, which spaces are used for necessary preparation and installation of pipe.
Construction of Transfer Station	Areas and communities within about a quarter kilometer surrounding the proposed location of transfer station.
Construction of Primary and secondary Drain of different size	For the construction of drain along the existing road alignment, the PIA would cover up to 50 m on each side of the drainage line, which spaces are used for necessary preparation and construction of drain.

### 5.3.5 Stakeholder Consultations

The E&S team of the TA Consultant will follow the requirements in the framework and conduct consultations with stakeholders mapped for each subproject. The stakeholder consultations will be carried out throughout the E&S studies. Once the E&S documents are prepared, they are subject to public consultation meetings. During the public consultation meetings, ESAs, ESMPs and/or RPs documents will be distributed to all interested parties and local communities, by posting them on the web sites and by putting hard copies in the project areas. Minutes of public consultation meetings will be recorded and included in the final E&S documents. At the consultation meetings, the E&S team of the TA Consultant in cooperation with the PMU E&S experts will present the ESIA, ESMP and/or RP (project, its location and implementation schedule, overview of the E&S study process, and any conclusions on impacts, proposed mitigation measures and benefits) to the participants. The subproject information should be defined as preliminary or intermediate, indicating that input from participants can still be applied to subproject design. Participants will be invited directly (not by order) to submit comments and corrections to what is presented. Adequate and convenient contact information will be provided for use by participants.

The public consultation meeting on the ESIA, ESMP and/or RP of a specific subproject will include an announcement of PMU meeting on the website and local newspaper at least two weeks before the session, with a brief description of the project, location and specific contact details (including telephone numbers). In addition, the E&S team of the TA Consultant, in collaboration with the PMU, will make an announcement in the local, Pourashava about holding a public consultation meeting by means of a written short booklet together with an

invitation to participate in the meeting. Documentation of the consultations should be submitted to PMU staff.

Versions of the E&S documents in Bangla and records of stakeholder consultations should be posted in a public place close to the construction site, as well as on the websites of DPHE Head Quarter and XEN office of each district and Pourashava.

### 5.3.6 Environmental and Social Baseline data Collection Guideline

Project specific baseline data on environmental and social factors are not typically collected during the preparation of the Environmental and Social Management Planning Framework (ESMPF). However, during the preparation of subprojects, environmental and social baseline data must be gathered based on the specific nature and impact of each subproject. This data should be collected from both secondary and primary sources. The table below outlines the detailed baseline information required, depending on the type of subproject.

**Table 5-6:** Baseline Data Collection Information for the Project.

Parameters	Baseline Information	Source	Sub projects type
<b>Physical Environment</b>			
Geography	Geographical information of Project Area Location, physiography geology, drainage pattern, topography, flood plain etc.	Secondary	Integrated waste treatment plant, DEWATS, Drainage network
Weather and Climate	Climatic data of the area like temperature, rainfall, humidity, wind direction etc.	Secondary	Integrated waste treatment plant, DEWATS, Drainage network
Land Use	Land use pattern of the project influenced area	Secondary	Integrated waste treatment plant, DEWATS, Drainage network
Ambient Air	Baseline condition of Ambient Noise Level at treatment plant or near any sensitive receptor. Parameter: PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>x</sub> , NO <sub>x</sub> , CO etc.	Primary	Integrated waste treatment plant
Water Quality	Information on ground water and surface water resources SW resources in the PIA and its distance from project site. GW quality: pH, TC, FC, Salinity, TDS, As, Mn, Cl- etc. SW quality: pH, DO, Turbidity, BOD <sub>5</sub> , Oil and Grease etc.	Secondary/ Primary	Integrated waste treatment plant

Parameters	Baseline Information	Source	Sub projects type
Soil type	Soil type of the area	Secondary	Integrated waste treatment plant, DEWATS, Drainage network
Natural Hazards	Hazard profile of the area. Types of natural hazards occur in the region like flood, earthquake, river erosion, thunder storm etc.	Secondary	Integrated waste treatment plant, DEWATS, Drainage network
<b>Biological Environment</b>			
Felling of Trees and clearance of Vegetation Cover	No of threes that's need to cut at construction site. Size and species also.	Primary	All type of subprojects
Protected Area/ Ecologically Sensitive Areas	Information on presence of Protected Area, wetland, Mangrove, Estuarine, Buffer Zone of Protected area, Special area for protecting biodiversity etc. within PIA.	Secondary	Integrated waste treatment plant, DEWATS, Drainage network
Biodiversity	Floral and Faunal diversity in the PIA of the subprojects.	Secondary/ Primary	Integrated waste treatment plant, DEWATS, Drainage network
<b>Socio Economic Information</b>			
Demography	Population, Age pyramid by gender, Sex Ratio, Literacy etc.	Secondary	Integrated waste treatment plant, DEWATS, Drainage network
Personal assets	Loss of inventory data of the PAP	Primary	All type of subprojects
Health	Existing medical facilities, List of sensitive receptors (e.g., hospitals, religious institute and schools), Prevailing diseases etc.	Secondary/ Primary	Integrated waste treatment plant, DEWATS, Drainage network
Cultural Heritage	Location, No and types of historical / archaeological/ anthropological Importance	Secondary/ Primary	All type of subprojects
Vulnerable community	Affected vulnerable communities (child, women, indigenous community etc.) Community consultation practices	Primary	Integrated waste treatment plant, DEWATS, Drainage network
Gender issues	Type and number of public consultations held for the project,	Primary	Integrated waste treatment plant,

Parameters	Baseline Information	Source	Sub projects type
	Women groups especially Dalit women were involved in consultations? Will women be employed for the project activities? etc.		DEWATS, Drainage network

### 5.3.7 AIIB No Objection

The E&S documents (ESIAs, ESMPs, ES Screen reports and RPs) for the subprojects will require prior-review and acceptance by AIIB.

### 5.3.8 Integration of ES Requirement into Project Documents

The bidding documents for each subproject shall include requirements of ESMP specified in the ESIA, and the ESMP shall be attached to the bidding documents and then to the construction contracts. The implementation of the ESMP shall be properly budgeted and reflected in the construction contracts.

### 5.3.9 Resettlement Plans (RPs) and Indigenous People's Plan (IPP)

If any resettlement issue arises then the TA consultant will prepare the RPs according to the guidelines delineated in the ESMPF. Though there is no household of indigenous people within project area, but if any IP found during the implementation phase then the TA consultant will prepare the IPP according to the guidelines delineated in the ESMPF.

### 5.3.10 Site Specific ESMPs

The contractors will translate the subproject ESMP into site-specific ESMP (SSESMP), which will include specific mitigation measures and OHS management plans to suit the project site conditions. The SSESMP will be submitted to the TA Consultant for review. The updated SSESMP after review will be submitted to E&S staff of PMU for approval.

## 5.4 Generic Potential Environmental and Social Impact Assessment (ESIAs and Mitigation Measures)

**Pollution Prevention Plan:** will be prepared and implemented by the contractors on the basis of the ECoPs and AIIB policies. The Plan will be submitted to the DPHE/PMU for their review and approval before contractor mobilization.

**Drinking Water Supply and Sanitation Plan:** Separate water supply and sanitation provisions will be needed for the temporary facilities including offices, labor camps and workshops in order not to cause shortages and/or contamination of existing drinking water sources. A Plan will be prepared by the contractors on basis of the ESMP and ECoPs, which are part of the bidding documents. The Plan will be submitted to the DPHE/PMU for their review and approval before contractor mobilization.

**Occupational Health and Safety (OHS) Plan:** will be prepared and implemented by each contractor on the basis of the AIIB policies, ECoPs, mitigation plan, and other relevant

standards. The Plan will be submitted to the DPHE/PMU for their review and approval before contractor mobilization.

**Traffic Management Plan:** will be prepared by each contractor after discussion with DPHE and authorities responsible for roads and traffic. The Plan will be submitted to the DPHE for their review and approval before contractor mobilization. The Plan will identify the routes to be used by the contractors, procedures for the safety of the local community particularly pedestrians, and monitoring mechanism to avoid traffic congestion.

**Construction Camp Management Plan:** will be prepared by each contractor. The Plan will include the camp layout, details of various facilities including supplies, storage, and disposal. The Plan will be submitted to the DPHE/PMU for their review and approval before camp establishment.

**Environmental Management of Resettlement Sites plan:** will be prepared by the Contractor in compliance with the stand-alone ESMP prepared for Resettlement Sites and presented in the main ESIA.

**Resettlement Plan (RP):** A Resettlement Policy Framework (RPF) chapter has been included within this document (Details see Chapter 10). To follow this RPF, RP will be prepared for each sub-projects of the proposed project.

**Health, Safety and Environment Plan:** will be prepared by DPHE/PMU/Contractor to address emergencies associated with workers and community health and safety and to properly manage waste effluents generated from the maintenance works. The Plan will be submitted to the AIIB for review and approval prior to completion of construction.

**GBV and Gender Action plan (GAP):** A separate chapter has been included within this document named as GAP.

**Communication Strategy:** A formal communication strategy will be prepared for the project laying out various communication needs and outreach tools and explaining the responsibility of PIC to convey the project impacts and its implications for various stakeholders. A key aspect of this strategy shall be the communication of any project related impacts.

**Biodiversity conservation and monitoring:** Detailed ecological studies will be carried out, during ESIA study in the project impact area, to broaden the existing baseline data. The ESIA of the project should identify potential sites of sensitive ecological area, mangrove area, fish conservation area, locations of dolphin conservation, habitat for coastal birds, sea turtle, etc. in the project area. The proposed study will confirm these locations, identify additional locations and islands/chars of conservation significance, and prepare detailed conservation plans and implement these plans. A consulting firm will be hired to carry out the studies and to conduct biodiversity monitoring during the construction.

### **Generic Mitigation Plan**

According to the analysis in Chapter 6, most of the adverse impacts of subprojects could be minimized or eliminated by adopting standard mitigation measures. This section describes the standard mitigation measures that could be applied to the subprojects under BCISP. Table 5-7 shows “general impacts” and suggested mitigation and enhancement measures. It also assigns

responsibility for implementation of mitigation and enhancement measures. The subproject specific impacts need to be identified during the ESIA of the subproject and a subproject ESMP will be prepared in line with the Generic ESMP. This is to be conducted by the TA Consultant who prepares the subproject detailed design.

The subproject ESMPs should provide series of management plans that can provide guidance for site-specific ESMPs to be developed by the contractors. The management plans to be included in subproject ESMPs include but not limited to:

- Air Quality Management Plan
- Water Quality Management Plan
- Noise and Vibration Management Plan
- Soil Quality and Erosion Management Plan
- Waste Management Plan
- Construction Site Management Plan
- Labour Camp Management Plan
- Flora and Fauna Management Plan
- Traffic Management Plan
- Occupational Health and Safety Plan
- Emergency Response Plan

**Table 5-7:** Generic Environmental and Social Management Plan

Issues/ Activities	Potential Environmental and social Impacts	Proposed Mitigation Measures	Responsible Parties (Implementation and Monitoring)
<b>Preconstruction Stage</b>			
Land Acquisition and Loss of Properties	<ul style="list-style-type: none"> <li>• Acquisition of Private Land</li> <li>• Impact on structures/properties</li> <li>• Impact on Vulnerable community or critical habitats.</li> <li>• Loss or damage to environmentally sensitive areas</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid locating the components in or near environmentally sensitive areas.</li> <li>• Compensation for the loss</li> <li>• Livelihood restoration</li> <li>• Training and Capacity building</li> <li>• Engaging PAPs in process of project development</li> </ul>	Relevant Pourashava, DPHE, Consultant
Environmental Clearance	Environmental clearances, consents, and permits are required (Section II of the ESMPF) in order to implement the	Necessary environmental clearances and permits have to be obtained and must follow the guidelines issued by the authorities	PMU, DPHE

Issues/ Activities	Potential Environmental and social Impacts	Proposed Mitigation Measures	Responsible Parties (Implementation and Monitoring)
	project. If not pursued on time, this can delay the project.		
Odour nuisance and aesthetics	Odour can be generated around the FSTP site	<ul style="list-style-type: none"> <li>Provide a green belt buffer zone of 10-20 m wide all around the FSTP with trees in multi-rows. This will act as a visual screen around the facility and will improve the aesthetic appearance.</li> </ul>	Contractor, Consultant, DPHE
Shifting of utilities (only for sewer network)	Relocation of utilities	All community underground and overhead utilities will be shifted as per proper Utility Shifting Plan after taking prior permission from concerned department/authority.	Concerned department, Relevant Pourashava, Consultant, Contractor, DPHE
Mobilization and Site Clearance	Removal of Tree & Vegetation Cover	<ul style="list-style-type: none"> <li>After the finalization of the designs and layout of the project components, the trees within proposed construction areas will be marked;</li> <li>Trees and Vegetation cover will be removed from the project development area before the Commencement of Construction after obtaining necessary permissions from the relevant authority.</li> <li>Compensation to be provided for the affected trees based on the unit prices of trees determined by the Forest Department;</li> <li>Only trees that will require removal within the proposed construction areas of the sites will be cut; and</li> <li>For trees not proposed to be cut, taking all precautions to protect them from any damage from construction activities.</li> </ul>	Relevant Pourashava, Consultant, Contractor, DPHE

Issues/ Activities	Potential Environmental and social Impacts	Proposed Mitigation Measures	Responsible Parties (Implementation and Monitoring)
	Dismantling of Existing Structures	Existing structures (if any) from project Development area should be dismantled after taking formal concurrence from respective stakeholder/s	Relevant Pourashava, Consultant, Contractor, DPHE
	Mobilization of Construction plants, other Construction Vehicles, Equipment and Machinery	Specifications of construction plants, Other Construction Vehicles, Equipment and Machinery should comply to the norms of pollution control legislations of Bangladesh	Relevant Pourashava, Consultant, Contractor, DPHE
	Setting up of construction camps	<ul style="list-style-type: none"> <li>Ideally the construction camps should be located at least 500 m away from habitations away from sensitive locations.</li> <li>The Contractor during the progress of work will provide, erect and maintain Necessary (temporary) living accommodation ancillary facilities for labour to standards and scales approved by the AIIB.</li> </ul>	Contractor, Relevant Pourashava, DPHE
	Identification of construction spoil disposal site	<p>Following points are to be considered for Selection of site for spoil disposal-</p> <ul style="list-style-type: none"> <li>It should not be located within designated to restore ecologically sensitive areas</li> <li>The dumping should not impact natural drainage courses</li> <li>Settlements should be located acceptably away from the disposal site</li> </ul>	Contractor, Consultant, Relevant Pourashava, DPHE
	Soil pollution may occur during site clearance	<ul style="list-style-type: none"> <li>Limit the removal of topsoil to the minimum necessary for construction activities, and ensure that topsoil is replaced after construction to restore soil health.</li> <li>Ensure proper handling, storage, and application of</li> </ul>	Contractor, Consultant, Relevant Pourashava, DPHE

Issues/ Activities	Potential Environmental and social Impacts	Proposed Mitigation Measures	Responsible Parties (Implementation and Monitoring)
		<p>construction chemicals to prevent soil contamination, and implement spill prevention and response measures for any accidental spills or leaks.</p> <ul style="list-style-type: none"> <li>• Schedule site clearing activities during dry weather to minimize the risk of erosion.</li> </ul>	
	Shifting of Cultural/Religious Properties	<p>Cultural and Religious properties should be shifted to the nearby location in consultation with local community and administration.</p>	Contractor, Consultant, Relevant Pourashava, DPHE
<b>Construction Stage</b>			
Construction and operation of labor shed for workers	<ul style="list-style-type: none"> <li>• Generation of sewage and solid waste; water/ environmental pollution</li> <li>• Health of workers</li> <li>• Outside labor force causing negative impact on health and social well-being of local people</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of sanitary latrine/ septic tank system</li> <li>• Proper disposal of solid waste</li> <li>• Raising awareness about hygiene practices among workers.</li> <li>• Availability and access to first-aid equipment and medical supplies</li> <li>• Contractor to remove labor camp at the completion of contract</li> <li>• Contractor to employ local work force, where appropriate; promote health, sanitation and road safety awareness</li> </ul>	Contractor, Consultant, DPHE
General construction works for sub-projects	<ul style="list-style-type: none"> <li>• Drainage congestion and flooding</li> <li>• Air pollution</li> <li>• Traffic congestion, traffic problems</li> <li>• Noise pollution</li> <li>• Water and soil pollution</li> </ul>	<ul style="list-style-type: none"> <li>• Provision for adequate drainage of storm water</li> <li>• Ensure that all project vehicles are in good operating condition.</li> <li>• Spray water on dry surfaces/ unpaved roads regularly to reduce dust generation</li> </ul>	Contractor, Consultant, DPHE

Issues/ Activities	Potential Environmental and social Impacts	Proposed Mitigation Measures	Responsible Parties (Implementation and Monitoring)
	<ul style="list-style-type: none"> <li>• Water pollution from temporary labor shed toilets</li> <li>• Accidents</li> <li>• Soil erosion or silt runoff</li> </ul>	<ul style="list-style-type: none"> <li>• Sprinkle and cover stockpiles of loose materials (e.g., fine aggregates).</li> <li>• Schedule deliveries of material/ equipment during off-peak hours.</li> <li>• Depute flagman for traffic control</li> <li>• Use of noise suppressors and mufflers in heavy construction equipment.</li> <li>• Avoid using of construction equipment producing excessive noise at night</li> <li>• Prevent discharge of fuel, lubricants, chemicals, and wastes into adjacent rivers/ khals/ drains.</li> <li>• Measures to minimize soil erosion/silt runoff to be incorporated when conducting earthworks during monsoon season</li> <li>• Following standard safety protocol.</li> </ul>	
	Loss of floral diversity	<ul style="list-style-type: none"> <li>• Actively monitor for any invasive species introduced during construction, controlling their spread to protect the local biodiversity.</li> <li>• Conduct routine cleanups on-site to remove waste materials that could pose a threat to local flora and fauna.</li> <li>• Provide training for workers on the importance of natural resource conservation and promote respect for nearby vegetation, discouraging</li> </ul>	Contractor, Consultant, DPHE

<b>Issues/ Activities</b>	<b>Potential Environmental and social Impacts</b>	<b>Proposed Mitigation Measures</b>	<b>Responsible Parties (Implementation and Monitoring)</b>
	Loss of Faunal Diversity	<p>unnecessary damage to branches, twigs, and flowers.</p> <ul style="list-style-type: none"> <li>Design construction activities to minimize habitat clearance.</li> <li>Schedule noisy construction activities during times when local wildlife is less active (e.g., during the day for nocturnal species).</li> <li>Implement noise and light reduction measures, such as sound barriers and restricted working hours, especially near dawn and dusk when many species are active. Use directional lighting that avoids illuminating wildlife habitats to minimize disturbance.</li> <li>Establish buffer zones around critical habitats (if there is any) to protect wildlife from construction disturbances.</li> <li>Conduct regular site cleanups to remove any waste that could harm local fauna.</li> <li>Train workers on the importance of conserving natural resources and discourage unnecessary damage to wildlife, birds and its habitat.</li> </ul>	Contractor, Consultant, DPHE
Construction of FSTP	Groundwater pollution due to discharge of liquid (during operational phase)	<ul style="list-style-type: none"> <li>Restrict construction at shallow water table area</li> </ul>	Contractor, Consultant, DPHE
Construction of IWTP	Surface water pollution, Air quality deterioration, GHG emission etc.	<ul style="list-style-type: none"> <li>Dispose solid waste in a planned manner.</li> <li>Develop a planned collection system.</li> </ul>	Contractor, Consultant, DPHE

Issues/ Activities	Potential Environmental and social Impacts	Proposed Mitigation Measures	Responsible Parties (Implementation and Monitoring)
		<ul style="list-style-type: none"> <li>Establish a central solid waste management system.</li> </ul>	
Construction of wastewater/sewage disposal system	Groundwater pollution due to discharge of wastewater/ effluent in deep soakage well, and decentralized wastewater treatment plant (during operational phase)	<ul style="list-style-type: none"> <li>Restrict construction of deep soakage well</li> <li>Proper design of DEWATS</li> </ul>	Contractor, Consultant, DPHE
Labor Influx	Risk on labor influx	The risk will be mitigated by writing, adopting and implementing a written Labour Influx Management Plan as part of the bidding document, code of conduct, contract before employing any labor in the work and ensuring necessary training. Contractor engaged Labour Expert will be responsible to ensure the mitigation measure.	Contractor/Sub-contractor DPHE/Pourashava
Female workers	Discrimination against female workers	The Risk will be mitigated by Implementing a code of conduct, contract before employing any labor in the work and ensuring necessary training. The Contractor's monthly training program will also cover topics related to Code of Conduct such as sexual harassment, particularly towards women and children, violence, including sexual and/or gender-based violence and respectful attitude while interacting with the local community. Contractor engaged Labour Expert will be responsible to ensure the mitigation measure.	Contractor/Sub-contractor/ DPHE/Pourashava
Occupational Health and Safety (OHS)	General understanding and implementation of occupational health and safety	<ul style="list-style-type: none"> <li>Comply all national occupational health and safety laws and rules (See Table 2.1 and section 2.5 of this ESMPF)</li> <li>Develop and implement site-specific occupational health</li> </ul>	Contractor, Subcontractor, Consultant, DPHE

Issues/ Activities	Potential Environmental and social Impacts	Proposed Mitigation Measures	Responsible Parties (Implementation and Monitoring)
	requirements. Work related diseases	<p>and safety (OH&amp;S) Plan, and including the Site-specific EMP.</p> <ul style="list-style-type: none"> <li>Provide medical insurance coverage for workers;</li> <li>Provide H&amp;S orientation</li> <li>Overall, the contractor should comply with IFC EHS Guidelines on OHS.</li> </ul>	
All Construction Works	Beneficial impact on employment generation	<ul style="list-style-type: none"> <li>Employ local people in the project activities as much as possible.</li> <li>Give priority to poor people living in slums within project area in sub-elated works (e.g., excavation and other works, which do not require skilled manpower).</li> </ul>	Contractor, Subcontractor, Consultant, DPHE, Pourashava
<b>Operation Stage</b>			
Operation of Fecal sludge management system (including FSTP), DEWATS	<ul style="list-style-type: none"> <li>Odor nuisance affecting nearby community</li> <li>Health and safety of pit emptier</li> <li>Ecological impacts including destruction of aquatic habitat due to poor quality effluent discharge,</li> <li>Air quality and odor problem</li> </ul>	<ul style="list-style-type: none"> <li>Ensure collection of fecal sludge through mechanical means (using vacu tugs) and use of protective gear by pit emptier.</li> <li>Proper training of pit emptier.</li> <li>Secured transport of fecal sludge</li> <li>Ensure proper treatment appropriate for disposal meeting the DoE requirements</li> <li>Prevent discharge of leachate, chemicals, and fecal sludge into surface waters.</li> </ul>	Pourashava
	Groundwater pollution due to discharge of liquid/effluent, FSTP and DEWATS	<ul style="list-style-type: none"> <li>Ensure proper treatment appropriate for disposal meeting the DoE requirements</li> <li>Restrict discharge of liquid effluent into shallow water table area</li> </ul>	Pourashava

<b>Issues/ Activities</b>	<b>Potential Environmental and social Impacts</b>	<b>Proposed Mitigation Measures</b>	<b>Responsible Parties (Implementation and Monitoring)</b>
	<p>Waste generation from poor management of waste, including solid waste, sludge from wastewater treatment, and hazardous materials wastes can lead to environmental pollution, public health risks, and nuisance issues such as odors and pests.</p>	<ul style="list-style-type: none"> <li>Develop and implement a comprehensive waste management plan covering the collection, transportation, treatment, and disposal of all waste types to ensure compliance with environmental standards.</li> <li>Store oily waste and chemicals in tanks or containers with adequate secondary containment to prevent accidental leakage.</li> <li>Ensure waste is properly segregated at the source to facilitate recycling and suitable disposal methods, accompanied by educational programs for staff and the community on the importance of waste separation.</li> <li>Provide training for personnel involved in waste management, focusing on best practices, safety protocols, and equipment use for effective waste handling and disposal.</li> <li>Conduct regular monitoring of wastewater quality to ensure ongoing compliance with environmental regulations.</li> <li>Label all hazardous waste clearly with essential information, including waste name, type, and quantity, and arrange for its removal from the site at regular intervals by authorized vendors for safe disposal at designated sites.</li> <li>Develop and maintain emergency response plans to</li> </ul>	<p>Pourashava</p>

<b>Issues/ Activities</b>	<b>Potential Environmental and social Impacts</b>	<b>Proposed Mitigation Measures</b>	<b>Responsible Parties (Implementation and Monitoring)</b>
		address potential incidents involving waste spillage or improper disposal, ensuring that personnel are prepared to respond effectively.	
	The operation of treatment plants, waste collection vehicles, and public toilet facilities can generate significant noise and vibration, impacting the quality of life for nearby residents.	<ul style="list-style-type: none"> <li>• Machinery and vehicles must be fitted with mufflers, silencers, and other necessary soundproofing materials to minimize operational noise and vibration.</li> <li>• Implement regular maintenance of equipment to ensure lower noise and vibration emissions.</li> <li>• Implement operational hour restrictions for particularly noisy activities, such as waste collection and heavy machinery operation, to avoid early morning or late-night disturbances.</li> <li>• Provide training for waste collection and treatment facility operators on best practices for reducing noise during operations, including safe and quiet driving practices for collection vehicles.</li> <li>• Unnecessary use of alarms, horns, and sirens shall be avoided.</li> <li>• Buildings shall be designed with improved acoustic performance, and sound insulation shall be provided.</li> </ul>	Pourashava

Summary of projected environmental and social impacts and their significance is provided in the following table:

**Table 5-8:** Summary of Projected Environmental and Social Impacts and their Risk Significance

Issues/ Activity/ Impact	Duration of Impact	Spatial Extent of the Impact	Reversibility of the impact	Likelihood of the impact	Intensity of the impact	Magnitude of the impact	Sensitivity Receptor	Significance Prior to Mitigation	Significance After Mitigation*
<b>Preconstruction Stage</b>									
Land acquisition and loss of properties	Short Term	Project Site	Irreversible	High	Medium	Moderate	High	Medium High	Low
Shifting of utilities (only for sewer network)	Short Term	Project Site	Reversible with Effort	Medium	Medium	Minor	Medium	Medium Low	Very Low
Odor nuisance and aesthetics	Short Term	Project Site	Reversible with Effort	Medium	Medium	Minor	Medium	Medium Low	Very Low
Removal of tree & vegetation cover	Short Term	Project Site	Reversible with Effort	High	Medium	Moderate	High	Medium High	Low
Soil pollution	Short Term	Project Site	Reversible with Effort	Medium	Medium	Minor	Medium	Medium Low	Low
<b>Construction stage</b>									
Air pollution	Medium Term	Local	Reversible with Effort	High	High	Moderate	High	Medium High	Low
Noise and vibration	Medium Term	Local	Reversible with Effort	High	High	Moderate	High	Medium High	Very Low
Surface water pollution	Medium Term	Local	Reversible with Effort	Medium	High	Moderate	High	Medium High	Low

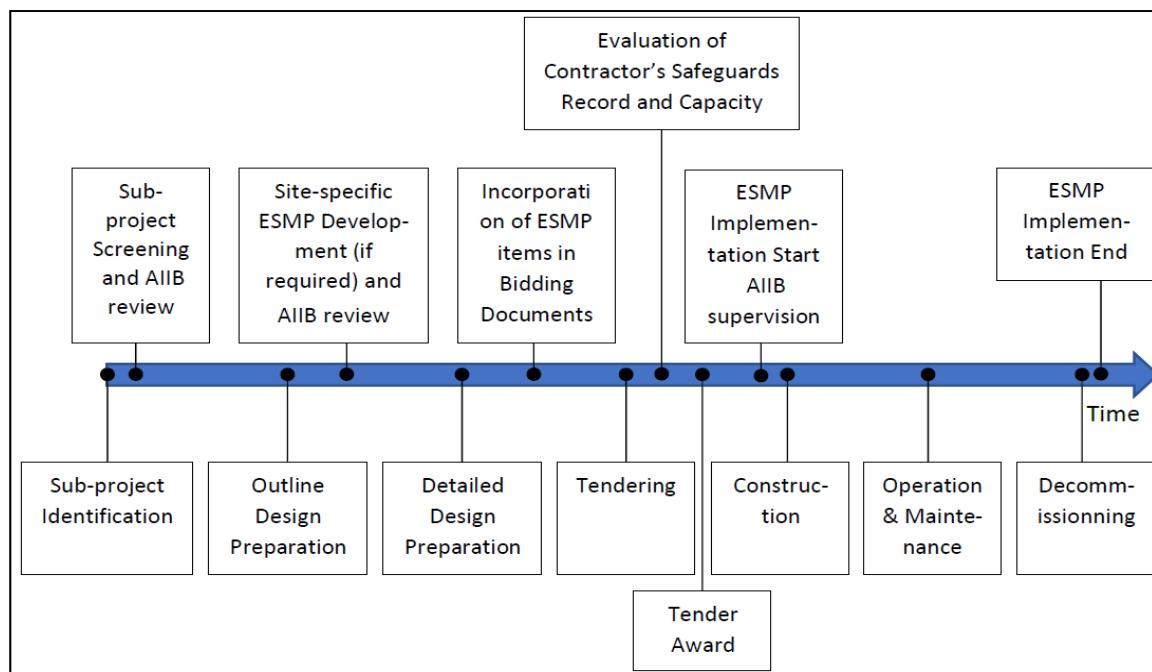
Issues/ Activity/ Impact	Duration of Impact	Spatial Extent of the Impact	Reversibility of the impact	Likelihood of the impact	Intensity of the impact	Magnitude of the impact	Sensitivity Receptor	Significance Prior to Mitigation	Significance After Mitigation*
Ground water pollution	Medium Term	Local	Reversible with Effort	Medium	High	Moderate	High	Medium High	Very Low
Soil pollution	Medium Term	Local	Reversible with Effort	Medium	Medium	Moderate	Medium	Medium Low	Low
Solid waste	Short Term	Project Site	Reversible with Effort	High	Medium	Moderate	Medium	Medium Low	Very Low
Chemical and hazardous waste	Short Term	Local	Reversible with Effort	High	High	Moderate	Medium	Medium Low	Very Low
Domestic and sanitary waste	Short Term	Local	Reversible with Effort	High	High	Moderate	Medium	Medium Low	Very Low
Loss of floral diversity	Short Term	Project Site	Reversible with Effort	High	Medium	Moderate	Medium	Medium Low	Very Low
Loss of faunal diversity	Medium Term	Local	Reversible with Effort	High	Medium	Moderate	Medium	Medium Low	Low
Flooding and drainage congestion	Short Term	Local	Reversible with Effort	Medium	High	Moderate	High	Medium High	Low
Traffic	Medium Term	Local	Easily Reversible	Medium	Medium	Moderate	Medium	Medium Low	Very Low
Labor influx and local conflict of interest	Medium Term	Local	Reversible with Effort	Medium	High	Moderate	High	Medium High	Low
Gender based violences	Short Term	Local	Reversible with Effort	Medium	Medium	Moderate	Medium	Medium Low	Very Low

Issues/ Activity/ Impact	Duration of Impact	Spatial Extent of the Impact	Reversibility of the impact	Likelihood of the impact	Intensity of the impact	Magnitude of the impact	Sensitivity Receptor	Significance Prior to Mitigation	Significance After Mitigation*
Occupational health and safety	Short Term	Local	Reversible with Effort	High	Medium	Moderate	High	Medium High	Low
Community health and safety	Short Term	Local	Reversible with Effort	Medium	Medium	Moderate	Medium	Medium Low	Very Low
Employment generation	Long Term	Local	Reversible with Effort	High	High	Major	High	Very High	-
<b>Operation stage</b>									
Groundwater pollution	Long Term	Local	Irreversible	Medium	High	Major	High	Very High	Low
Waste generation including hazardous materials	Long Term	Local	Reversible with Effort	High	Medium	Moderate	Medium	Medium Low	Very Low
Odor	Long Term	Local	Reversible with Effort	High	High	Major	Medium	High	Low
Air pollution	Long Term	Regional/ National	Reversible with Effort	High	High	Major	Medium	High	Low
Noise and vibration	Long Term	Local	Reversible with Effort	Medium	Medium	Moderate	Medium	Medium Low	Low
Aquatic fauna	Long Term	Local	Irreversible	Medium	High	Major	High	High	Low
Occupational health and safety	Long Term	Local	Reversible with Effort	Medium	Medium	Moderate	Medium	Medium Low	Low

\* Significance after mitigation = the residual impact after proper implementation of suggested mitigation measures

## Summary of the Steps of Management Plan

This Section of the ESMPF describes the mitigation approach that should be considered to reduce significant impacts of subproject to acceptable levels and to enhance benefits where possible. Typical subproject preparation and implementation timeline is shown in Figure 5.1. As there are a wide range of alternatives for proposed-subprojects, specific timeline cannot be provided at this stage. However, the overall project timeline is provided in the relevant procurement plans provided in AIIB's STEP (Systematic Tracking of Exchanges in Procurement) system.



**Figure 5-1:** Typical Subproject Implementation Timeline and ESF Activities

## 5.5 Institutional Arrangement for Implementation of Environmental and Social Management Plan (ESMP)

For all sub-projects to be implemented under BCISP, the Project Management Unit (PMU) of the DPHE will be responsible for overseeing overall environmental management including implementation of mitigation measures. After project completion, the municipality authority and DPHE will be responsible for overseeing the operation and maintenance of the sub-project. Additionally, a third party will be engaged through an MoU to support operation and maintenance activities for Category A Projects. A project management unit (PMU) established in DPHE headed by a full-time Project Director (PD) will be responsible for day-to-day management of the Project and for coordinating with the relevant Government and AIIB Authority.

During project implementation stage, both DPHE and Pourashava will be responsible for overall environmental management, monitoring and supervision, while day to day monitoring

and supervision of sub-projects will be carried out by TA Consulting Firm(s) appointed by the PMU of DPHE.

Under the BCISP, DPHE will implement different types of sub-projects (primarily in the area of sanitation/FSM) in about 25 Municipalities. Figure 5-2 shows the institutional set up, including major activities and assignment of responsibility for their execution, for implementation of BCISP by DPHE

According to the ESMPF, the Municipalities and DPHE-appointed Consultant are responsible for the identification of sub-projects, and preparation of relevant sub-project documents (including feasibility study and detail design). For the purpose of environmental assessment of the sub-projects, the Pourashava and the Consultant will:

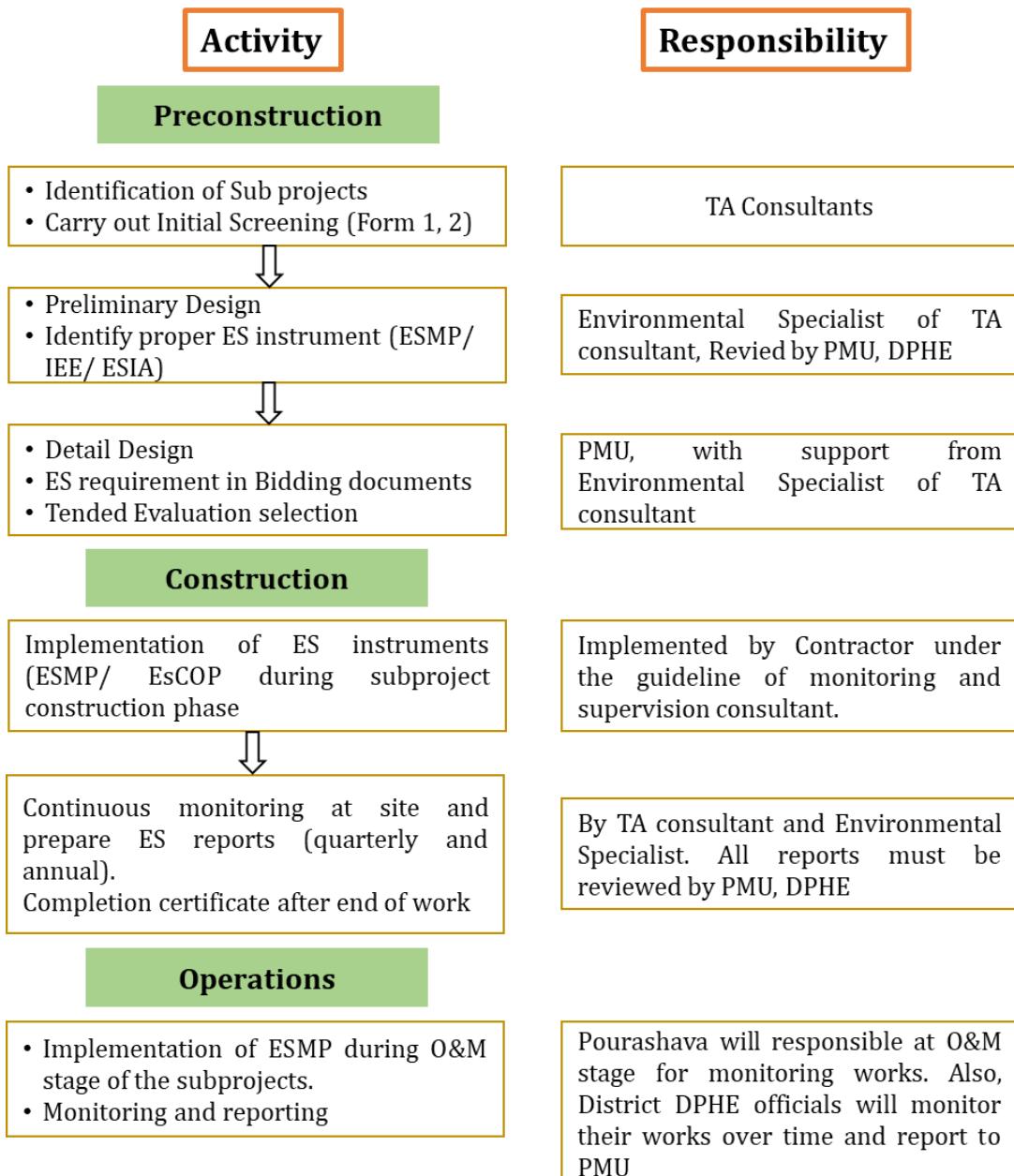
- (1) Prepare Sub-project description by filling “Form 1: Sub-project Description” (see **Appendix C**)
- (2) Carry out environmental screening of the sub-project by filling “Form 2: Environmental Screening” (See **Appendix D**)

The sub-project description, and “environmental screening” prepared by the Pourashava and Consultant will be forwarded to the PMU of DPHE for review. At DPHE, the Project Management Unit (PMU) will be responsible for overall management of all sub-projects. It is recommended that the PMU hire one “environmental specialist” for facilitating overall environmental management of the BCISP. The PMU, with support from the “environmental specialist” will review of the documents (project description and environmental screening) and based on the review the PMU will determine the need for further environmental assessment (i.e., ESIA/IEE).

If further environmental assessment (EA) is necessary, the PMU of DPHE will employ a consultant for carrying out the EA following the ESMPF presented in this report; the “environmental specialist” of PMU will supervise this work. After completion of the EA, PMU of DPHE will be responsible for getting necessary clearance from the DoE and the AIIB.

The PMU of the DPHE will be responsible for implementing the EMP and ECoP of a sub-project by the respective contractor with support from TA Consultant, appointed by PMU of DPHE.

During implementation of all sub-projects, the DPHE and Pourashava, with support from the Technical Assistance (TA) consulting firm, will be responsible to monitor and make sure that the environmental mitigation/ enhancement measures (including health and safety measures) outlined in the ESMP for the particular sub-project are implemented in accordance to the provisions of the Tender Document.



**Figure 5-2:** Institutional Set Up for Project Management and Implementation of ESMP

## 5.6 Environmental Code of Practice (ECoP)

In Table 5-1 for the small-scale construction work some certain Environmental Code of Practices (EsCOP) will be followed as an E&S instrument. The EsCOPs contain specific, detailed and tangible measures that would mitigate the potential impacts of the subproject's activity in the construction and operation phases. These mitigation strategies and management measures are simple activities that are needed to be followed by the contractors.

For BCISP projects the EsCOP are categorized into:

- EsCOPs for infrastructure subprojects (general guidelines and technical guidelines)
- Specific EsCOPs for small scale Subprojects

## General ESCOP for Infrastructure Subprojects

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
1.	Noise during construction	<ul style="list-style-type: none"> <li>a) Plan activities in consultation with communities so that noisiest activities are undertaken during periods that will result in least disturbance. (Planning phase)</li> <li>b) Use when needed and feasible noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines or planting of fast-growing trees). (Implementation phase)</li> <li>c) Minimize project transportation through community areas. Maintain a buffer zone (such as open spaces, row of trees or vegetated areas) between the project site and residential areas to lessen the impact of noise to the living quarters. (Implementation phase)</li> </ul>	Contractor	S&MC, PMU
2.	Soil erosion	<ul style="list-style-type: none"> <li>a. Schedule construction during dry season. (Planning phase)</li> <li>b. Contour and minimize length and steepness of slopes. (Implementation phase)</li> <li>c. Use mulch, grasses or compacted soil to stabilize exposed areas. (Implementation phase)</li> <li>d. Cover with topsoil and re-vegetate (plant grass, fast-growing plants/bushes/trees) construction areas quickly once work is completed. (Post-Implementation phase)</li> </ul>	Contractor	S&MC, PMU

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		e. Design channels and ditches for post-construction flows and line steep channels/slopes (e.g., with palm fronds, jute mats, etc.). (Post-Implementation phase)		
3.	Air quality	<p>a) Minimize dust from exposed work sites by applying water on the ground regularly during dry season. (Implementation phase)</p> <p>b) Avoid burn site clearance debris (trees, undergrowth) or construction waste materials. (Implementation phase)</p> <p>c) Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals. (Implementation phase)</p> <p>d) Reduce the operation hours of generators /machines /equipment /vehicles. (Implementation phase)</p> <p>e) Control vehicle speed when driving through community areas is unavoidable so that dust dispersion from vehicle transport is minimized. (Implementation phase)</p>	Contractor	S&MC, PMU
4.	Water quality and availability	<p>a) Activities should not affect the availability of water for drinking and hygienic purposes. (Implementation phase)</p> <p>b) No soiled materials, solid wastes, toxic or hazardous materials should be stored in, poured into or thrown into water</p>	Contractor	S&MC, PMU

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>bodies for dilution or disposal. (Implementation phase)</p> <p>c) Avoid the use of waste water pools particularly without impermeable liners.</p> <p>d) Provision of toilets with temporary septic tank. (Implementation phase)</p> <p>e) The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of river beds or flooding of settlements. (Implementation phase)</p> <p>f) Separate concrete works in waterways and keep concrete mixing separate from drainage leading to waterways. (Implementation phase)</p>		
5.	Solid and hazardous waste	<p>a) Segregate construction waste as recyclable, hazardous and non-hazardous waste. (Implementation phase)</p> <p>b) Collect, store and transport construction waste to appropriately designated/controlled dump sites. (Implementation phase)</p> <p>c) On-site storage of wastes prior to final disposal (including earth dug for foundations) should be at least 300 metres from rivers, streams, lakes and wetlands. (Implementation phase)</p> <p>d) Use secured area for refuelling and transfer of other toxic fluids distant from settlement area (and at least 50 metres from</p>	Contractor	S&MC, PMU

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>drainage structures and 100 metres from important water bodies); ideally on a hard/non-porous surface. (Implementation phase)</p> <p>e) Train workers on correct transfer and handling of fuels and other substances and require the use of gloves, boots, aprons, eyewear and other protective equipment for protection in handling highly hazardous materials. (Implementation phase)</p> <p>f) Collect and properly dispose of small amount of maintenance materials such as oily rags, oil filters, used oil, etc. Never dispose spent oils on the ground and in water courses as it can contaminate soil and groundwater (including drinking water aquifer). (Implementation phase)</p> <p>g) After each construction site is decommissioned, all debris and waste shall be cleared. (Post-Implementation phase)</p>		
6.	Health and Safety	<p>a) When planning activities of each subproject, discuss steps to avoid people getting hurt. (Planning phase)</p> <p>It is useful to consider:</p> <ul style="list-style-type: none"> <li>• Construction place: Are there any hazards that could be removed or should warn people about?</li> <li>• The people who will be taking part in construction: Do the participants have adequate skill</li> </ul>	Contractor	S&MC, PMU

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>and physical fitness to perform their works safely?</p> <ul style="list-style-type: none"> <li>• The equipment: Are there checks you could do to make sure that the equipment is in good working order? Do people need any particular skills or knowledge to enable them to use it safely?</li> <li>• Electricity Safety: Do any electricity good practices such as use of safe extension cords, voltage regulators and circuit breakers, labels on electrical wiring for safety measure, aware on identifying burning smell from wires, etc. apply at site? Is the worksite stocked with voltage detectors, clamp meters and receptacle testers?</li> <li>b) Mandate the use of personal protective equipment for workers as necessary (gloves, dust masks, hard hats, boots, goggles). (Implementation phase)</li> <li>c) Follow the below measures for construction involve work at height (e.g., 2 meters above ground (Implementation phase):</li> <li>• Do as much work as possible from the ground.</li> <li>• Do not allow people with the following personal risks to perform work at height tasks: eyesight/balance problem; certain chronic diseases – such as osteoporosis, diabetes, arthritis or Parkinson's disease; certain medications – sleeping pills,</li> </ul>		

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>tranquillisers, blood pressure medication or antidepressants; recent history of falls – having had a fall within the last 12 months, etc.</p> <ul style="list-style-type: none"> <li>• Only allow people with sufficient skills, knowledge and experience to perform the task.</li> <li>• Check that the place (e.g., a roof) where work at height is to be undertaken is safe.</li> <li>• Take precautions when working on or near fragile surfaces.</li> <li>• Clean up oil, grease, paint, and dirt immediately to prevent slipping; and</li> <li>• Provide fall protection measures e.g., safety harness, simple scaffolding/guard rail for works over 4 meters from ground.</li> <li>d) Keep worksite clean and free of debris on daily basis. (Implementation phase)</li> <li>e) Provision of first aid kit with bandages, antibiotic cream, etc. or health care facilities and enough drinking water. (Implementation phase)</li> <li>f) Keep corrosive fluids and other toxic materials in properly sealed containers for collection and disposal in properly secured areas. (Implementation phase)</li> <li>g) Ensure adequate toilet facilities for workers from outside of the community. (Implementation phase)</li> </ul>		

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>h) Rope off construction area and secure materials stockpiles/ storage areas from the public and display warning signs including at unsafe locations. Do not allow children to play in construction areas. (Implementation phase)</p> <p>i) Ensure structural openings are covered/protected adequately. (Implementation phase)</p> <p>j) Secure loose or light material that is stored on roofs or open floors. (Implementation phase)</p> <p>k) Keep hoses, power cords, welding leads, etc. from laying in heavily travelled walkways or areas. (Implementation phase)</p> <p>l) If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours, if needed. (Implementation phase)</p> <p>m) Control driving speed of vehicles particularly when passing through community or nearby school, health centre or other sensitive areas. (Implementation phase)</p> <p>n) During heavy rains or emergencies of any kind, suspend all work. (Implementation phase)</p>		

SL	Issues/ Activities	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<ul style="list-style-type: none"> <li>o) Fill in all earth borrow-pits once construction is completed to avoid standing water, water-borne diseases and possible drowning. (Post-Implementation phase)</li> </ul>		
7	Other	<ul style="list-style-type: none"> <li>a) No cutting of trees or destruction of vegetation other than on construction site. DPHE will procure locally sourced materials consistent with traditional construction practices in the communities. <b>(Design phase)</b></li> <li>b) No hunting, fishing, capture of wildlife or collection of plants. <b>(Implementation phase)</b></li> <li>c) No use of unapproved toxic materials including lead-based paints, un-bonded asbestos, etc. <b>(Implementation phase)</b></li> <li>d) No disturbance of cultural or historic sites. <b>(Design and implementation phases)</b></li> </ul>	Contractor	S&MC, PMU

#### Specific ESCOPs for small scale Subprojects

SL	Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
01	Household latrine (Cubicle with safe containment)	<ul style="list-style-type: none"> <li>a) Latrine must have a septic tank made from non-permeable material such as concrete, plastic or fiberglass to provide primary treatment of fecal waste. <b>(Implementation phase)</b></li> <li>b) PVC pipe used to connect pour-flush toilet to a septic tank must be buried underground for protection and to prevent exposure to sunlight. <b>(Implementation phase)</b></li> <li>c) Metal pipe is a preferred choice to be used as the gas vent pipe</li> </ul>	Contractor	S&MC, PMU

SL	Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>on septic tanks. Never use PVC pipe as it is unable to withstand long-term exposure to sunlight. <b>(Implementation phase)</b></p> <p>d) A latrine should be at least 20 meters from water sources (well, spring, pond, river). <b>(Design and implementation phases)</b></p>		
02	Public toilet, community toilets	<p>a. All toilets must have a septic tank made from non-permeable material such as concrete, plastic or fiberglass to provide primary treatment of faecal waste. <b>(Implementation phase)</b></p> <p>b. PVC pipe used to connect pour-flush toilet to a septic tank must be buried underground or covered over (with cement) for protection and to prevent exposure to sunlight. <b>(Implementation phase)</b></p> <p>f. Ensure toilets are located in non-flood-prone areas and away from drinking water sources (minimum 30m from groundwater sources). <b>(Implementation phase)</b></p> <p>g. Adopt water-efficient and eco-friendly toilet designs (e.g., twin-pit, bio-toilets, septic tanks). <b>(Design phase)</b></p> <p>h. Ensure adequate ventilation, lighting, and privacy (separate facilities for men and women). <b>(Implementation phase)</b></p> <p>i. Proper disposal of construction debris; avoid soil and water contamination. <b>(Implementation phase)</b></p>	Contractor	S&MC, PMU

SL	Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>j. Ensure safe containment and periodic desludging. <b>(Implementation phase)</b></p> <p>k. Use of Eco-friendly Technologies: Bio-digesters or decentralized wastewater treatment systems (DEWATS). <b>(Design phase)</b></p> <p>l. Use environmentally friendly cleaning agents to minimize chemical contamination. <b>(Implementation phase)</b></p> <p>m. Ensure gender-segregated facilities and safety measures (where feasible). <b>(Implementation phase)</b></p>		
03	Installation of test and production tube-well with pump house	<p>a. Select hydro geologically suitable locations based on groundwater studies. <b>(Design phase)</b></p> <p>b. Maintain a minimum safe distance (<math>\geq 30m</math>) from existing sanitation facilities to prevent contamination. <b>(Design phase)</b></p> <p>c. Proper disposal of drilling mud, cuttings, and other construction debris. <b>(Implementation phase)</b></p> <p>d. Conduct water quality tests for bacteriological, chemical, and physical parameters as per national standards and regular monitor arsenic, fluoride, iron, nitrates, and other contaminants. <b>(Implementation phase)</b></p> <p>e. Use low-noise and energy-efficient pumps. <b>(Implementation phase)</b></p>	Contractor	S&MC, PMU

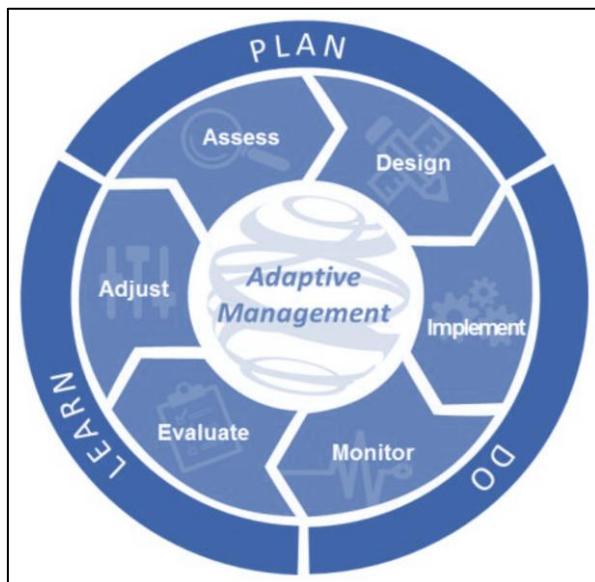
SL	Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party	
			Implementation	Supervision
		<p>f. Install secure fencing and locking mechanisms for unauthorized access prevention. <b>(Implementation phase)</b></p> <p>n. Ensure equitable access to water, including for marginalized and vulnerable groups. <b>(Implementation phase)</b></p>		
04	Construction of Transfer Station	<p>a. Select <b>non-residential areas</b>, at least <b>500m away from schools, hospitals, and residential areas</b>. <b>(Design phase)</b></p> <p>b. Ensure a <b>closed or semi-closed structure</b> to minimize odor, dust, and littering. <b>(Design and Implementation phase)</b></p> <p>c. Design leachate collection and treatment systems to prevent soil/water contamination. <b>(Design phase)</b></p> <p>d. Implement vector control measures against flies, rodents, and scavengers. <b>(Implementation phase)</b></p> <p>e. Prevent runoff contamination of nearby water bodies. <b>(Design and Implementation phase)</b></p>	Contractor	S&MC, PMU

## 5.7 Adaptive Management

Adaptive management is a dynamic approach designed to continually enhance environmental and social management by monitoring, evaluating, and refining strategies based on ongoing feedback. It focuses on identifying where mitigation measures may not fully address potential adverse impacts and addresses uncertainties or unforeseen conditions that may arise during project operations.

The adaptive management process begins with a planning phase, followed by iterative cycles of implementation, monitoring, and evaluation. The effectiveness of management actions is assessed through monitoring and feedback mechanisms, and necessary adjustments are made to strategies and actions to improve outcomes and ensure the project's sustainability. This

process ensures that management approaches remain responsive and effective throughout the project lifecycle.



**Figure 5-3:** Adaptive Management Process

Adaptive Management Phases	Proposed Adaptive Management Mechanisms
Assess	<p>Risk Screening: Fulfil base-line instrument with risk mapping of high-impact zones (e. g. fecal sludge discharges; ground water vulnerability).</p> <p>Stakeholder-Driven Impact Identification: Facilitate community workshops near projects to identify on-the-ground risks by Municipality, DPHE, Third Party Monitoring (TPM) Consultant, Community Representatives.</p>
Design	<p>Incorporate the Mitigation Hierarchy: Imbed avoid-minimize-restore-compensate algorithms into all subcomponent designs (e.g., alternative sludge treatment tech to avoid aquifer contamination).</p> <p>TPM-Integrated EMP: TPM roles in verifying EMP compliance (unannounced site audits, real-time data dashboards).</p> <p>Contractual Provisions: ESMPF clauses should be included in contractor agreements with provision for penalties for failure to comply.</p>
Implement	<p>Multi-level monitoring by DPHE, TPM, Supervision and Monitoring Consultants.</p> <p>Trigger-Based Protocols: Automatic “stop orders” for major violations (e.g., fecal coliform above standard limit).</p> <p>If the vexatious calls are related to Grievance Redress, the TPM verifies that the complaint had been resolved and within the specified time-frame.</p>

Adaptive Management Phases	Proposed Adaptive Management Mechanisms
Monitor	<p>Using periodic monitor of the quality of groundwater near sludge treatment facilities as the monitoring plan.</p> <p>Community Reporting: Community monitors using consultation, GRC, TLCC to report pollution.</p>
Evaluate	<p>Compliance Monitoring: Contractors will be scored in each Month by TPM/SMC with a multiplication of checklist.</p> <p>Stakeholder Validation Meetings: Public review of results at least every quarter.</p>
Adjust	<p>Dynamic Corrective Controls: Progression matrix for repeated problems (e.g., non-conformances in the ESMP and change of contract).</p> <p>Technology Upgradation Protocol: Required adjustment of budget to mitigation tech if thresholds exceeded (e.g., to install advanced odor scrubbers).</p> <p>Lessons-Learned Restructuring ESMP based on trend analysis.</p>

## Chapter 6: Integrating Social and Gender Issues

### 6.1 Integrating Social and Gender Issues

The escalating challenges of sanitation in Bangladesh's urban areas demand a comprehensive and equitable approach. As urbanization accelerates and living standards improve, the need for enhanced sanitation services becomes increasingly urgent. Women, who play a pivotal role in sanitation management, encounter significant challenges in areas such as environmental stewardship, occupational health, and safety. To address these disparities and ensure equitable access to sanitation for all, particularly urban poor women and children, the project will implement a City-wide Inclusive Sanitation (CWIS) approach. By integrating social and gender considerations into its Environmental and Social Management Planning Framework (ESMPF), the Bangladesh City Inclusive Sanitation Project (BCISP) can foster inclusive development and align with the standards set by the Asian Infrastructure Investment Bank (AIIB) and the Government of Bangladesh (GoB). To promote equitable and sustainable outcomes for all communities, especially marginalized and vulnerable groups, the ESMPF will explicitly address relevant social and gender issues.

#### ➤ Stakeholder Engagement

A key focus of the ESMPF is regular and inclusive engagement with a broad range of stakeholders. This involves prioritizing the voices of women, marginalized groups, and vulnerable communities throughout the project lifecycle. Aligning with AIIB's and GoB's policies, this approach ensures that the needs and perspectives of these groups are addressed during the planning and implementation stages, fostering ownership and accountability at the community level. Active participation and consultations are designed to avoid social exclusion, ensuring equitable access to the project's benefits.

#### ➤ Affirmative Action and Capacity Building

To promote gender equality and social inclusion, the ESMPF incorporates affirmative action measures. This includes capacity-building programs targeted at enhancing opportunities for women in the labor market, skills development, and leadership roles within the community. These efforts align with AIIB's and GoB's focus on empowering women by creating pathways for economic participation and addressing gender disparities. By building the capacity of women and marginalized groups, the project enhances their resilience and ability to contribute to long-term economic development.

#### ➤ Awareness Campaigns on Gender-Based Violence (GBV)

One critical aspect of social inclusion is addressing gender-based violence (GBV) within project communities. The ESMPF highlights the need for comprehensive awareness campaigns on GBV, aligning with AIIB's policies on social issues and GoB's initiatives on gender equality. These campaigns aim to raise awareness, encourage behavioral changes, and promote safe environments for women and girls, thereby mitigating risks of violence and discrimination within the project areas. A focus on GBV also ensures the project addresses broader social challenges affecting women's safety and participation in public life.

#### ➤ **Women's Participation in Decision-Making Processes**

The ESMPF prioritizes women's inclusion in project-related decision-making, particularly in governance structures like the Grievance Redress Committee (GRC). By ensuring the representation of women in these critical platforms, the framework supports both AIIB's policy of fostering gender equality and GoB's commitment to inclusive governance. This ensures that women's concerns are directly addressed in the grievance redress mechanism, allowing them to have a voice in resolving project-related issues and contributing to transparent decision-making processes.

#### ➤ **Contractor Orientation on Labor Standards and Gender Issues**

The ESMPF includes orientation sessions for contractors on core labor standards, with a special emphasis on gender and social issues. This aligns with AIIB's commitment to promoting fair labor practices and GoB's policies on labor rights and gender equality. Ensuring that contractors are aware of and adhere to labor standards, including those related to the fair treatment of women, contributes to a safer and more equitable working environment. It also helps to mitigate risks related to exploitation, discrimination, and violations of labor rights in project execution.

Integrating social and gender issues into the BCISP's ESMPF is crucial for ensuring equitable benefits, empowering marginalized communities, aligning with AIIB and GoB policies, and fostering a sustainable and inclusive urban sanitation system.

## **6.2 Social and Gender Issues and Their Implications**

Incorporating social and gender issues into the ESMPF for the BCISP is essential for ensuring inclusive development. Both the AIIB and the GoB acknowledge that gender inequality and social exclusion can hinder economic growth and social cohesion. To mitigate these risks, AIIB integrates gender-sensitive approaches and social assessments into its projects, ensuring equitable access to resources for both men and women. This strategy aligns with global development objectives, such as the Sustainable Development Goals (SDGs) especially SDG-5, and emphasizes stakeholder engagement. However, effective implementation requires continuous monitoring and adaptation to ensure benefits reach marginalized and vulnerable groups, promoting inclusive and sustainable development.

#### ➤ **Gender Equality and Social Inclusion**

Gender inequality and social exclusion remain significant challenges in development projects. Failure to account for these disparities' risks perpetuating existing inequalities. AIIB recognizes that addressing these issues is integral to achieving sustainable development outcomes, while GoB emphasizes gender mainstreaming in national development projects. For BCISP, the ESMPF must focus on gender-sensitive planning, ensuring that both women and men have equitable access to project resources, opportunities, and benefits. The involvement of a Gender Specialist is critical in promoting gender inclusion through capacity building, consultations, and monitoring gender-related actions.

### ➤ **Implications of Gender-Based Violence (GBV)**

Gender-based violence (GBV) is a critical issue that can hinder women's participation in the project and affect the overall success of development initiatives. The ESMPF addresses this by incorporating training on gender and GBV prevention for project staff and local officials. Aligning with AIIB's commitment to creating safe environments for women and GoB's efforts to combat GBV, this training ensures that stakeholders are aware of the risks and mitigation strategies, fostering a safer and more inclusive workplace for women, particularly in construction and community-based activities.

### ➤ **Gender Action Plan and Rapid Gender Assessments**

The Gender Action Plan is a key component of BCISP's ESMPF, aimed at assessing gender-specific needs and integrating these findings into project design. This includes conducting Rapid gender assessments, engaging with stakeholders, and refining strategies to address the gender gaps identified. The plan is aligned with AIIB's requirement for gender assessments and GoB's focus on gender mainstreaming, ensuring that women's voices are heard and their needs are met during the project's lifecycle. This proactive approach helps mitigate risks of social exclusion and maximizes the socio-economic benefits for women.

### ➤ **Women's Participation in Civil Works**

Ensuring women's participation in civil works particularly in unskilled labor roles, is a critical aspect of the ESMPF. Strategies for promoting women-friendly workplaces and ensuring GBV-free environments align with AIIB's gender equality policies and GoB's initiatives to empower women through economic participation. This creates opportunities for women to engage in income-generating activities and contributes to the broader goal of social inclusion, thus enhancing the socio-economic status of women in the project areas.

### ➤ **Occupational Safety and Health**

The ESMPF highlights the importance of occupational safety and health (OSH), particularly in ensuring that both men and women workers are protected in the workplace. AIIB's environmental and social safeguards require strict adherence to safety protocols, while GoB's labor and health policies further support these efforts. Ensuring a safe working environment is crucial for protecting vulnerable groups, especially women, from workplace hazards and ensuring their continued participation in project activities.

### ➤ **Involuntary Resettlement and Social Impact**

Involuntary resettlement poses a significant social risk, particularly for women and marginalized groups who may be disproportionately affected by displacement. The ESMPF includes detailed guidelines for the disclosure of resettlement plans and eligibility and entitlement criteria. These guidelines ensure transparency and fairness in resettlement processes, aligning with AIIB's resettlement policies and GoB's regulations on land acquisition and compensation. Special attention must be given to the gendered impacts of resettlement, ensuring that women-headed households and other vulnerable groups receive adequate support.

Addressing social and gender issues in the BCISP's ESMPF is a crucial step towards ensuring the project's long-term success. By aligning with AIIB and GoB policies, the project can

effectively integrate gender equality, social inclusion, and labor standards, enhancing its effectiveness and contributing to broader national and international development goals.

### **6.3 Social and Gender Analysis**

The "Feasibility Study Report (Task Town-1)" reveals significant gender issues within project areas: women face a substantial burden in water management (85.99% of households) and waste disposal (86.92% of households, often without regular collection). Access to sanitation facilities is severely limited for vulnerable groups, with only 13.08% of slum households having toilet access compared to 86.92% in non-slum areas, and many existing facilities (59.54%) are damaged. Furthermore, 99.35% of women report inadequate facilities for menstrual hygiene management in public and community toilets. The FS report indicates that community surveys, which often include qualitative methods like FGDs and consultations, revealed concerns regarding gender-based violence, including early marriage, sexual harassment, and physical/emotional abuse. This highlights the critical need for safer sanitation environments for women and girls, especially during nighttime hours.

In the context of development finance, social and gender analysis has gained crucial importance as institutions like the AIIB seek to implement sustainable and inclusive policies. This analysis is not merely an adjunct to financial evaluations but is integral to the design and execution of projects that aim to foster economic growth while simultaneously addressing social equity and gender disparities. The AIIB has recognized the significance of these analyses in its operational framework, reflecting a commitment to ensuring that its investments contribute positively to the communities they affect.

#### **➤ Gender Issues for Country Context**

In the context of Bangladesh, the social and gender analysis should consider the broader gender issues prevalent in the country. This includes examining the existing gender disparities, women's access to resources, participation in decision-making processes, and the impact of cultural and social norms on gender roles. Additionally, it should address the challenges faced by women in accessing sanitation facilities and the implications of inadequate sanitation on their health and well-being.

#### **➤ Gender Issues for Project Context**

Within the specific context of the BCISP, the analysis should focus on the gender-specific impacts of the sanitation project. This involves assessing the differential needs of men and women regarding sanitation facilities, hygiene practices, and access to clean water. It should also consider the roles and responsibilities of men and women in the management and maintenance of sanitation infrastructure and the potential implications of the project on their livelihoods.

#### **➤ Overall, Gender Issues and Gap Analysis**

The social and gender analysis should identify the challenges, issues, and gaps related to gender within the project framework. This includes conducting a thorough assessment of the gender-related challenges in accessing sanitation services, addressing menstrual hygiene management, ensuring the safety and privacy of women and girls, and promoting the meaningful

participation of women in the decision-making processes related to sanitation initiatives. Additionally, it should analyze the existing gender gaps in sanitation infrastructure and services and their implications for women's health, dignity, and overall well-being (Table 6-1).

**Table 6-1:** Gender Issues and Gap Analysis

Gender Issues	Gap Analysis
Gender Mainstreaming	<ul style="list-style-type: none"> <li>• Disparities in access to clean and safe sanitation facilities between men and women in urban areas.</li> <li>• Gender-specific health impacts of inadequate sanitation, focusing on menstrual hygiene management and potential health risks for women and girls.</li> <li>• Gaps in women's participation in decision-making processes related to urban sanitation initiatives.</li> <li>• Gender-based safety concerns and privacy issues related to public sanitation facilities.</li> <li>• Gender gaps in employment within the sanitation sector.</li> </ul>
Gender-Specific Impacts	<ul style="list-style-type: none"> <li>• Potential effects on women's livelihoods</li> <li>• Impact on women's access to resources</li> <li>• Participation of women in decision-making processes</li> </ul>
Social Inclusion	<ul style="list-style-type: none"> <li>• Disparities in access to clean and safe sanitation facilities between different social groups in urban areas.</li> <li>• Social impacts of inadequate sanitation, including the potential health risks faced by marginalized communities due to poor sanitation facilities.</li> <li>• Gaps in the participation of marginalized communities in decision-making processes related to urban sanitation initiatives.</li> <li>• Safety concerns and privacy issues related to public sanitation facilities for marginalized communities.</li> <li>• Employment and livelihood opportunities related to urban sanitation initiatives for marginalized communities.</li> </ul>
Awareness	<ul style="list-style-type: none"> <li>• Inadequate provisions for restoring livelihoods of individuals and communities affected by resettlement.</li> <li>• Gaps in addressing the economic displacement of individuals and communities due to resettlement.</li> <li>• Insufficient measures to ensure the sustainable restoration of livelihoods post-resettlement.</li> <li>• Limited focus on the social and economic impacts of resettlement on affected individuals and communities.</li> <li>• Lack of comprehensive strategies for supporting the livelihoods of those affected by resettlement, including income restoration and employment opportunities.</li> </ul>

Gender Issues	Gap Analysis
Vulnerability	<ul style="list-style-type: none"> <li>Inadequate provisions for restoring livelihoods of individuals and communities affected by resettlement.</li> <li>Gaps in addressing the economic displacement of individuals and communities due to resettlement.</li> <li>Insufficient measures to ensure the sustainable restoration of livelihoods post-resettlement.</li> <li>Limited focus on the social and economic impacts of resettlement on affected individuals and communities.</li> <li>Lack of comprehensive strategies for supporting the livelihoods of those affected by resettlement, including income restoration and employment opportunities.</li> </ul>
Management of Sanitation and Waste	<ul style="list-style-type: none"> <li>Most of the burden of sanitation (e.g., carrying flushing water to toilets, cleaning toilets) and waste handling in a household (e.g., keeping waste in bins and carrying waste to roadside dustbins) are with women. As such project technological provision, wherever possible, should consider reducing the burden. For example, improvements of toilets with the provision of running water inside toilets and increasing the rickshaw van services for door-to-door waste collection.</li> <li>Educating women to use IT-based services like ordering for septic tank cleaning.</li> <li>Involving and supporting women in related business development like compost, waste segregation and recycling, and IT services</li> </ul>
Institutional vulnerability	<ul style="list-style-type: none"> <li>The institutionalization of changes related to gender mainstreaming is challenging as it requires, among other things, strengthening governance in local government bodies and in sectors.</li> <li>Support is required for the institutional development of government agencies, including their technical capacity for gender analysis and programming.</li> <li>Need to improve the inter-agency coordination and partnerships; and create enabling environments so that gender equity issues can be addressed.</li> <li>Although there is an increasing awareness of VAW being a barrier to women's participation, mobility, and as violation of human rights, there is still room to further integrate action for prevention into project design and activities. Pourashava wise gender and GBV prevention plan should be adopted</li> </ul>
Consultation and Participation	<ul style="list-style-type: none"> <li>Lack of meaningful consultation with local communities regarding urban sanitation initiatives.</li> <li>Inadequate participation of local communities in decision-making processes related to sanitation projects.</li> </ul>

Gender Issues	Gap Analysis
	<ul style="list-style-type: none"> <li>• Limited disclosure of information to local communities about sanitation projects and their potential impacts.</li> <li>• Insufficient mechanisms for local communities to raise grievances and concerns related to urban sanitation initiatives.</li> <li>• Gaps in ensuring the representation of diverse voices and perspectives in the planning and implementation of sanitation projects.</li> </ul>
Labor and Occupational Safety	<ul style="list-style-type: none"> <li>• Inadequate focus on occupational safety and health measures for workers involved in sanitation projects.</li> <li>• Gaps in providing proper training and protective equipment for workers in the sanitation sector.</li> <li>• Limited attention to the specific occupational health risks faced by workers in the sanitation sector.</li> <li>• Insufficient mechanisms for addressing labor rights and ensuring fair employment practices within the sanitation sector.</li> <li>• Lack of comprehensive measures to address the well-being and safety of workers, particularly about sanitation-related hazards.</li> </ul>
Resettlement and Livelihood Restoration	<ul style="list-style-type: none"> <li>• Inadequate provisions for restoring the livelihoods of individuals and communities affected by resettlement.</li> <li>• Gaps in addressing the economic displacement of individuals and communities due to resettlement.</li> <li>• Insufficient measures to ensure the sustainable restoration of livelihoods post-resettlement.</li> <li>• Limited focus on the social and economic impacts of resettlement on affected individuals and communities.</li> <li>• Lack of comprehensive strategies for supporting the livelihoods of those affected by resettlement, including income restoration and employment opportunities.</li> </ul>
Grievance Redress Mechanism (GRM)	<ul style="list-style-type: none"> <li>• Pourashava level GRM is not effective and functional.</li> <li>• There is no grievance mechanism at the worker's level.</li> <li>• A central grievance mechanism is required so that all stakeholders can raise their grievances related to waste management.</li> <li>• Female representative should be included with the GRM at the Pourashava level</li> </ul>

By conducting a comprehensive social and gender analysis that addresses these critical aspects, the ESMPF for the BCISP can effectively integrate gender considerations into the planning and implementation of the sanitation project. This approach ensures that the project is responsive to the specific gender-related needs and challenges within the country's context while promoting inclusivity, equity, and the empowerment of women and marginalized groups in the context of sanitation and hygiene initiatives.

## 6.4 Social and Gender Actions in the Project Cycle

The project emphasizes the integration of social and gender actions throughout its project cycle. This approach is essential for addressing the unique challenges faced by vulnerable populations, particularly women, in urban sanitation contexts.

### 6.4.1 Social Actions

#### ➤ Stakeholder Engagement

The project mandates meaningful consultations with stakeholders, including urban local bodies (ULBs), local communities, government bodies, and NGOs. This engagement begins early in the project preparation phase and continues throughout implementation. The objective is to ensure that all relevant parties, especially marginalized groups, have a voice in decision-making processes.

#### ➤ Grievance Redress Mechanism (GRM)

A robust GRM will be established to address concerns and complaints from affected people and other vulnerable people including workers. This mechanism will be designed to be transparent, gender-sensitive, and culturally appropriate, ensuring accessibility for all stakeholders.

#### ➤ Resettlement Planning

The project will include a Resettlement Policy Framework (RPF) to manage involuntary resettlement. This framework outlines the principles and procedures for resettlement planning, ensuring that displaced persons are compensated and supported in a manner that promotes sustainable development.

#### ➤ Monitoring and Reporting

Continuous monitoring of social impacts and the effectiveness of mitigation measures is integral to the project. This includes assessing the implementation of the GRM and the outcomes of stakeholder consultations.

### 6.4.2 Gender Actions

Gender Actions refer to the various types of activities and initiatives undertaken by the project to address gender issues and promote gender equality.

#### ➤ Capacity Building

Training programs are designed to enhance the capacity of project staff and stakeholders on gender issues, including the AIIB's Environmental and Social Standards (ESSs). This training ensures that gender considerations are integrated into all aspects of project planning and execution.

#### ➤ Awareness Campaigns

Gender awareness campaigns are planned to change community attitudes towards sanitation and women's roles in project activities. These campaigns aim to highlight the importance of inclusive sanitation services and the critical role women play in managing these services.

### ➤ Employment Opportunities

The project promotes women's employment in civil works and ensures that construction sites are safe and accessible. Strategies are implemented to create opportunities for women, including unskilled labor positions, thereby enhancing their economic empowerment.

### ➤ Addressing Gender-Based Violence (GBV)

The project recognizes the risks of GBV in urban areas and includes measures to create a safe environment for women. This includes the establishment of secure facilities and the promotion of a GBV-free workplace.

The AIIB's commitment to social and gender actions within the BCISP reflects a broader understanding of the importance of inclusivity in development projects. By integrating these actions throughout the project cycle, the BCISP aims to enhance the quality of life for urban populations, particularly the most vulnerable, while ensuring compliance with both national regulations and international standards. The emphasis on stakeholder engagement, grievance redress, and gender empowerment is crucial for achieving sustainable and equitable outcomes in urban sanitation services.

## 6.5 Monitoring of Social Inclusion

The project aims to enhance urban sanitation services in 25 towns across Bangladesh. A critical component of this initiative is the monitoring of social inclusion, which ensures that vulnerable populations, particularly women, children, and marginalized communities, are actively engaged in and benefit from the project.

### ➤ Framework for Social Inclusion Monitoring

**Stakeholder Engagement:** The project emphasizes meaningful consultation with stakeholders throughout the project cycle. This includes early engagement during project preparation and ongoing dialogue during implementation. The project requires documentation of stakeholder consultations, ensuring that the voices of marginalized groups are heard and considered in decision-making processes.

### ➤ Grievance Redress Mechanism (GRM)

A robust GRM is established to address complaints from affected individuals and communities. This mechanism is designed to be gender-sensitive and culturally appropriate, ensuring accessibility for all stakeholders. The GRM allows for prompt resolution of grievances, which is essential for maintaining trust and transparency in project implementation.

### ➤ Gender Action Plan (GAP)

The project includes a comprehensive Gender Action Plan (GAP) that outlines specific actions to promote women's participation and address gender-based violence (GBV). Monitoring the implementation of the GAP is crucial for ensuring that women are not only beneficiaries but also active participants in project activities. The GAP includes strategies for capacity building, awareness campaigns, and the establishment of women-friendly work environments.

### ➤ Capacity Building and Training

The project includes a capacity-building program aimed at enhancing the skills of project staff and stakeholders in social inclusion practices. Training sessions will cover AIIB's Environmental and Social Standards (ESSs), gender issues, and the importance of inclusive practices in project implementation. This training is essential for ensuring that all stakeholders understand their roles in promoting social inclusion.

### ➤ Monitoring and Reporting

The project incorporates a monitoring framework that focuses on both environmental and social impacts. This framework includes specific indicators related to social inclusion, such as the participation rates of women and marginalized groups in project activities. Regular monitoring reports will be prepared to assess the effectiveness of social inclusion measures and to identify areas for improvement.

### ➤ Third-Party Monitoring

To ensure accountability, a third-party monitoring consultant will be engaged to evaluate the project's adherence to social inclusion standards. This independent oversight will assess compliance with the AIIB's Environmental and Social Policy (ESP) and the effectiveness of the GRM and GAP. The consultant will provide recommendations for enhancing social inclusion practices based on monitoring findings.

The monitoring of social inclusion within the BCISP is a multifaceted approach that integrates stakeholder engagement, grievance redress, gender action planning, capacity building, and independent oversight. By focusing on these areas, the AIIB aims to ensure that the project not only addresses sanitation needs but also promotes equitable access and participation for all community members, particularly the most vulnerable. This commitment to social inclusion is essential for achieving sustainable development outcomes and enhancing the overall impact of the project on urban sanitation in Bangladesh.

## 6.6 Gender Action Plan

The Gender Action Plan (GAP) for the project is a strategic framework designed to ensure that gender considerations are integrated into all aspects of the project. This plan aims to empower women, enhance their participation in project activities, and address gender-based violence (GBV) within the context of urban sanitation services.

### 6.6.1 Objectives of the Gender Action Plan

**Empower Women:** The GAP seeks to enhance the role of women in managing sanitation services and ensure their active participation in decision-making processes related to project implementation.

**Improve Access to Services:** The plan aims to ensure that women, particularly those from marginalized communities, have equitable access to improved sanitation facilities and services.

**Address Gender-Based Violence:** The GAP includes measures to prevent and respond to GBV, recognizing the heightened risks women face in urban environments.

**Capacity Building:** The plan emphasizes the need for training and capacity-building initiatives to equip women with the skills necessary for participation in project activities and decision-making.

### **6.6.2 Key Components of the Gender Action Plan**

**Gender Assessment:** A Rapid gender assessment will be conducted to understand the specific needs and challenges faced by women in the project areas. This assessment will inform the development of targeted interventions.

**Stakeholder Engagement:** The GAP promotes regular engagement with women and vulnerable communities to ensure their voices are heard in project planning and implementation. This includes forming community groups that can advocate for women's rights and participation.

**Awareness Campaigns:** Gender awareness campaigns will be integral to the project's communication strategy, aiming to change community attitudes towards sanitation and the role of women in managing these services.

**Employment Opportunities:** The GAP will promote the inclusion of women in project-related employment, particularly in civil works, ensuring that construction sites are safe and accessible for women. Specific strategies will be developed to facilitate women's participation as unskilled laborers.

**Grievance Redress Mechanism (GRM):** The project will establish a gender-sensitive GRM to address complaints related to GBV and other issues faced by women. This mechanism will ensure that grievances are handled promptly and confidentially.

**Contractor's Responsibility and Compliance of GAP:** The contractor is responsible for ensuring compliance with the Gender Action Plan (GAP) throughout the project. This includes implementing measures to address gender-related issues and promoting a safe and inclusive work environment.

**Engagement of Gender Specialist:** The engagement of a gender specialist is crucial for providing expertise in addressing gender-related aspects within the project. Their role involves developing and implementing strategies to promote gender inclusion, awareness, and capacity building throughout the project.

**Development of Code of Conduct:** The development of a comprehensive Code of Conduct is essential for establishing clear guidelines and expectations for all project stakeholders. It aims to ensure ethical practices, safety standards, and compliance with social and gender issues throughout the project.

**Training Programs:** Training sessions will be organized for project staff and stakeholders on gender issues, including the AIIB's Environmental and Social Standards (ESSs) and the importance of gender mainstreaming in project activities.

**Monitoring and Evaluation:** The implementation of the GAP will be monitored regularly to assess its effectiveness. Key performance indicators will be established to measure progress in women's participation, access to services, and the incidence of GBV.

**Implementation and Collaboration:** The implementation of the GAP will involve collaboration between various stakeholders, including the Department of Public Health Engineering (DPHE), local government bodies, NGOs, and community organizations. Responsibilities will be clearly defined, with a focus on ensuring accountability and transparency in the execution of gender-related activities.

### 6.6.3 Gender Action Plan for Contractors

This GAP will be also part of the bidding documents so that contractors are bound to compliance the GAP along with other safeguard requirements. Detailed safeguard training will be provided to the DPHE and PMU members of the GAP and awareness program. Based on the baseline assessment of the municipalities and identified gaps, a Gender Action Plan (GAP) is proposed in the following Table 6-2.

**Table 6-2:** Proposed Gender Action Plan

Task	Actions	Responsibility	Timeline
<b>Institution/Policy Level</b>			
Gender Assessment	<p>Rapid gender assessment including the situation of GBV in the sector to refine the gender action plan. The assessment will review existing policies, strategies, and provisions on gender inclusion. It will also carry out stakeholder consultation to prioritize project activities. It will further contribute to the Gender Action Plan (GAP) with the following activities.</p> <ul style="list-style-type: none"> <li>✓ Complement the existing plans and programs of the key stakeholders.</li> <li>✓ Consider a decentralized system for storage, collection, and transportation of wastes for the time being.</li> <li>✓ Give priority to in-house containment improvement and source segregation of wastes and design that would ensure efficient collection of segregated wastes.</li> <li>✓ Bring the municipalities under sanitation and waste management coverage, which</li> </ul>	Project Management Unit (PMU), Gender Specialist	Before the start of the implementation of the project/subprojects Appoint a gender specialist once the detailed design is finalized

Task	Actions	Responsibility	Timeline
	<p>do not have prior waste storage, collection and disposal facilities.</p> <ul style="list-style-type: none"> <li>✓ Give priority to awareness raising, education, and change of behavior and attitude of people regarding sanitation and waste management.</li> <li>✓ Emphasis on regular, timely, and effective collection and transportation of wastes; and</li> <li>✓ Monitoring of proposed system/interventions after implementation, to gather and document learning for possible future interventions</li> </ul>		
Stakeholder Engagement	<ul style="list-style-type: none"> <li>✓ Identify all relevant stakeholders, including local communities, government authorities, NGOs, and affected individuals.</li> <li>✓ Conduct stakeholder mapping to understand their interests, concerns, and potential impact on the project.</li> <li>✓ Establish communication channels and feedback mechanisms to facilitate ongoing dialogue with stakeholders.</li> <li>✓ Organize regular consultations, open forums, and public meetings to gather input and feedback.</li> <li>✓ Develop a stakeholder engagement plan outlining specific strategies for engaging with different stakeholder groups.</li> <li>✓ Ensure transparency and information disclosure to keep stakeholders informed about</li> </ul>	Project Management Unit (PMU), Gender Specialist	The inception phase of the implementation of the project/subprojects

Task	Actions	Responsibility	Timeline
	<p>project developments and decisions.</p> <p>✓ Assign clear responsibilities for stakeholder engagement within the project team to ensure accountability and follow-through.</p>		
Promote gender inclusion through capacity building, consultations	<p>✓ Assess the training needs of relevant staff on gender and GBV issues and update the proposed training if necessary</p> <p>✓ Organize training on gender and GBV prevention and response for officials based on the identified training need</p> <p>✓ Orientation on GBV and GBV reporting mechanism for Contractor/Labor</p> <p>✓ Develop and implement the strategy to promote the participation of women in capacity development training</p>	<p>PMU, contracting firm, gender Specialist</p> <p>PMU, contracting firm, gender Specialist</p> <p>contracting firm/NGO, gender Specialist</p> <p>Pourashava, Gender Specialist</p>	<p>Procedures to be finalized before training</p> <p>Implementation throughout the project</p> <p>Implementation throughout the project</p> <p>Implementation throughout the project</p>
<b>Project/Subproject Level</b>			
Implementation and Collaboration	<p>✓ Collaboration between various stakeholders, including the Department of Public Health Engineering (DPHE), local government bodies, NGOs, and community organizations.</p> <p>✓ Clearly defining responsibilities for each stakeholder involved in the GAP implementation.</p> <p>✓ Ensuring a focus on accountability and transparency in the execution of gender-related activities.</p>	<p>PMU, Contracting Firm, Gender Specialist</p>	Implementation throughout the project
Ensure/ Improve women's participation in project activities	Regular engagement with stakeholders, working closely with female and vulnerable communities to promote women's participation.	<p>PMU, Contracting Firm, Gender Specialist</p>	Implementation throughout the project

Task	Actions	Responsibility	Timeline
	Device and implement strategies such as affirmative action to enhance opportunities for women for training and capacity building initiatives and working opportunity		
Awareness Campaign	Conduct an awareness campaign in the community on gender and GBV issues to increase women's equal participation in project activities and involve male partners to share childcare responsibilities of women's labor.	PMU, Contracting Firm, Gender Specialist	Implementation throughout the project
Women participation in decision making process	Include women members in GRC create a positive environment for raising their issues and participate in the decision-making process.	Pourashava, Gender Specialist	Implementation throughout the project
Awareness to the contractors	Orientation for contractors on core labor Standards and clauses related to social and gender issues and equal pay for work of equal value for men and women in the bid documents. A detailed awareness plan is proposed in the section 6.6.4.	PMU, DPHE official, Mayor, Contractors	Implementation throughout the project
Ensure Women's equal Participation	Develop a strategy to ensure women's participation as unskilled labor for civil works and promote a women-friendly and GBV-free workplace. On the construction site, there will be secured wash facilities for women and girls for hygiene issues	PMU, Gender Specialist, Contractors	Implementation throughout the project
GBV Prevention and Response	Reflect SEA/SH risks and requirements in the safeguard instruments and expectations in the bidding documents for the contractor.	PMU with support of consultants	Before the award of the bid to the contractors
Recruitment	Recruitment of Gender Specialist	Contracting Firm	Before implementation

Task	Actions	Responsibility	Timeline
Review of Policies	Review existing policies and procedures IA, and other stakeholders and identify gaps in GBV prevention, response, and safeguarding measures. Evaluate the contractor's ability to meet the project's SEA/SH prevention and response requirements before finalizing the contract	PMU, Contracting firm	Before the award of the bid to the contractors
GBV services	GBV Service mapping for referral pathway	Gender Specialist	Once appointed
Develop Code of conduct	Develop code of conducts for contractors, workers in civil work specifying appropriate roles and responsibilities	Gender Specialist and PMU	Once appointed
Monitoring and Evaluation	Monitoring, follow up and periodical reporting of GAP	Gender Specialist and PMU	Through the project period

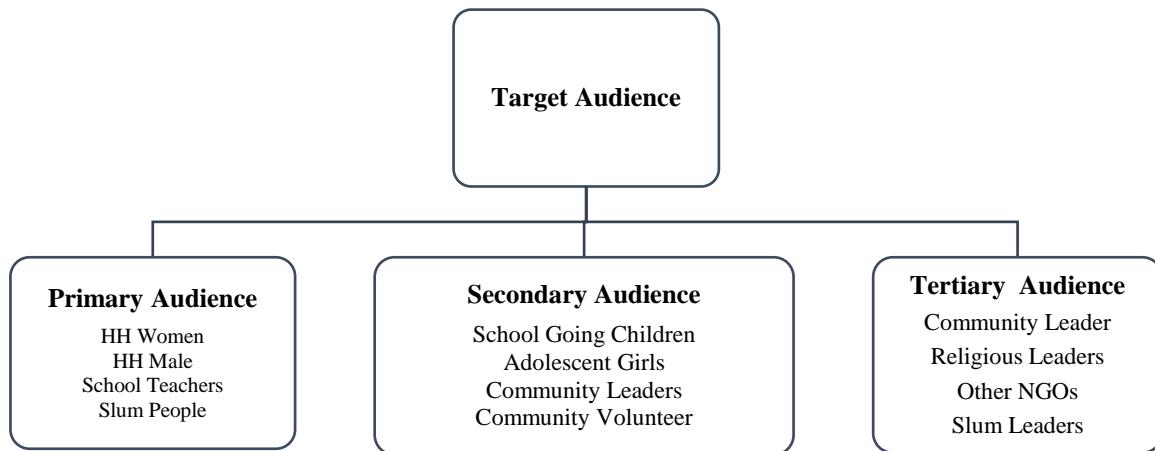
#### 6.6.4 Gender Awareness Campaign

Gender campaigns should be an integral part of the overall project communication strategy for project planning and implementation. The main purpose of this awareness campaign is to change the behavior of the target communities towards better implementation of sanitation at household and community levels in a sustainable manner through engaging different sections of the community (female, male, and community leaders) with a particular focus on:

- Provide/disseminate project-related information to highlight the importance of sanitation and waste management for better health and environment.
- Highlight the role of women in project activities in their community.
- Highlight the long-term benefits of the project interventions.
- Highlight the role of male members.
- Highlight why local leaders and other influential people need to be engaged.

#### Target Audience for the Awareness Campaign

The target audience for the awareness campaign can be divided into three categories – primary, secondary, and tertiary.



**Figure 6-1:** Target Audience for the Awareness Campaign

### Components of the GAP Framework

The GAP framework is comprised of three essential elements: Interpersonal Communication, Mass Communication, and Capacity Building. The following gender assessment tools will be used in the three components are narrated below:

**Table 6-3:** Gender Assessment Tool

Tools Used	Purpose
<b>Interpersonal Communication</b>	
Group Session with Females at Community	To create a dialogue among participating women and to explain their importance role in managing the project-related activities
Home Visit and Demonstration	to reinforce the outcomes of the courtyard meeting held before and to demonstrate the role of women at households that she needs to do to in regard to project activities
School Session with Students	To encourage students to support household sanitation and waste disposal. To aware school student on project activities and explain why it is important to keep our environment safe and healthy
Session at Health Center Facilities	Avail the opportunity of the credibility of the health service providers' health and hygiene issues to the patients and visitors and explain the health and hygiene and sanitation/waste management issues
Discussion at Mosque after Friday Prayer	To engage the Imams as change agents who are very influential people in the community
<b>Mass Communication Including Alternative Popular Communication Media</b>	
Conventional: Local radio, local cable TV network, local newspaper and miking.	To reach out a large audience and increase the level of public awareness

Tools Used	Purpose
Alternative popular media: children's drama, local short play, folk songs	To disseminate specific project-related messages in the local language and through entertainment to the target group
Capacity Building of Community-Based Staff, Volunteers and Key Influential	
Training of Trainers for the municipal and support organization staff on awareness campaign	To build capacity of the staff members to plan and implement awareness campaign activities in the community
Orientation to Imams	To enhance knowledge and understanding of the Imams on project issues with a view to engage them as a potential change agent in their community
Orientation to School Teachers	To enhance knowledge and skills to disseminate project messages among students. Also, enables them how to make popular theater by involving school students

The Gender Action Plan (GAP) for the BCISP reflects AIIB's commitment to promoting gender equality and social inclusion in development projects. By integrating gender considerations into the project cycle, the GAP aims to enhance the quality of life for women and marginalized groups in urban areas, ultimately contributing to the project's overall success in improving sanitation services in Bangladesh. The proactive measures outlined in the GAP will help create a more equitable and inclusive environment, ensuring that the benefits of the project are shared by all members of the community.

## Chapter 7: Occupational Health and Safety

### 7.1 Safety Directives for Work Equipment

Ensuring safety for work equipment on a construction site is vital to prevent accidents and protect workers. Here are key considerations for maintaining safety:

#### Equipment Selection

Use equipment suitable for the specific tasks and ensure it meets safety regulations and standards.

#### Regular Inspections

Conduct frequent inspections and maintenance to identify and rectify any defects. Keep a detailed log of maintenance activities.

#### Training and Certification

Provide comprehensive training for operators on the safe use of equipment. Ensure operators are certified for specialized machinery, like cranes or forklifts.

#### Personal Protective Equipment (PPE)

Mandate the use of appropriate PPE, such as helmets, gloves, safety glasses, and high-visibility clothing, tailored to the specific risks associated with the equipment.

#### Safe Operating Procedures

Establish and enforce clear operating procedures, including start-up, shut-down, and emergency protocols.

#### Machine Safeguarding

Equip machinery with guards and safety devices to prevent accidental contact with moving parts. Emergency stop buttons should be easily accessible.

#### Electrical Safety

Ensure all electrically powered equipment is properly grounded and insulated. Follow lockout/tagout procedures during maintenance to prevent accidental energization.

#### Load Management

Adhere to the manufacturer's load limits for lifting equipment. Use tag lines and spotters when moving heavy loads to enhance safety.

#### Stability and Anchoring

Ensure that mobile equipment has proper stabilization and anchoring to prevent tipping or movement during use.

#### Environmental Considerations

Maintain clear pathways and adequate lighting to reduce tripping hazards and ensure visibility during operation.

## **Hazard Communication**

Use clear signage to warn of hazards and provide operating instructions. Ensure that all workers are aware of potential risks.

## **Emergency Preparedness**

Develop and communicate an emergency response plan, including evacuation routes and first aid procedures. Conduct regular drills to ensure readiness.

## **Documentation and Reporting**

Keep detailed records of equipment inspections, maintenance, and any incidents. Encourage a culture of reporting unsafe conditions or near misses.

## **Health and Ergonomics**

Consider ergonomics in equipment design and use. Provide training on proper lifting techniques and use of aids to prevent injuries.

By prioritizing these safety measures, construction sites can create a safer working environment, reducing the likelihood of accidents and injuries related to work equipment.

## **7.2 Safety Directives for Protective Gears**

Safety directives for protective gear on construction sites are crucial to ensuring the well-being of workers in an environment fraught with potential hazards. Personal Protective Equipment (PPE) is a critical component of these safety measures, designed to protect workers from various risks such as falling objects, dangerous machinery, and exposure to harmful substances. Below are key safety directives and guidelines for the use of protective gear on construction sites:

### **Essential Types of PPE**

#### **Head Protection**

Hard hats or helmets are mandatory to protect against head injuries from falling debris or accidental bumps. They must comply with ANSI Z89.1 standard.

#### **Eye and Face Protection**

Safety glasses or goggles with side shields are required to protect against flying debris, dust, and chemical splashes. These should meet ANSI Z87 standards.

#### **Hearing Protection**

Earplugs or earmuffs are necessary in high-noise environments to prevent hearing loss. The choice depends on the noise level and duration of exposure.

#### **Respiratory Protection**

Masks or respirators are used to protect against inhalation of hazardous substances like dust and fumes. Respirators must be selected based on the specific hazards present.

## **Hand Protection**

Gloves should be worn to protect hands from cuts, abrasions, and chemical exposure. The type of glove depends on the specific task and materials handled.

## **Foot Protection**

Safety shoes or boots with steel toe caps are essential to protect feet from falling objects and punctures. They should also provide slip resistance.

## **Body Protection**

High-visibility clothing such as vests or jackets ensures that workers are visible to equipment operators and motorists, especially in outdoor projects.

## **Regulatory Standards**

The Occupational Safety and Health Administration (OSHA) sets specific standards for PPE in the construction industry, requiring compliance with American National Standards Institute (ANSI) guidelines for most equipment.

Employers are responsible for providing necessary PPE at no cost to employees, ensuring proper training on its use, and maintaining equipment in good condition.

## **General Safety Practices**

**Always Wear PPE:** All workers and visitors must always wear appropriate PPE to minimize exposure to hazards.

**Regular Inspections:** PPE should be inspected regularly for damage and replaced as needed to ensure effectiveness.

**Proper Fit and Usage:** PPE must fit properly and be worn correctly to provide adequate protection. Training on proper usage is essential.

**Site-Specific Requirements:** Additional PPE may be required based on specific site conditions or tasks, such as fall protection gear when working at heights.

By adhering to these safety directives and ensuring proper use of protective gear, construction sites can significantly reduce the risk of accidents and injuries, creating a safer working environment for all employees.

## **7.3 Safety and Health Signs**

Safety and health signs on construction sites of BCISP have to use as they will play a crucial role in hazard communication. They will provide clear information about potential risks, enabling workers and visitors to identify hazards and take necessary precautions. This proactive approach will help prevent accidents and injuries by guiding individuals toward safe practices and prohibiting dangerous behaviors. Moreover, these signs are essential for regulatory compliance. Adhering to local and AIIB's safety regulations not only ensures the site meets legal requirements but also helps avoid fines and penalties. Additionally, emergency signs are vital for guiding individuals to exits and safety equipment, ensuring quick and efficient

responses during emergencies. By reinforcing the importance of health and safety, visible signs contribute to fostering a culture of awareness and responsibility among all workers on site.

Implementing safety and health signs in BCISP will begin with a thorough assessment of the site to identify potential hazards and determine the types of signs needed. Using standardized signage that complies with local and AIIB's regulations ensures clarity and consistency across the site. Strategic placement is critical; signs will be positioned in visible locations, especially at entry points and near hazardous areas, to maximize their visibility. Contractor will maintain signage regularly. This includes inspecting them frequently to ensure they are clean, legible, and unobstructed, with damaged or faded signs replaced promptly. Training and awareness programs should be conducted regularly to familiarize workers with the signs and their meanings, encouraging open discussions about safety practices. Additionally, establishing a feedback mechanism have to include in the project site so that worker can report missing or damaged signs and suggest improvements based on their experiences.

## 7.4 Workers Sheds with Basic Facilities

The basic facilities that must be included in labor camps at construction sites are governed by the Bangladesh Labor Act of 2006 and related regulations. These laws set out comprehensive requirements to ensure the welfare and safety of workers. The Asian Infrastructure Investment Bank (AIIB) also emphasizes compliance with local regulations and international standards in its projects. Here are the key facilities and conditions that should be provided and contractors of BCISP will ensure all the facilities stated below:

### **Accommodation:**

**Housing:** Workers should be provided with adequate living spaces, which are often dormitory-style accommodations. These should be structurally sound and safe, with proper ventilation, lighting, and insulation to ensure comfort. If there are any female workers at site, ensure a separate labor shed for female workers with all basic facilities.

**Drinking Water Facilities:** Providing safe and reliable drinking water facilities in labor camps is essential for ensuring the health and well-being of workers involved in BCISP projects. A well-planned facility should provide clean, uncontaminated water that meets national and international quality standards, with regular testing to maintain safety. It must be easily accessible to workers, located near living and dining areas, and should offer a sufficient, uninterrupted supply to meet daily needs for drinking, cooking, and hygiene. Hygienic infrastructure, such as clean storage tanks and pipes, along with regular maintenance, is essential to prevent contamination. Additionally, workers should be educated on proper water use and hygiene practices to ensure long-term health and safety.

**Sanitation Facilities:** Adequate sanitation facilities, including toilets and showers, must be available to maintain hygiene and prevent health issues. Gender segregated toilets needs to be ensured if there are any female workers.

**Solid Waste Facilities:** Daily waste collection schedules should be maintained to prevent the accumulation of waste, which can attract pests and create unsanitary living conditions.

Designated waste bins should be placed in accessible locations throughout the camp, and proper training should be provided to workers on waste handling and disposal practices.

### **Health and Safety:**

**Medical Aid:** There should be provisions for basic medical aid on-site to address injuries promptly.

**Safety Equipment:** Workers must have access to necessary safety equipment, such as helmets and goggles, especially when handling dangerous machinery.

**Emergency Exits:** The camps should include emergency exits and fire safety measures to protect workers in case of emergencies.

### **Welfare Facilities:**

**Dining Areas:** Facilities for preparing and consuming meals should be provided. This may include communal dining areas where workers can eat together.

**Recreation Areas:** Spaces for recreation and relaxation are important for maintaining workers' mental health.

### **Compliance with Regulations:**

**Legal Standards:** All facilities must comply with the Bangladesh Labor Act 2006, which covers working hours, wages, health, safety, hygiene, and welfare. The act mandates specific working hours and conditions to ensure fair treatment of workers.

**Monitoring and Enforcement:** Regular monitoring is required to ensure compliance with these standards, although enforcement can sometimes be inconsistent.

## Chapter 8: Land Acquisition and Involuntary Resettlement Planning Framework (LARPF)

### 8.1 Introduction

The Land Acquisition and Involuntary Resettlement Planning Framework (LARPF) serves as a vital guide for addressing the complexities associated with land acquisition and resettlement in development projects. As infrastructure projects often necessitate the acquisition of land and the relocation of affected communities, careful planning and execution are paramount to mitigate negative social impacts. The LARPF outlines the principles, procedures, and responsibilities to ensure that such processes are conducted with transparency, fairness, and respect for the rights of affected individuals.

In the context of the project, the LARPF is crucial for ensuring that the project adheres to both national legislation and AIIB's Environmental and Social Standards (ESSs). The framework emphasizes the need for extensive stakeholder engagement and establishes a comprehensive grievance redress mechanism (GRM) to address concerns raised by affected populations. By focusing on equitable compensation, restoration of livelihoods, and community participation, the LARPF aims to foster sustainable development outcomes while minimizing the adverse effects of land acquisition and resettlement. This proactive approach not only aligns with AIIB's commitment to social inclusion but also enhances the overall effectiveness and credibility of infrastructure projects in achieving their objectives.

### 8.2 Laws and Regulatory Framework

The Laws and Regulatory Framework under the Land Acquisition and Involuntary Resettlement Planning Framework (LARPF) is designed to provide a structured approach to managing land acquisition and involuntary resettlement, following both local laws and international best practices. This framework is essential for ensuring compliance with applicable regulations while safeguarding the rights and livelihoods of affected populations, especially vulnerable groups.

#### 8.2.1 Legal and Policy Framework

This Land Acquisition and Resettlement Planning Framework (LALPF) is prepared in connection with the social safeguard and land acquisition upon the Acquisition and Requisition of Immovable Property Act 2017 (ARIPA) of Bangladesh and AIIB's ESF, specifically ESS2. The primary objective of ESS2 is to ensure that PAPs are assisted in improving or, at a very minimum restore, their former living standards, income earning capacity, and production levels.

#### 8.2.2 Bangladesh Laws and Regulations

This section will cover the compensation of the Project Affected Persons (PAPs) due to Involuntary Resettlement (IR) impacts under the Land Acquisition, Requisition and Immobile Property Acts 2017. In addition, other policies with respect to sanitation our laws are to be discussed.

The basic principles of compensation for property in Bangladesh are spelt out in the Articles 42 and 47 of the Constitution. The legislation governing land acquisition in Bangladesh is the Acquisition and Requisition of Immovable Property Act (ARIPA), 2017. The Acquisition and Requisition of Immovable Property Act, 2017 (henceforth, the Act 2017) repealed the Acquisition and Requisition of Immovable Property Ordinance 1982 (subsequent amendments of it up to 1994) and is used as the legal support for land acquisition and requisition in Bangladesh. The Act 2017 requires that compensation will be paid for (i) land and assets permanently acquired (including standing crops, trees, and houses); and (ii) any other damages caused by such acquisition. The Act 2017 provides certain safeguards for the owners and has provision for payment of "fair value" for the property acquired. The landowner can appeal against land acquisition within 15 (fifteen) days of notice under Section 4 of the Act 2017. Despite this, the Act 2017 does not cover Project-Affected Persons (PAPs) without titles or ownership records, such as informal settler/squatters, occupiers, and informal tenants and leaseholders (without document). It does not ensure the replacement value of the property acquired. The Act has no provision of resettlement assistance and transitional allowances for restoration of livelihoods of the non-titled Project affected persons.

The Deputy Commissioner (DC) determines the "market value" of acquired assets on the date of notice of acquisition served (under Section 4 of the Act 2017). The DC then adds a 200% premium of the assessed value of land for cash compensation under the law (CCL) for government acquisitions. The CCL paid for land is generally less than the "market value" as owners customarily report lower values during registration to avoid and pay fewer taxes. Suppose acquired Land has standing crops cultivated by the tenant (Bargadar is said in Bangla) under a legally constituted written agreement. In that case, the law requires that part of the compensation money be paid in cash to the tenants as per the agreement. The DC adds a 100% premium of the assessed value to compensate for the loss of structures, crops, and trees.

If there is a dispute regarding the amount of compensation, there is an option for arbitration, and the procedures for such are in place. Places of worship, graveyard and cremation grounds are not to be acquired for any purpose unless the acquisition of these places is deemed unavoidable for the best interest of the people. The proponents will be allowed to acquire such areas, given that it funds the replacement and rebuilding of such places.

Refusing the compensation by the affected property owner/landowner: In case of refusing to receive the compensation by the PAPs, the Section-23 of the Land Acquisition, Requisition and Immobile Property Acts 2017 mentioned that Payment of compensation: (1) On making an award under section 22, the Deputy Commissioner shall tender payment of the compensation awarded by him to the persons entitled thereto according to the award, and shall pay it to them unless prevented by any of the contingencies mentioned in sub-section (2). (2) If the persons entitled to compensation do not consent to receive or if there be no person competent to receive the compensation, or if there be any dispute as to the title to receive the compensation or as to the apportionment of it, the Deputy Commissioner shall keep the amount of the compensation in a deposit account in the Public Account of the Republic which shall be deemed payment of the compensation for the requisitioned property without any prejudice to the claim of the parties to be determined by the Arbitrator 14.

Many "good practices" include but are not limited to (i) identification of all displaced persons and issuance of ID cards; (ii) cut-off date established by census; (iii) preparation of automated Loss Files and Entitlement Card (iv) Preparation of payment statement (v) compensation for losses irrespective of title to land; (vi) paying replacement cost of land and other assets; (vii) resettlement of the affected households; (viii) special provisions for assistance to poor women and vulnerable groups; (ix) training/livelihood programs for income and livelihood restoration; (x) project benefits for "host" villages; (xi) management information system for processing resettlement benefits, monitoring and evaluation; and (xii) involvement of NGOs in RP implementation – which has influenced many other projects.

### **8.2.3 AIIB's Environmental and Social Policy**

The AIIB Environmental and Social Policy applies to the project funded by it (AIIB), and sets out the general processes and requirements for project screening and categorization, environmental and social due diligence, environmental and social assessment, environmental and social management plans, environmental and social assessment tools and management plan framework, information disclosure, public consultation, monitoring and reporting as well as grievance redress. It also defines the roles and responsibilities between the Bank and the clients. The Policy must be complied with to secure AIIB financing for the development projects.

AIIB considers a fundamental aspect of achieving outcomes consistent with its mandate to support infrastructure development and enhance interconnectivity in Asia. AIIB has a policy in the name of "Environmental and Social Standards (ESS)" to address environmental and social sustainability issues. The objective of its principle policy is to facilitate the achievement of development outcomes through a system that integrates sound environmental and social management into Projects. AIIB has three associated environmental and social standards (ESSs), which set out more detailed mandatory environmental and social requirements relating to the following:

- ***ESS 1: Environmental and Social Assessment and Management (ESS 1);***
- ***ESS 2: Involuntary Resettlement (ESS 2);***
- ***ESS 3: Indigenous Peoples (ESS 3)***

In case of any involuntary resettlement, AIIB maintains internationally applicable principles. AIIB carefully screens every project to determine whether or not it instigates any involuntary resettlement due to the project interventions. This includes physical and economic displacement, defined in the Environmental and Social Standards (ESS) 2: 'Involuntary Resettlement' under AIIB's Environmental and Social Framework (Approved February 2016; Amended February 2019).

ESS 2 precisely acknowledges cases where no alternatives can be found to avoid involuntary resettlement. In such cases, AIIB requires the client to ensure that resettlement activities are conceived and carried out as sustainable development programs.

The client is required to provide sufficient resources to ensure that the people who are recognized to face involuntary resettlement share the benefits of the project. The client is

required to prepare a Resettlement Planning Framework and/or Resettlement Plan (RP) in case of any involuntary resettlement, which is found proportionate to the extent and degree of impacts of a project. The degree of impact is determined by (a) the overall scope of displacement – from an economic and physical standpoint and (b) the extent of vulnerability of the PAPs. A more comprehensive analysis of the project's social risks and their impacts is complemented by the RAPs for a comprehensive Environmental and Social Impact Assessment (ESIA) of the Project. The LARPF, as well as the RP for a project set, put the principles to be followed to ensure that impacts associated with involuntary resettlement, including but not limited to – any land acquisition from, the land use rights changes of, any displacement of, and the need for livelihood restoration of the PAPs are mitigated to ensure Project Affected People (PAP) are no worse off and where possible their lives are improved as a result of the resettlement.

AIIB recognized people without land title or legal rights to Land are entitled to compensation. As specified in the Environmental and Social Framework (2019), AIIB acknowledges that a considerable part of the population in the countries where the Bank operates without land title or recognized land rights. The bank requires the client to ensure that these people receive resettlement assistance and compensation for loss of non-land assets; the procedure to ensure such would have to be in accordance with the cut-off dates established in the RP for the project. Additionally, AIIB requires the client to include these people in the resettlement consultation process.

#### **8.2.4 AIIB ESS2: Resettlement and Relocation Principles**

This section will cover the AIIB's principles of resettlement and relocation from the perspective of social safeguards and resettlement principles to address land acquisition, restrictions on land use, and involuntary resettlement impacts. AIIB ESF policy deals with the objectives of social safeguards are to avoid involuntary resettlement wherever possible; to minimize involuntary resettlement by exploring project design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in comparison to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups. Accordingly, in the case of implementing the sub-projects under BCISP, AIIB's ESS 2 will need to be applied to all components of the subprojects owing to involuntary resettlement being directly related to the subproject activities. This RFP is fully adopted, dealing with the principle of AIIB's ESS 2, which are as follows in brief:

The social safeguard will cover physical displacement (relocation, loss of residential Land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihood) as a result of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas. The critical elements of social safeguards are (i) compensation at replacement cost for lost assets, livelihood, and income before displacement; (ii) assistance for relocation, including the provision of relocation sites with appropriate facilities and services; and (iii) assistance for rehabilitation to achieve at least the same level of well-being with the Project as without it.

The EA will give attention to the poor and vulnerable households to ensure their improved livelihoods due to project interventions. In integrating these key aspects, the *Entitlement Matrix*

is prepared as part of this LARPF, which is to be accommodated with the RP for each sub-project:

**Table 8-1:** Eligibility and Entitlement Matrix

Unit of Entitlement	Entitlements
<b><i>Impact category 1: Acquisition of agricultural, homestead, commercial, water bodies (ponds), land</i></b>	
<ul style="list-style-type: none"> <li>The legal owner(s) as identified by Deputy Commissioner (DC) in the process of CCL payment.</li> </ul>	<ul style="list-style-type: none"> <li>Cash compensation under the law (CCL) which includes a 200% premium</li> <li>Replacement Value (RV) and dislocation Allowance as recommended by PVAC.</li> <li>If RV is higher than CCL, the difference will be paid by DPHE.</li> <li>If the remaining land is unusable, the compensation provided will be calculated based on the total land affected (i.e., the actual land lost plus the remaining unusable land).</li> </ul>
<b><i>Impact category 2: Requisition of agricultural, homestead, commercial, water bodies (ponds), land</i></b>	
<ul style="list-style-type: none"> <li>Legal owner(s) as identified by Deputy Commissioner (DC) in the process of CCL payment.</li> </ul>	<ul style="list-style-type: none"> <li>Rental price of land as determined by DC with consultation with the landowners and DPHE following the guideline of ARIPA 2017</li> <li>Replacement Value (RV) and dislocation Allowance as recommended by PVAC, if any assets other than the land is affected and required relocation.</li> <li>If the land or assets are leased to a third party, compensation to the third party and income loss to the owners will be paid as recommended by DC</li> <li>If the remaining land is unusable, the compensation provided will be calculated based on the total land requisitioned (i.e., the actual land required plus the remaining unusable land).</li> <li>The requisition can be a maximum of 2 years. The land must be returned to the owner in its original condition; otherwise, compensation has to be paid as decided by DC and the landowner.</li> </ul>
<b><i>Impact category 3: Loss of residential and commercial structures with title to land</i></b>	
<ul style="list-style-type: none"> <li>The legal owner(s) as identified by DC in the process of CCL payment.</li> </ul>	<ul style="list-style-type: none"> <li>CCL includes 100% premium or RV, whichever is higher</li> <li>If RV is higher than CCL, the difference will be paid by DPHE as a top-up.</li> <li>Transfer Grant at an actual cost which will include labour cost and transportation cost</li> <li>Reconstruction Grant in actual cost, which will include land development, labour cost, and transportation cost</li> <li>DPHE in collaboration with local government, city corporations and municipalities will do its best to identify alternative residential or commercial sites for the affected HHs.</li> <li>The owner will be allowed to take away all salvageable materials.</li> </ul>

Unit of Entitlement	Entitlements
	<ul style="list-style-type: none"> <li>Dismantling cost for a non-shiftable structure will be determined by the PVAC based on the actual price and consultation with affected HHs.</li> </ul>
<b><i>Impact category 4: Loss of residential and commercial structures without title to land (squatters/vendors/encroachers)</i></b>	
<ul style="list-style-type: none"> <li>Non-titled person owners, vendors, and encroachers those own residential and commercial</li> <li>structures (movable and non-movable built on GoB land as found during the census)</li> </ul>	<ul style="list-style-type: none"> <li>Replacement value of the structure as determined by PVAC in consultation with affected HHs.</li> <li>Transfer Grant at an actual cost which will include labour cost and transportation cost</li> <li>Reconstruction Grant in actual cost, which will include land development, labour cost and transportation cost</li> <li>DPHE in collaboration with local government, city corporations and municipalities, will do its best to identify alternative residential or commercial sites for the affected HHs.</li> <li>The owner will be allowed to take away all salvageable materials free of cost.</li> <li>Dismantling cost for a non-shiftable structure will be determined by the PVAC based on the actual price and consultation with affected HHs.</li> </ul>
<b><i>Impact category 5: Loss of common property resources (CPR) with or without title to land</i></b>	
<ul style="list-style-type: none"> <li>Legal owners (land, structures, trees, or any other assets) identified by DC in the process of CCL payment.</li> <li>Socially recognized owners/ non-titled (structures, trees, or any other assets) affected on the ROW as identified by Census and verified by Joint Verification Committee (JVC).</li> </ul>	<ul style="list-style-type: none"> <li>CCL which includes 200% premium for land (title holder)</li> <li>If RV of land is higher than CCL, the difference will be paid by DPHE as top-up.</li> <li>CCL which includes 100% premium for assets other than land (titleholder)</li> <li>If RV of assets other than land is higher than CCL, the difference will be paid by DPHE as a top-up (titleholder)</li> <li>Replacement Value (RV) of structure, trees, or any other assets other than land for the non-titled holder</li> <li>Transfer Grant at actual cost, which will include labour cost and transportation cost</li> <li>Reconstruction Grant in actual cost, which will include land development, labour cost, and transportation cost</li> <li>The owner will be allowed to take away all salvageable materials free of cost.</li> <li>Dismantling cost for a non-shiftable structure will be determined by the PVAC based on the actual price and consultation with affected HHs. Or,</li> <li>The project will construct a new community property in consultation with the community and / or managing committee</li> <li>No community property cannot be demolished until new one is constructed.</li> </ul>
<b><i>Impact category 6: Loss of timber and fruit bearing trees, bamboo and banana groves</i></b>	

Unit of Entitlement	Entitlements
<ul style="list-style-type: none"> <li>Legal owner(s) as identified by the DC in the process of CCL payment.</li> <li>Socially recognized owners of trees grown on public or other land, as identified by Census, and verified by PVAC.</li> </ul>	<ul style="list-style-type: none"> <li>Timber trees and bamboo: RV of trees and bamboo.</li> <li>Fruit-bearing trees without timber: if the tree is at or near fruit-bearing stage, the estimated current market value of the fruit.</li> <li>Fruit-bearing trees with timber: RV for the timber and estimated current market value of fruit.</li> <li>Banana groves: RV of all trees and estimated current value of onetime crop of each full-grown tree.</li> <li>Owners will be allowed to fell trees and take the timber, free of cost after payment of CCL or RV as applicable.</li> </ul>
<b>Impact category 7: Loss of standing crops/fish stock</b>	
<ul style="list-style-type: none"> <li>Owner cultivators as identified in joint verification by DC and DPHE.</li> <li>Socially recognized owners of crops/fish stock as identified by Census and verified by PVAC.</li> <li>Sharecroppers</li> </ul>	<ul style="list-style-type: none"> <li>Cash compensation under law (CCL) which includes 100% premium for title holder and sharecroppers</li> <li>100% top-up payment on DC's CCL for legal owners and sharecroppers</li> <li>Replacement value of crops if planted on GoB land by squatters and /or sharecroppers</li> <li>One-month advance notice to be issued in time to harvest standing crops. If not possible, the value of standing crops at full harvest value will be paid.</li> <li>RV of existing standing crops/fish stock</li> <li>Owners will be allowed to harvest crops and fish stock.</li> </ul>
<b>Impact category 8: Loss of leased /mortgaged in land/ponds.</b>	
<ul style="list-style-type: none"> <li>Leaseholder with legal papers.</li> </ul>	<ul style="list-style-type: none"> <li>RV of crops/fish stock.</li> </ul>
<b>Impact category 9: Loss of income from displaced commercial/ industrial premises (owner operated)</b>	
<ul style="list-style-type: none"> <li>Any proprietor or businessman or artisan operating in premises, at the time of issuance of Notice u/s 4 and/or during Census.</li> </ul>	<ul style="list-style-type: none"> <li>One-time assistance for alternate rental based on the average rental rate/month within the project influence area determined by PVAC and transitional allowance @ three months rental cost.</li> </ul>
<b>Impact category 10: Temporary loss of income (wage earners in agriculture, commerce &amp; small business and industry) for title and non-title.</b>	
<ul style="list-style-type: none"> <li>Regular wage earners affected by the acquisition. Also applicable for non-titled</li> </ul>	<ul style="list-style-type: none"> <li>Grant to cover temporary loss of regular wage income @ average wage/day in the locality for 30 days for wage labour or as determined by PVAC</li> <li>Income and livelihood restoration assistance, to be created by the Project.</li> </ul>
<b>Impact category 11: Loss of income from rented -out and access to rented-in residential/ commercial premises.</b>	
<ul style="list-style-type: none"> <li>Owner of the rented-out premises as identified by Census and verified by PVAC. Household/person rented-in any such structure as</li> </ul>	<ul style="list-style-type: none"> <li>One-time Assistance for alternate rental based on the average rental rate/month within the project influence area determined by PVAC and transitional allowance @ three months rental cost. Actual shifting assistance</li> </ul>

Unit of Entitlement	Entitlements
identified by Census and verified by PVAC.	
<b><i>Impact category 12: Adverse Impact on Host Population Due to Relocation of PAPs.</i></b>	
• Households relocated to the host communities	• Enhancement of carrying capacity of common civic amenities/utilities of the host communities as per assessment by DPHE.
<b><i>Impact Category 13: Severely affected and Vulnerable HHs and livelihood assistance</i></b>	
• Persons losing more than 10% of their incomes from all sources as identified by Census and verified by PVAC	<ul style="list-style-type: none"> <li>Income restoration grants for three months based on the average monthly income loss skill training and credit support under income generation program.</li> <li>Special Assistance of a one-time payment for vulnerable household as each female-headed, disabled-headed, elderly-headed, and poor household as decided by PVAC and the assign NGO.</li> <li>All the vendors and squatters will be eligible for Skill training and credit support under income generation program.</li> </ul>
<b><i>Impact category 14: Construction induced impact</i></b>	
• Households/persons affected by any unforeseen impact identified during RP implementation.	• Entitlements will be determined as per the resettlement policy framework of AIIB.
• Title and non-title land	<ul style="list-style-type: none"> <li>RV of damaged land, structure, tree, crops/fish stock structure, tree and /or any type and /or any type of assets owners as determined by PVAC and affected land / of assets owners</li> <li>Owner will be allowed to take away all salvageable materials</li> </ul>
<b><i>Impact category 15: Voluntary land donation</i></b>	
	<ul style="list-style-type: none"> <li>The potential donor or donors have been appropriately informed and consulted about the project and the choices available to them.</li> <li>Potential donors are aware that refusal is an option and have confirmed in writing their willingness to proceed with the donation.</li> <li>The donor is expected to benefit directly from the project i.e., job opportunities etc.</li> <li>For community or collective land, a donation can only occur with the consent of individuals using or occupying the land. DPHE will maintain a transparent record of all consultations and agreements reached; and</li> <li>All donation consultations and documentation procedures must be well documented and preserved.</li> </ul>

CCL: Cash compensation under law; PVAC= Property Valuation Advisory Committee

### 8.2.5 Gaps between GOB & AIIB Policies and Gap Filling Measures

This section will explain the comparison and gaps between the GoB and the AIIB policy framework in case of paying compensation for the lost assets and resettlement to the PAPs.

And how those gaps are to be fulfilled as per the policy framework of the AIIB. A brief description of the gaps between the Government laws and AIIB policy, along with a summary of gaps and gap-filling measures, is presented below:

- The Act 2017 does not recognize unauthorized occupants on Government land, and there is no clear indication about avoiding or minimizing displacement. AIIB policies strongly require avoiding or minimizing adverse impacts through exploring project alternatives.
- The adverse social impacts are not fully addressed by the Act 2017 – for instance, there are no provisions to ensure that the compensations for resettlement and relocation of the PAPs are adequate as the amounts of compensation are based on the hard rules and not on a project basis; AIIB policies, on the other hand, require to enhance, or at least restore, the livelihoods of all affected persons in real terms relative to pre-project levels by screening the social impacts in a case by case process based on project benefits, project location, project type etc. The Act has no provision of resettlement assistance for the restoration of livelihoods of affected persons except for legal compensation.
- The Act 2017 does not pay attention to public consultation, stakeholders' engagements in project planning and execution and the monitoring of project-affected persons. On the other hand, AIIB policies require meaningful consultation with the affected people and other stakeholders to disseminate project goals and objectives to obtain stakeholders' views and inputs in project planning and implementation.
- The Act 2017 provides several mechanisms for grievance redress regarding individual interests in the property and issues related to compensation which get raised with the DC. But there is no provision to hear other resettlement-related grievances arising from loss of livelihoods, loss of access to public infrastructure, or damages to property caused by acquisition and construction-related impacts. DPHE with the support of DPHE and municipalities will establish a local grievance redress mechanism (GRM) that is easily accessible and immediately responsive; it includes a variety of stakeholders, including the DC.
- Finally, AIIB policies pay special attention to gender issues and vulnerable groups in the resettlement processes, particularly the non-titled and the affected poor households. The policy gaps have been bridged by additional project-specific measures adopted in the RP. While dealing with compensation, replacement cost (for lost assets and income), and rehabilitation and livelihood assistance, PAPs with no legal rights will be taken into consideration as well. The measures will include improvement or at least restoration of the PAPs standard of living at the pre-project level. Special attention will be given to vulnerable groups, including those below the poverty line, the landless, the elderly, the women and the children, indigenous peoples, and those without legal title to land. In sum/low-income communities (LICs), the added measures in this Project fully comply with AIIB's policy of involuntary resettlement - ESS 2. The following table provides a summary of the key measures taken to comply with AIIB Policy requirements.

## 8.2.6 Bridging Gaps and Resettlement Principles Applicable for the Project

**Table 8-2:** Comparison between GoB laws and AIIB Safeguard Policies on Resettlement

SN.	Acquisition & Requisition of Immovable Property Act, 2017	Gaps Between Act 2017 and AIIB's ESS2 and Actions to Bridge the Gap	Gap Filling Measures Through AIIB ESS2
1	Not defined in the Act	Act 2017 does not deal with the depreciation of involuntary resettlement. However, the government uses this approach as a standard practice.	Involuntary resettlement should be avoided wherever possible.
2	Not so clearly defined in the Act. Places of worship, graveyard and cremation grounds are not to be acquired for any purpose unless the acquisition of these places is deemed unavoidable for the best interest of the people.	Act 2017 does not deal with these issues and does not comply with AIIB ESS2, as the Act 2017 has no vital provision for minimizing adverse impacts on private property or common resources and does not deal with an alternate design. The LARPF mentions minimizing involuntary resettlement through proper alternate engineering design and adequate consultation with stakeholders.	Minimize involuntary resettlement by exploring project and design alternatives.
3	The Act 2017 spells out that upon approval of the request for land by the office of the DC, the acquiring and Requiring body staff will conduct the physical inventory of assets and Properties are found in the land. The inventory form consists of the name of the person, quantity and quality of land, asset assets affected, and the materials used in the construction of the house. The cut-off date is the date of publication of notice that land is subject to acquisition and that any alteration or improvement thereon will not be considered for compensation.	The Act 2017 does not require the coverage of the census survey. It only reflects the inventory of losses which is more in physical terms, and only includes the names of the owners, etc. The AIIB policy spells out a detailed census through household surveys of displaced persons to assess the loss of income and vulnerability of the persons affected by land acquisition but also population displacement and other entitlements as per the entitlement matrix. The LARPF fills this gap by incorporating the need for a census survey for displaced persons.	Conducting a census of displaced persons and resettlement planning
4	Section 3 of the ordinance provides that whenever it appears to the DC that any property is needed or is likely to be needed for any public purpose or in the public	The Act 2017 does not directly meet AIIB ESS2. This section of the ordinance establishes an indirect form of information disclosure/public consultation. However, it does not provide for public meetings and project	Carry out meaningful consultation with displaced persons and ensure their participation in planning,

SN.	Acquisition & Requisition of Immovable Property Act, 2017	Gaps Between Act 2017 and AIIB's ESS2 and Actions to Bridge the Gap	Gap Filling Measures Through AIIB ESS2
	interest, s/he shall publish a notice at convenient places on or near the property in the prescribed form and manner stating that the property is proposed for acquisition.	<p>disclosure, so stakeholders are not informed about the purpose of land acquisition, its proposed use, or compensation, entitlements, and special assistance measures.</p> <p>The LARPF deals with the proper consultation process, which involves all stakeholders (DPs, government department/line agencies, local community, NGO, etc.), and the consultation will be a continuous process at all stages of the project development, such as project formulation, feasibility study, design, implementation, and post-implementation, including the monitoring phase.</p>	implementation, and monitoring of the resettlement program.
5	Section 4 allows the occupant of the land to raise objections in writing. These should be filed to the DC within 15 days of the publication. The DC will then hear the complaints and prepare a report and record of proceedings within 30 days following the expiry of the 15 days given to DPs to file their objections.	The section 4 provision is consistent with AIIB's grievance and redress policy. The LARPF has a special requirement for grievance procedures, which includes the formation of a grievance redress committee, the appointment of an arbitrator, and the publication of the notice of hearings and the scope of proceedings. The PAPs can raise any grievances relating to LA&R issues	Establish a grievance redress mechanism (GRM).
6	The Act 2017 does not address the issues related to income loss, livelihood, or loss of the non-titleholders. This only deals with the compensation for loss of land, structures, crops, trees, etc. for the legal titleholders.	<p>Act 2007 does not comply with AIIB ESS2 as there is no provision to assess the impacts on incomes and livelihood from the loss of employment and business or to restore lost incomes and livelihoods.</p> <p>The LARPF keeps the provision for a census survey that will have the data on the loss of income and livelihood. The same will be compensated per the entitlement matrix for physically and economically displaced persons.</p>	Improve or at least restore the livelihoods of all displaced persons.
7	The Act 2017 does not address these issues.	<p>The Act 2017 does not meet the requirement of AIIB ESS2.</p> <p>The LARPF proposes the land-for-land compensation as its priority if feasible. Attempts will be made to find alternative</p>	Land-based resettlement strategy

SN.	Acquisition & Requisition of Immovable Property Act, 2017	Gaps Between Act 2017 and AIIB's ESS2 and Actions to Bridge the Gap	Gap Filling Measures Through AIIB ESS2
		<p>land for the loss of land in case it is available and if it is feasible, looking at the concurrence of the host community and land value.</p> <p>However, this option may be a difficult proposition, considering the urban development projects in Bangladesh.</p>	
8	<p>The Act 2017 states that the deputy commissioner (DC) determines the amount of compensation by considering:</p> <ul style="list-style-type: none"> <li>(i) the replacement cost of the property based on the average sale value of last 12 months preceding the publication of 1st notice of acquisition;</li> <li>(ii) the damage to standing crops and trees;</li> <li>(iii) damage by severing such property from the other properties of the person occupying the land;</li> <li>(iv) adverse effects on other properties, immovable or movable, and/or earnings; and</li> <li>(v) the cost of change of place of residence or place of business.</li> </ul> <p>The DC also awards a sum of 50% on the replacement cost of the property to be acquired.</p>	<p>Act 2017 is largely consistent with AIIB ESS2. However, there are differences in the valuation of land and prices of affected assets, where AIIB prescribes the use of current market rates in the project area. Act 2017 does not ensure replacement cost or restoration of pre-project incomes of the displaced persons. The LARPF addresses all these issues and spells out a mechanism to fix the replacement cost by putting in an independent evaluator who will be responsible for deciding the replacement cost, taking into consideration the Current Market</p> <p>Price and titling cost of the land.</p>	All compensation should be based on the principle of replacement cost.
9	<p>If DC considers that the structure can easily be transferred, s/he will give relocation cost but not cash compensation under law.</p>	<p>The Act 2017 does not define the additional relocation assistance to displaced persons, other than the compensation for the direct loss of land and property. Hence, Act 2017 does not comply with AIIB ESS2. The LARPF provides the eligibility and entitlement for the relocation of the displaced persons in the form of relocation assistance, which includes shifting allowances, right to salvage materials, and additional transitional assistance for the loss of business and employment.</p>	Provide relocation assistance to displaced persons.
10	The Act 2017 does not have this provision.	The Act 2017 is not consistent with the requirements of AIIB's ESS2. This is a	Ensure that displaced persons without titles

SN.	Acquisition & Requisition of Immovable Property Act, 2017	Gaps Between Act 2017 and AIIB's ESS2 and Actions to Bridge the Gap	Gap Filling Measures Through AIIB ESS2
		major difference in the national law/policy compared to that of AIIB. The Act 2017 only takes into consideration the legal titleholders and ignores the non-titleholders. The objective of the LARPF is to ensure that compensation and assistance is provided to all displaced persons, whether physically displaced or economically displaced, irrespective of their legal status of land on which the structure is built. The end of the census survey will be considered to be the cut-off date, and displaced persons listed before the cut-off-date will be eligible for assistance.	to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of non-land assets.
11	The ordinance only ensures the initial notification for the acquisition of a particular property	There is no requirements under the Act, of disclosure of the LARPF, whereas the AIIB's ESS2 requires disclosure. This LARPF will ensure that the resettlement plan for each project, along with the necessary eligibility and entitlement will be disclosed to the DPs in the local language (Bangla), in the project location and concerned government offices, and the same resettlement plan will also be disclosed on the executing agency's website and on the website of AIIB.	Disclose the resettlement plan, including documentation of the consultation in an accessible place and a form and language understandable to affected persons and other stakeholders.
12	The Act 2017 has a provision to include all the costs related to land acquisition and compensation of legal property and assets. However, it does not consider the costs related to other assistance and involuntary resettlement.	The Act 2017 partially meets the requirement of AIIB ESS2 as it only deals with the compensation pertaining to land acquisition. The resettlement framework provides the eligibility to both titleholders and non-titleholders with compensation and various kinds of assistance as part of the resettlement packages, and the entire cost will be the part of the project cost.	Conceive and execute involuntary resettlement as part of a development project or program. Include the full costs of resettlement in the presentation of project's costs and benefits.
13	The Act 2017 has the provision that all the compensation will be paid prior to possession of the acquired land by EA.	The Act 2017 meets the requirement of AIIB ESS2	Pay compensation and provide other resettlement entitlements before physical or economic displacement.

SN.	Acquisition & Requisition of Immovable Property Act, 2017	Gaps Between Act 2017 and AIIB's ESS2 and Actions to Bridge the Gap	Gap Filling Measures Through AIIB ESS2
14	This is not so clearly defined in the Act 2017.	The Act 2017 does not comply with AIIB ESS2. The LARPF has a detailed provision for a monitoring system within the executing agency. The executing agency will be responsible for proper monitoring of the resettlement plan implementation, and the internal monitoring will also be verified by an external monitoring expert.	Monitor and assess resettlement outcomes, and their impacts on the standards of living of displaced persons.

### 8.2.7 Change of Subproject Scope or Identification of Unanticipated Impacts

In case of changes in the scope of the Project, or unanticipated impacts identified during subproject implementation, which are not covered under the eligibility and entitlement provisions of this LARPF, additional eligibility and entitlement provisions will be determined in accordance with the resettlement requirements of the AIIB's ESS2 and the applicable legal policy of the GoB. Accordingly, the LARPF will be endorsed by the Government and AIIB-cleared, updated LARPF shall be disclosed on the AIIB and EA websites. Based on the updated LARPF, specific sub-project RPs will be updated with new eligibility and entitlement updated provisions on account of unidentified impacts and losses under any sub-projects and the concerned displaced persons of such subprojects will be consulted and on new entitlement and RP provisions will be disclosed to them.

## 8.3 Preparing Resettlement Process

The preparation of the resettlement process under the BCISP follows a structured and participatory approach to ensure that all project-affected persons (PAPs) are identified, consulted, and adequately compensated and supported. The process begins with a Social Impact Assessment (SIA), which identifies the potential resettlement impacts, estimates the number and categories of affected persons, and assesses the scale of both physical and economic displacement. Following the SIA, screening and categorization of subprojects are conducted to determine the presence and extent of involuntary resettlement and to guide the level of planning and mitigation required.

A **census survey** and **baseline socio-economic profile** are then carried out to document all PAPs, inventory their losses (land, structures, assets, livelihoods), and collect socio-economic data. This information is essential for understanding the vulnerability of affected households and for planning appropriate assistance. Special attention is given to the **identification of vulnerable households**, such as those headed by women, the elderly, people with disabilities, or those living below the poverty line.

A **Property Valuation Survey (PVS)** is conducted to precisely quantify the losses of land, structures, and other assets. The results feed into the **resettlement database**, which serves as the foundation for compensation and assistance planning. The **valuation of affected**

**properties** is carried out by a Property Valuation Advisory Committee (PVAC), ensuring that all compensation is determined at full replacement cost, in line with both national law and international standards.

The process also includes the **determination of acquired lands** for subprojects, ensuring that only the minimum necessary land is acquired and that all legal and procedural requirements are met. Throughout, **information** dissemination and **consultation** are prioritized, with affected persons and communities being regularly informed about their rights, entitlements, and the resettlement process. Feedback from these consultations is incorporated into resettlement planning.

Once the draft Resettlement Plan (RP) is prepared, it undergoes review and approval by relevant authorities and the funding agency. The approved RP is then disclosed to all stakeholders, ensuring transparency. Only after these steps are completed are compensation and resettlement assistance delivered, prior to any displacement or commencement of civil works. This comprehensive and participatory process ensures that resettlement is managed effectively, with the aim of restoring or improving the livelihoods and living standards of all affected persons<sup>1</sup>.

## 8.4 Identification of Impacts

The BCISP is expected to generate both physical and economic impacts due to land acquisition and the development of project facilities. These impacts are detailed in the Land Acquisition and Resettlement Planning Framework (LARPF) and can be summarized as follows:

### **Physical Impacts:**

Physical impacts refer to the relocation of individuals, households, or communities from their homes, land, or shelters as a result of the project. This can involve the loss of residential land, housing structures, and associated community infrastructure. Affected persons may need to move to new locations, requiring the rebuilding of homes and re-establishment of social and community networks. The LARPF outlines that such impacts are addressed through relocation assistance, compensation at replacement cost, and support for rebuilding livelihoods and social systems.

### **Economic Impacts:**

Economic impacts involve the loss of land, assets, access to assets, income sources, or means of livelihood. This can affect those who may not lose their homes but experience reduced access to agricultural land, business premises, or resources essential for their livelihoods. The project may impact titled landowners, tenants, sharecroppers, squatters, and informal settlers. Compensation, income restoration assistance, and support for business or employment restoration are provided to mitigate these impacts.

### **Vulnerable Groups:**

Special attention is given to vulnerable households, including those headed by women, the elderly, people with disabilities, and those below the poverty line. These groups may face

greater challenges in coping with project impacts and are entitled to additional support and resettlement benefits.

#### **Temporary Impacts:**

In addition to permanent impacts, temporary impacts may occur during construction, such as loss of access to land or disruption of business activities. These are addressed through short-term assistance and compensation for lost income or assets during the transition period.

#### **Mitigation Measures:**

The LARPF ensures that all affected persons, regardless of tenure status, are identified and provided with appropriate compensation, resettlement assistance, and livelihood restoration support to minimize adverse impacts and help restore or improve their living standards.

### **8.5 Eligibility and Entitlement Criteria for Project Affected Persons (PAPs)**

This section will present the eligibility and entitlement framework specified in the entitlement matrix, adhering to Bangladesh's laws and AIIB's ESF. All resettlement tasks for the Project will be executed in accordance with this framework as detailed in the section '*Entitlement Matrix and Mitigation Measures*' of this document.

#### **Eligibility Criteria:**

PAPs are defined as individuals, households, firms, or private institutions who, due to project activities, experience adverse effects on their standard of living, rights or interests in land or property, or livelihoods—either permanently or temporarily. This includes those who are physically displaced (loss of home, land, or shelter) and/or economically displaced (loss of assets, access, income sources, or means of livelihood). Both titled and non-titled persons (such as squatters and informal settlers) are considered eligible if they are present before the project's cut-off date. The cut-off date is determined either by the official land acquisition notice or the start of the census/inventory of losses, whichever is earlier. Individuals or groups settling in the project area after the cut-off date (encroachers) are not eligible for compensation or assistance.

#### **Entitlement Criteria:**

Entitlements for eligible PAPs include a range of measures based on the type and degree of loss:

- **Compensation at replacement cost** for lost land, structures, and assets, regardless of legal title.
- **Resettlement assistance** for physically displaced persons, including relocation support, rebuilding homes, and restoration of community infrastructure.
- **Livelihood restoration and income support** for those experiencing economic displacement, such as business restoration, income substitution, and training.
- **Additional support for vulnerable groups**, including women-headed households, the elderly, people with disabilities, the poor, and indigenous or minority populations.

- **Temporary impact assistance** for those affected during construction phases, such as compensation for lost income or temporary access restrictions.

These provisions ensure that all PAPs, regardless of tenure status, are supported to restore or improve their livelihoods and living standards following project impacts.

## 8.6 Entitlement Matrix and Mitigation Measures

This section presents the entitlement matrix and mitigation measures designed to provide Project-Affected Persons with appropriate compensation and support for any adverse impacts resulting from the Project.

### 8.6.1 Entitlements, Assistance & Benefits: Type of Loss & Entitlement (Matrix)

The entitlement matrix provides compensation and assistance based on the type and degree of loss, regardless of legal title. Key entitlements include:

- **Loss of Land:** Compensation at replacement cost for both titled and non-titled holders; additional resettlement grants for vulnerable groups.
- **Loss of Structures (residential, commercial, or other):** Replacement cost compensation without depreciation; shifting and reconstruction assistance.
- **Loss of Livelihood or Income:** Livelihood restoration support, including skill training, business restoration grants, and transitional allowances.
- **Temporary Impacts:** Compensation for temporary loss of income or access during construction.
- **Common Property Resources:** Replacement or restoration of affected community assets.

**Table 8-3: Type of Loss & Entitlement Matrix**

Type of Loss	Entitled Person(s)	Entitlement/Assistance
Loss of Agricultural Land	Legal owner, sharecropper, tenant, non-titled/squatter	Compensation at replacement cost; additional grants for vulnerable; livelihood restoration assistance
Loss of Residential Land/Structure	Owner, tenant, non-titled/squatter	Replacement cost of land/structure; shifting allowance; reconstruction assistance; rental allowance
Loss of Commercial Land/Structure	Owner, tenant, non-titled/squatter	Replacement cost; business restoration grant; shifting allowance; loss of income compensation
Loss of Trees and Crops	Owner, sharecropper, tenant	Compensation at market value for lost crops/trees
Loss of Livelihood/Income	Business owner, employee, informal worker	Livelihood restoration support; skill training; transitional allowance
Temporary Loss of Land/Access	Owner, tenant, non-titled/squatter	Compensation for temporary loss; restoration of access

Type of Loss	Entitled Person(s)	Entitlement/Assistance
Loss of Common Property Resources (CPRs)	Community, public institutions	Replacement/restoration of assets (schools, religious sites, utilities, etc.)
Vulnerable Households	Women/elderly/disabled-headed, poor, indigenous	Priority in employment; additional relocation/livelihood assistance; tailored support
Impact on Cultural/Religious Properties	Community, religious groups	Restoration or replacement of affected property

### 8.6.2 Land Donation and Negotiated Settlement

**Land Donation:** Voluntary land donation is allowed only if it does not significantly affect the donor's livelihood. The process is fully documented, transparent, and includes third-party verification to ensure no coercion.

**Negotiated Settlement:** Land may be acquired through negotiation, ensuring fair compensation and voluntary agreement, with documentation and grievance redress mechanisms in place.

### 8.6.3 Communal, Public & Cultural Structures and Utilities

**Communal and Public Assets:** Any affected schools, places of worship, water sources, roads, or utilities will be restored or relocated at project cost to ensure continued community access.

**Cultural Properties:** Special care is taken to avoid or mitigate impacts on cultural heritage sites, with restoration or compensation as needed.

### 8.6.4 Special Measures for Vulnerable Households

**Vulnerable Groups:** Households headed by women, the elderly, disabled, indigenous peoples, or those below the poverty line receive additional support, such as priority in employment, extra relocation assistance, and tailored livelihood programs.

### 8.6.5 Measures to Address Identified Gender Issues

**Gender Inclusion:** Women's participation is promoted in consultations and decision-making. Compensation is provided jointly to spouses where applicable, and women-headed households receive special assistance. Gender-based violence (GBV) risks are addressed through awareness, reporting mechanisms, and support services.

### 8.6.6 Residential and Commercial Infrastructure

**Residential Infrastructure:** Affected households are provided with relocation assistance, support for rebuilding homes, and restoration of access to utilities and services.

**Commercial Infrastructure:** Businesses losing premises receive compensation for lost assets, support for re-establishing businesses, and transitional income support to minimize disruption.

## 8.7 Process of Compensation

This section outlines the processes involved in compensation, including confirmation surveys, calculation methodologies, and addressing gender impacts to ensure fair and equitable compensation for affected individuals.

### 1. Identification and Survey

- Conduct a **census survey and inventory of losses (IoL)** to identify Project Affected Persons (PAPs) and assess the type and extent of losses (land, structures, livelihood, etc.).
- Prepare a **baseline socio-economic profile** of affected households.

### 2. Valuation of Assets

- Determine the **replacement cost** of affected assets (land, structures, crops, trees) through a **Property Valuation Advisory Committee (PVAC)**.
- Ensure valuation reflects current market prices without depreciation or deductions for salvage.

### 3. Eligibility and Cut-off Date

- Establish a **cut-off date** (either the date of land acquisition notice or start of census) to determine eligibility for compensation and assistance.
- Only PAPs identified before the cut-off date are eligible.

### 4. Preparation of Entitlement Matrix

- Develop an **entitlement matrix** specifying compensation and assistance for each type of loss and category of PAPs (owners, tenants, squatters, vulnerable groups, etc.).
- **Consultation and Disclosure**
- Inform PAPs about their rights, entitlements, and the compensation process through public meetings and individual consultations.
- Disclose the Resettlement Plan and compensation rates.

### 5. Compensation Payment

- Pay compensation in cash or kind (e.g., land-for-land) prior to displacement.
- Compensation is paid at full replacement cost, and additional resettlement grants are provided as per entitlement.
- For land acquired under law, compensation is deposited in the Public Account of the Republic as per the Acquisition and Requisition of Immovable Property Act, 2017.

### 6. Grievance Redress

- Establish a **Grievance Redress Mechanism (GRM)** to address complaints regarding eligibility, valuation, or payment.

### 7. Monitoring and Evaluation

- Monitor the compensation process to ensure timely and adequate payments.
- Conduct internal and external evaluations to verify restoration of livelihoods and living standards.

## 8.8 Livelihood Restoration and Rehabilitation

This section presents the details the strategies and approaches for livelihood restoration and rehabilitation, aimed at supporting affected individuals in recovering their income and enhancing their social safety nets post-project implementation.

The LARPF ensures that all Project Affected Persons (PAPs), especially those who suffer loss of income or livelihood due to project activities, receive comprehensive support to restore and, where possible, improve their pre-project living standards. Key measures include:

### 1. Income Restoration Assistance

- **Cash Grants:** Provision of transitional allowances and grants to compensate for loss of income during the relocation and adjustment period.
- **Business Restoration:** Support for re-establishing businesses, including compensation for lost business income, shifting allowances, and assistance with securing new business premises.

### 2. Skill Development and Training

- **Vocational Training:** Access to skill development programs or vocational training to help PAPs develop new or improved skills, increasing their employability and income-earning potential.
- **Employment Opportunities:** Priority access to project-related jobs, especially for vulnerable groups, to support immediate income restoration.

### 3. Special Support for Vulnerable Groups

- **Tailored Assistance:** Additional livelihood support, such as targeted training, microcredit, or grants, is provided to women-headed households, the poor, the elderly, and people with disabilities.
- **Monitoring:** Special monitoring to ensure vulnerable PAPs are able to restore their livelihoods effectively.

### 4. Agricultural and Land-Based Rehabilitation

- **Land-for-Land:** Where feasible, provision of replacement land of equal productivity for those losing agricultural land.
- **Agricultural Inputs:** Support with seeds, fertilizers, or other inputs to re-establish agricultural activities.

### 5. Follow-Up and Monitoring

- **Ongoing Support:** Continuous monitoring and follow-up to ensure all PAPs have access to the resources and opportunities needed for sustainable livelihood restoration.
- **Grievance Redress:** Access to grievance mechanisms for PAPs to raise concerns and seek additional support if livelihood restoration measures are inadequate.

The LARPF emphasizes not just compensation for lost assets, but also robust livelihood restoration and rehabilitation through cash support, training, employment opportunities, and special measures for vulnerable groups ensuring that all affected persons can rebuild their economic and social well-being after displacement.

## 8.9 Resettlement Planning Procedure

The resettlement planning process of the project starts with a Social Impact Assessment to identify affected persons and resettlement impacts, followed by screening and categorization of sub-projects. A census and socio-economic survey document losses and identify vulnerable households, while a Detailed Measurement Survey and asset valuation ensure accurate compensation. A Resettlement Plan is then prepared, disclosed, and approved, with public consultations ensuring transparency. Compensation and assistance are provided before displacement, with special support for vulnerable groups. A *Grievance Redress Mechanism (GRM)* is established, and ongoing monitoring ensures effective implementation and restoration of affected persons' livelihoods and living standards (Detailed in Section 8.6).

**Table 8-4:** Resettlement Planning, Responsibility, and Timing

Activity/Step	Responsible Agency/Person	Timing/Phase
Social Impact Assessment (SIA)	Design Consultants, PIU, DPHE	Project Preparation
Subproject Screening & Categorization	PIU/PMU, DPHE	Project Preparation
Census Survey & Socio-Economic Baseline	Design Consultants, PIU	Project Preparation
Identification of Vulnerable HHs	Design Consultants, PIU	Project Preparation
Detailed Measurement Survey (DMS)	Design Consultants, PIU	Project Preparation
Verify affected assets through Inventory of Losses (IoL)	The Joint Verification Committee (JVC), PIU/PMU	Project Preparation
Valuation of Affected Assets	Property Valuation Advisory Committee (PVAC), PIU/PMU	Project Preparation
Preparation of Resettlement Plan (RP)	Design Consultants, PIU/PMU, DPHE	Project Preparation
Information Dissemination & Consultation	PIU, DPHE, Local Authorities	Project Preparation & Implementation
RP Approval & Disclosure	DPHE, AIIB, Local Authorities	Prior to Implementation
Disbursement of Compensation & Assistance	DPHE, PIU/PMU, Deputy Commissioner	Before Civil Works/Displacement
Relocation & Livelihood Restoration	DPHE, PIU/PMU, Local Authorities	Before/During Civil Works
Grievance Redress Mechanism (GRM) Operation	PIU/PMU, DPHE, GRC	Throughout Project Cycle
Monitoring & Evaluation	DPHE, PIU/PMU, External Monitors	Throughout Project Cycle

The resettlement planning procedure is a systematic process involving assessment, consultation, detailed planning, transparent compensation, and continuous monitoring to ensure that all affected persons are adequately compensated and supported, and that their livelihoods and living standards are restored or improved.

## 8.10 Methods of Valuing Affected Assets

A core principle of the Land Acquisition and Resettlement Planning Framework (LARPF) is that all Project Affected Persons (PAPs) must receive fair and adequate compensation for any assets lost due to project activities. This compensation must reflect the full replacement cost, ensuring that PAPs are not disadvantaged by the project. The methods for valuing affected assets are designed to be transparent, participatory, and in alignment with both national legislation and international standards, particularly those of the Asian Infrastructure Investment Bank (AIIB).

### (1) Guiding Principles

#### **Replacement Cost:**

The RPF defines replacement cost as the amount required to replace lost assets in their existing condition, at current market prices, without deduction for depreciation, transaction costs, or salvage value. This principle applies to all types of assets—land, structures, crops, trees, and other properties.

#### **Legal and Policy Framework:**

Valuation methods comply with the Acquisition and Requisition of Immovable Property Act, 2017 (ARIPA 2017) of Bangladesh and AIIB's Environmental and Social Standards. Where national law provides less than full replacement cost, the project provides top-up payments to ensure PAPs receive the full value.

### (2) Asset Valuation Procedures

#### **a. Land Valuation**

- **Market Survey:**

The current market value of land is determined through a market survey, which examines recent transactions of similar land in the project area. Factors considered include location, land use (agricultural, residential, commercial), accessibility, and productivity.

- **Comparable Sales:**

The value is cross-checked with sales data from the local land registry office and verified with local stakeholders.

- **Replacement Land:**

Where feasible, PAPs may be offered replacement land of equal size and productivity as an alternative to cash compensation.

#### **b. Structure Valuation**

- **Replacement Cost Approach:**

Structures are valued based on the cost to reconstruct them at current market prices for materials, labor, and transport. No deductions are made for depreciation or for the value of salvaged materials.

- **Type and Condition:**

The valuation considers the type (e.g., residential, commercial, ancillary), size, materials used, and current condition of the structure.

- **Ancillary Structures:**

Fences, wells, sheds, and other non-residential structures are also valued using the replacement cost method.

***c. Crops and Trees Valuation***

- **Crops:**

The value of standing crops is based on the average annual yield and current market price for the crop at the time of acquisition. Seasonal timing is considered to ensure fair compensation.

- **Trees:**

Trees are valued according to their age, type, and productive value. Fruit and timber trees are assessed for both current and potential future yields, with compensation reflecting the tree's maturity and market value.

***d. Other Assets***

- **Business Losses:**

Loss of income due to business disruption is calculated based on average net income over a representative period, with compensation provided for the duration of the interruption.

- **Movable Assets:**

Equipment, inventory, and other movable assets are valued at current market rates.

- **Common Property Resources:**

Community assets such as schools, religious sites, and utilities are valued for full restoration or replacement.

**(3) Valuation Committees**

- A **Property Valuation Advisory Committee (PVAC)** is established, including local officials, technical experts, and community representatives.
- The PVAC reviews market data, conducts field assessments, and recommends compensation rates.

**(4) Consultation and Disclosure**

- PAPs are consulted on valuation methods and rates.
- Valuation results and compensation rates are disclosed to ensure transparency.

**(5) Legal and Policy Compliance**

- Valuation complies with the **Acquisition and Requisition of Immovable Property Act, 2017** and AIIB's Environmental and Social Standards.
- Compensation is provided at full replacement cost, not just statutory rates.

**(6) Special Considerations**

**Vulnerable Groups:**

- Additional support and tailored valuation may be provided for vulnerable households (e.g., women-headed, elderly, disabled, poor) to ensure their losses are fully addressed.

### **Temporary Impacts:**

- For temporary losses (e.g., during construction), compensation is provided for the duration of the impact, based on the value of lost income or assets.

### **(7) Documentation and Record-Keeping**

All valuation activities are thoroughly documented, including:

- Market survey data
- Field assessment reports
- PVAC recommendations
- PAP feedback and agreements

This ensures accountability and provides a clear audit trail for all compensation decisions.

### **(8) Grievance Redress**

A *Grievance Redress Mechanism (GRM)* is available for PAPs to contest asset valuations or compensation amounts. The GRM ensures that disputes are addressed promptly and fairly, with the possibility of revaluation if justified.

The methods of valuing affected assets under the LARPF are comprehensive, participatory, and designed to ensure that all PAPs are compensated fairly and transparently. By adhering to the replacement cost principle, involving stakeholders in the process, and providing mechanisms for grievance redress, the project safeguards the rights and livelihoods of affected persons and communities.

## **8.11 RP Preparation**

An estimated total of 25 RPs for subproject investments may be developed to address/mitigate potential impacts on affected communities and to ensure proper management of any social or economic changes that may arise from the development project. The RPs will serve as the framework for managing resettlement processes, compensation, and community engagement, helping to mitigate risks for income and livelihood restoration programs and ensure compliance with regulatory (GoB) and social standards (AIIB).

A Resettlement Plan (RP) for each municipality will be prepared based on the census, inventory of losses, market survey data, opinion of the people obtained during stakeholder's consultation meetings, FGD meetings, KIIIs, and secondary data following the GoB rule, and Resettlement Policy Framework (RPF). The Resettlement Plan (RP) will address income and livelihood restoration strategies, capacity-building programs, and gender issues, including the risks of gender-based violence, as well as considerations for small ethnic communities, if applicable.

### **Steps for Preparing the RP**

- Consultation meetings with stakeholders at the hotspots covering all categories of people to disseminate project information and establish a cut-off date for the non-titled PAPs
- Census, Socio-economic Survey (SES), and Inventory of Losses (IOL) of the affected HHs & properties irrespective of title to the land
- Focus group discussions (FGDs), with various occupational groups including female and vulnerable HHs
- Key Informant Interviews (KIIIs) with government officials from relevant local, regional, or national government departments
- Property valuation survey of the affected land, structures and trees/crops, and fish stocks
- Need assessment survey for the vulnerable PAPs for a livelihood restoration program in the RP.
- Prepare a Proposed Budget
- Drafting the RP following the Govt policy and AIIB Social Standard
- Disclosure of the draft RP policy to the stakeholders and incorporate opinions/comments in the final RP
- Preparation of the final RP for each town

**Figure 8-1: Steps of Preparing RP**

The draft RP will be submitted to the AIIB for review before approval of the same by DPHE. The RP will be disclosed to the PAPs/VGs before the start of implementation. The final RP will be submitted within the stipulated timeframe. The Table of Contents (ToC) for the Resettlement Plan (RP) will be prepared and shred with DPHE earlier before RP study.

The RPF on land acquisition and resettlement procedures, underscores the importance of comprehensive frameworks that address the needs of displaced persons, transparent information disclosure, and monitoring of resettlement outcomes to ensure that affected communities are adequately supported and their rights are respected throughout the project lifecycle.

## **8.12 RP Implementation**

This section outlines the organizational procedures established for the effective implementation of the Resettlement Plan (RP), detailing the roles and responsibilities of relevant stakeholders involved in the process.

### **1. Institutional Arrangements for RP Implementation**

- **Department of Public Health Engineering (DPHE)** acts as the Executing Agency (EA), responsible for overall coordination and supervision of RP implementation.

- A dedicated **Project Implementation Unit (PIU)/Project Management Unit (PMU)** is established at DPHE to manage day-to-day resettlement activities.
- **Municipalities (ULBs)** support local implementation, community engagement, and grievance redress.

## 2. Key Committees and Roles

- **Joint Verification Committee (JVC)** verifies and validates the actual assets and properties affected by the project. The primary responsibility of the JVC to be formed by the Ministry of LGRD is to review the physical verification data collected by the NGO and the DC's assessment of the loss of physical assets and their owners. The scope and responsibility of the JVC will be clearly defined in the gazette. The INGO /Firm will process the entitlements of the project-affected persons using the JVC data as one of the determinants. The JVC will be a three-member body and be comprised as follows:
  - (i) *Executive Engineer of Municipality/DPHE – Convener*
  - (ii) *Representative of Deputy Commissioner – Member*
  - (iii) *Resettlement Officer/ Representative of RP Implementing NGO/Firm – Member Secretary*
- The **Property Valuation Advisory Committee (PVAC)** oversees valuation of affected assets and recommends compensation rates. The Property Valuation Advisory Committee (PVAC) will be formed for the project by the Ministry of LGRD through a gazette notification/ administrative circular. It will review the assessment of the respective municipality, NGO, Public Works Department (PWD) and Bangladesh Forest Department (BFD) on the market price of the properties affected by the project at their replacement cost. The scope and responsibility of the PVAC will clearly be defined in the gazette. The respective City Corporation/Municipality will process the entitlements of the project-affected persons using the PVAC data as one of the determinants. The PVAC will be comprised as follows:
  - (i) *Executive Engineer of Municipality – Convener*
  - (ii) *Representative of DC, Member*
  - (iii) *Respective Ward Commissioner (Male)*
  - (iv) *Respective Ward Commissioner (Female)*
  - (v) *RP Implementing NGO – Member Secretary*
  - (vi) *Representative of the Public Works Department (PWD)*
  - (vii) *Representative of the Bangladesh Forest Department (BFD)*
- The **Grievance Redress Committee (GRC)** addresses complaints and disputes related to resettlement activities in a fair, transparent, and timely manner (Detailed in section 8.6).
- **External Monitors/Consultants** may be engaged to independently monitor RP implementation and compliance.

## 3. Coordination and Capacity Building

- Regular coordination meetings are held among DPHE, PMU/PIU, ULBs, Ward Councilors, and other relevant stakeholders to ensure smooth implementation.

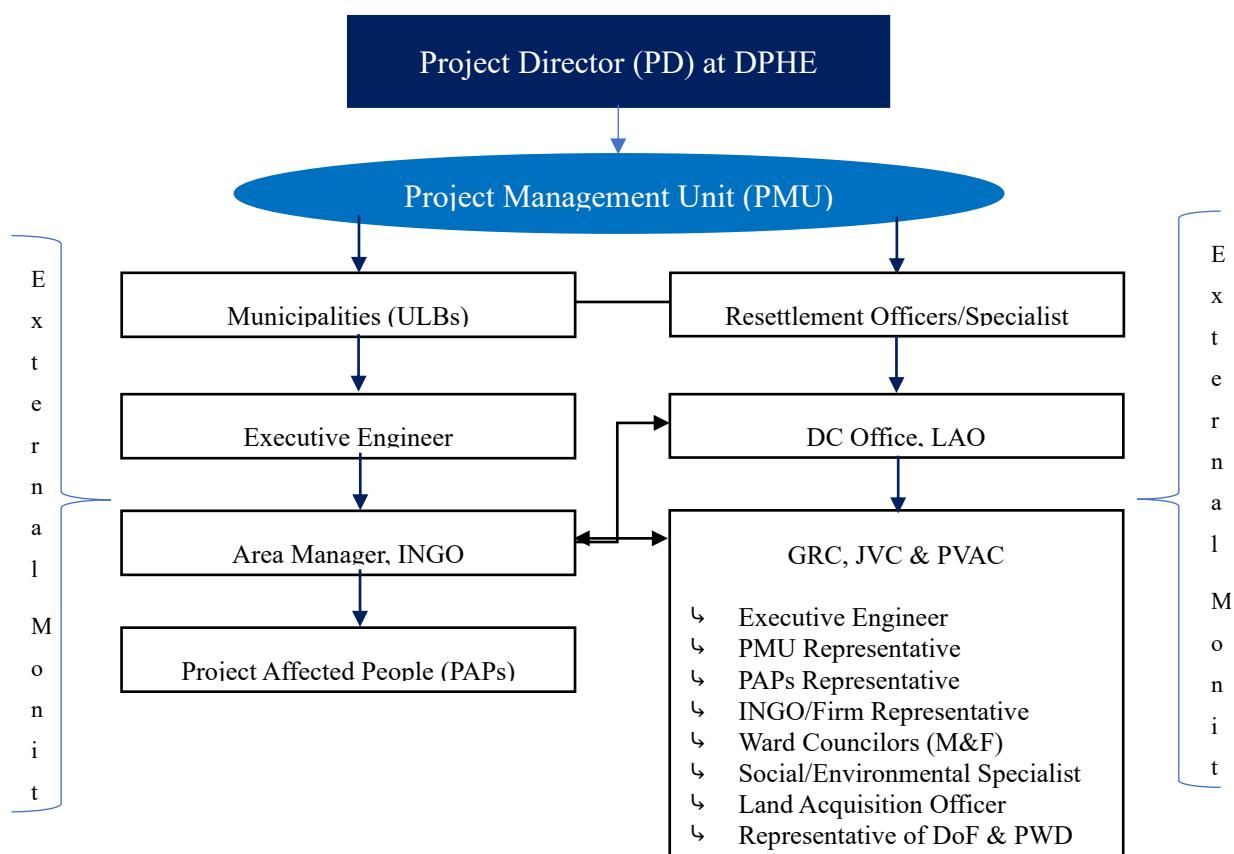
- Training and capacity building are provided for staff involved in resettlement to ensure understanding of policies, procedures, and community engagement.

#### 4. Implementation Steps

- **Disclosure and Consultation:** The approved RP is disclosed to affected persons and stakeholders. Continuous consultations are held throughout implementation.
- **Compensation and Assistance:** Compensation payments and resettlement assistance are provided prior to displacement, following the entitlement matrix.
- **Relocation and Livelihood Restoration:** Support is provided for physical relocation, rebuilding of structures, and restoration of livelihoods, especially for vulnerable groups.
- **Grievance Redress:** The GRC is operational throughout the process to receive and resolve complaints.
- **Monitoring and Reporting:** Regular internal monitoring by the PIU and external monitoring by independent experts ensure compliance and effectiveness. Progress reports are submitted to DPHE and the funding agency (AIIB).

#### 5. Timing

- All compensation and resettlement assistance must be completed before any displacement or commencement of civil works.
- Monitoring and grievance redress mechanisms continue throughout the project cycle.



**Figure 8-2:** RP Implementation Procedure

## 8.13 Implementation and Monitoring

The implementation and monitoring aspect is a crucial component of the Land Acquisition and Involuntary Resettlement Planning Framework (LARPF). This framework emphasizes the need for effective implementation and continuous monitoring of environmental and social considerations throughout the lifecycle of the project.

The AIIB's ESS2 outlines specific requirements related to the implementation and monitoring of projects. It mandates the establishment of a comprehensive framework for the implementation of environmental and social management plans, including the integration of environmental and social considerations into project design, feasibility studies, and post-implementation phases.

Furthermore, the document highlights the importance of continuous monitoring at all stages of project development, including project formulation, feasibility study, design, implementation, and post-implementation. This emphasis on continuous monitoring ensures that environmental and social considerations are adequately addressed throughout the project lifecycle.

The ESS2 also requires the establishment of a monitoring system within the executing agency to assess environmental and social outcomes and their impacts on affected communities and individuals. This includes monitoring the effectiveness of environmental and social management plans, as well as the implementation of resettlement activities and other social safeguards.

The AIIB's policy on implementation and monitoring underscores the importance of integrating environmental and social considerations into project activities and ensuring continuous monitoring to address potential environmental and social impacts. This approach is designed to ensure that the project adheres to the highest environmental and social standards and contribute to sustainable development while minimizing adverse impacts on affected communities and the environment.

## Chapter 9: Indigenous Peoples Planning Framework

### 9.1 Introduction

This Indigenous Peoples Planning Framework (IPPF) serves as a guiding document within the overarching Environmental and Social Management Planning Framework (ESMPF) for the Sanitation Project. It reaffirms the project's unwavering commitment to recognizing, respecting, and promoting the human rights, cultural identities, and distinct needs of Indigenous Peoples (Ethnic Groups) who may be present in or affected by the project's activities. The IPPF is developed following international best practices and directly responds to the requirements outlined in the Asian Infrastructure Investment Bank's (AIIB) Environmental and Social Standard (ESS) 3: Indigenous Peoples. Its purpose is to provide a comprehensive framework for the identification of Indigenous Peoples, assessment of potential impacts, development of culturally appropriate mitigation and benefit-sharing measures, and the establishment of robust consultation and grievance redress mechanisms throughout the project lifecycle. This framework applies to all project components and sub-projects that may affect Indigenous Peoples.

### 9.2 Objectives of the Indigenous Peoples Planning Framework

The primary objectives of this Indigenous Peoples Planning Framework are to:

- **Avoid Adverse Impacts:** To avoid adverse impacts on Indigenous Peoples where possible, and when avoidance is not feasible, to minimize, mitigate, and compensate for such impacts in a culturally appropriate manner.
- **Ensure Culturally Appropriate Benefits:** To ensure that Indigenous Peoples receive culturally appropriate social and economic benefits, enhancing their opportunities and well-being in a manner consistent with their aspirations.
- **Promote Meaningful Consultation and FPIC:** To establish and implement processes for meaningful consultation with affected Indigenous Peoples, ensuring their free, prior, and informed consent (FPIC) is obtained for project activities that significantly impact their lands, resources, cultural heritage, or lead to their relocation.
- **Respect Cultural Identity and Customary Institutions:** To recognize and respect the distinct cultures, histories, customary livelihoods, and traditional decision-making processes of Indigenous Peoples.
- **Strengthen Capacities:** To strengthen the capacities of both project personnel and Indigenous Peoples' communities and institutions to effectively participate in and benefit from the project, as well as to implement and monitor the IPPF and any subsequent Indigenous Peoples Plans (IPPs).
- **Enhance Participation:** To facilitate the full and effective participation of Indigenous Peoples, including women, youth, and vulnerable subgroups, in project design, implementation, and monitoring.

## 9.3 National and International Requirements

This section provides a detailed analysis of the legal and policy framework governing Indigenous Peoples in Bangladesh and critically examines its alignment with international standards, particularly AIIB ESS3.

### 9.3.1 National Laws, Policies, and Regulations

- **Constitution of Bangladesh:** Review relevant constitutional provisions related to the rights of minorities and special provisions for tribal populations.
- **Chittagong Hill Tracts (CHT) Peace Accord, 1997:** Discuss the implications of the Accord for the Indigenous Peoples within the CHT region, including land rights, local governance, and cultural preservation.
- **Other Relevant Acts/Policies:** Analyze other relevant national laws and policies that pertain to land acquisition, forest rights, labor laws, and social welfare, assessing their applicability and potential implications for Indigenous Peoples. This includes:
  - The Land Acquisition Act (1892, amended 2017)
  - Forest Act (1927)
  - Vested Property Act (1972)
  - Special laws and regulations, if any, specific to Indigenous communities in Bangladesh.

### 9.3.2 Applicable International Conventions and Treaties

- **AIIB Environmental and Social Standard (ESS) 3: Indigenous Peoples:** Detail the core principles and requirements of ESS3, including:
  - Identification and screening.
  - Social impact assessment.
  - Meaningful consultation and Free, Prior, and Informed Consent (FPIC).
  - Culturally appropriate benefits and mitigation measures.
  - Livelihood restoration.
  - Cultural heritage protection.
  - Grievance redress mechanisms.
  - Monitoring and reporting.
- **United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP):** While not legally binding, UNDRIP provides a universal framework of minimum standards for the survival, dignity, and well-being of the Indigenous Peoples of the world. Its principles should be considered best practice.

### 9.3.3 Gap Analysis between AIIB ESS3 and National Laws

This subsection presents a detailed gap analysis comparing national legal and policy frameworks with AIIB ESS3. For each identified gap, the IPPF explicitly states that AIIB ESS3's requirements will apply where national laws or regulations are less stringent or do not

adequately address the rights and needs of Indigenous Peoples. This ensures adherence to the higher international standard.

## 9.4 Identification of Affected Indigenous People in Project Areas

The identification of Indigenous Peoples in the project area is a crucial first step, conducted through participatory and culturally sensitive methods.

### 9.4.1 Criteria for Identification

Indigenous Peoples (Ethnic Groups) will be identified based on a combination of the following characteristics, acknowledging their right to self-identification:

- **Self-identification:** As Indigenous Peoples/Ethnic Groups, and acceptance by the community as such.
- **Distinct Social and Cultural Identity:** Possession of distinct social and cultural traditions, languages, customs, and beliefs different from the dominant society.
- **Collective Attachment to Habitats/Territories:** Collective attachment to geographically distinct habitats or ancestral territories and the natural resources in these areas.
- **Customary Cultural, Economic, Social, or Political Institutions:** Existence of customary cultural, economic, social, or political institutions that are separate from those of the dominant society.
- **Historical Continuity:** A historical continuity with pre-settlement or pre-colonial societies in their ancestral lands.
- **Non-Dominant Status:** A non-dominant position in society, often vulnerable to discrimination or marginalization.

### 9.4.2 Methodology for Identification

- **Desktop Review:** Initial review of existing demographic data, ethnographic studies, and local government records to identify areas with a known presence of Indigenous Peoples.
- **Participatory Rapid Appraisal (PRA):** Conduct PRAs in potential project areas, involving local community leaders, elders, women's groups, and youth representatives from Indigenous communities.
- **Community Mapping:** Collaborate with Indigenous communities to map their traditional territories, resource use areas, culturally significant sites, and community infrastructure.
- **Key Informant Interviews (KII):** Conduct interviews with Indigenous Peoples' organizations, local government officials, NGOs working with Indigenous communities, and academics.
- **Focus Group Discussions (FGDs):** Organize culturally appropriate FGDs with various segments of Indigenous communities to gather information on their presence, characteristics, social structures, and concerns.
- **Verification:** All findings from the identification process will be verified with the concerned Indigenous communities.

### 9.4.3 Demographic and Socio-Economic Data Collection

Detailed demographic, socio-economic, and cultural baseline data will be collected for all identified Indigenous Peoples in the project's area of influence. This includes:

- Population size, age, gender, and household composition.
- Languages spoken and literacy rates.
- Traditional livelihoods, economic activities, and income sources.
- Land tenure systems (formal and customary).
- Health status, access to services, and traditional healthcare practices.
- Education levels and access to schooling.
- Social organization, customary laws, and traditional decision-making structures.
- Cultural practices, beliefs, and significant sites.
- Vulnerable subgroups within Indigenous communities (e.g., female-headed households, the elderly, disabled).

## 9.5 Screening for Indigenous People

A systematic screening process will be undertaken during the sub-project identification and planning stages to determine the presence of Indigenous Peoples and the potential for project impacts.

### 9.5.1 Screening Procedure

- **Initial Screening Checklist:** An initial screening checklist will be used for every proposed sub-project to ascertain the presence of Indigenous Peoples in the sub-project's area of influence. This checklist will be integrated into the ESMPF's overall screening process.
- **Field Verification:** If the initial screening indicates the potential presence of Indigenous Peoples, a more detailed field visit and community consultation will be conducted to confirm their presence and identify the nature and scale of their attachment to the land and resources.
- **Impact Triggering:** The screening process will determine if the sub-project:
  - Is located on lands traditionally owned or customarily used by Indigenous Peoples.
  - Would cause the physical relocation of Indigenous Peoples.
  - Would have significant impacts on Indigenous Peoples' cultural heritage material to their identity and cultural survival.
  - Would affect traditional livelihood systems or access to natural resources of Indigenous Peoples.

### 9.5.2 Outcome of Screening

Based on the screening results, one of the following will be determined:

- **No Indigenous Peoples Present:** If no Indigenous Peoples are present or affected, no specific Indigenous Peoples Plan (IPP) or Ethnic Group Engagement Plan (EGEP) is required, but general ESMP measures will apply.
- **Indigenous Peoples Present with Potential Impacts:** If Indigenous Peoples are present and potential impacts are identified, a detailed Social Impact Assessment (SIA) specifically for Indigenous Peoples will be conducted, leading to the preparation of an Indigenous Peoples Plan (IPP) or an Ethnic Group Engagement Plan (EGEP), commensurate with the level of risk and impacts. The sample template for EGEP (Appendix N) will guide this process.

## 9.6 Potential Impacts on Indigenous People

The project's activities, though primarily focused on sanitation infrastructure, can have diverse potential impacts on Indigenous Peoples. These impacts can be both positive and negative, direct or indirect, and may include, but are not limited to:

### 9.6.1 Positive Impacts

- Improved public health and sanitation facilities.
- Enhanced access to basic services.
- Potential for employment opportunities during construction.
- Capacity building and skill development programs.
- Improved water quality and environmental conditions.

### 9.6.2 Adverse Impacts

- **Land and Resource Impacts:**
  - Loss of traditional lands or territories due to land acquisition for project infrastructure.
  - Restriction of access to common property resources (e.g., forests, fishing grounds, water bodies) that are crucial for traditional livelihoods.
  - Impacts on traditional agricultural practices or foraging areas.
- **Livelihood Impacts:**
  - Displacement of traditional economic activities.
  - Reduced access to natural resources vital for subsistence.
  - Loss of informal employment or access to markets.
- **Cultural and Social Impacts:**
  - Damage or loss of culturally significant sites (e.g., sacred places, burial grounds, ancestral lands, archaeological sites).
  - Disruption of social cohesion, traditional leadership structures, or customary institutions.

- Erosion of cultural practices or languages due to increased external influence.
- Potential for influx of non-Indigenous workers leading to social tensions or cultural clashes.
- **Health and Safety Impacts:**
  - Increased health risks during construction (e.g., dust, noise, traffic, waste).
  - Potential for transmission of communicable diseases.
  - Safety risks associated with construction activities and machinery.
- **Gender-Specific Impacts:**
  - Differentiated impacts on Indigenous women due to their roles in household management, water collection, and subsistence activities.
  - Increased burden of care or reduced access to resources for Indigenous women.
  - Specific concerns for Indigenous youth, the elderly, and persons with disabilities.
- **Environmental Impacts:**
  - Pollution of traditional water sources.
  - Impacts on local biodiversity if traditional knowledge or practices are not integrated.

## 9.7 Social Impact Assessment and Indigenous Peoples Planning

This section details the methodology for conducting a comprehensive Social Impact Assessment (SIA) for Indigenous Peoples and outlines the framework for preparing Indigenous Peoples Plans (IPPs) or Ethnic Group Engagement Plans (EGEPs).

### 9.7.1 Detailed Social Impact Assessment (SIA) Methodology

The SIA for Indigenous Peoples will be an integral part of the overall ESIA process, but with specific focus and methodologies tailored to Indigenous communities:

- **Participatory Approach:** The SIA will be conducted in a highly participatory manner, ensuring Indigenous Peoples themselves, including elders, women, and youth, are actively involved in identifying impacts, determining their significance, and proposing mitigation measures.
- **Culturally Appropriate Methods:** Data collection methods will be culturally appropriate, including local languages, traditional communication channels, and respecting customary norms and protocols.
- **Baseline Data Utilization:** Utilize the detailed baseline data collected during the identification phase.
- **Impact Prediction and Evaluation:** Systematically predict and evaluate both positive and negative impacts (direct, indirect, cumulative, and residual) on Indigenous Peoples' socio-economic conditions, cultural heritage, livelihoods, health, and well-being.

- **Vulnerability Assessment:** Conduct a specific assessment of vulnerable subgroups within Indigenous communities and how they might be disproportionately affected.
- **Gender Analysis:** Integrate a thorough gender analysis to understand differentiated impacts on Indigenous women and men.
- **Traditional Ecological Knowledge (TEK):** Where relevant, integrate traditional ecological knowledge of Indigenous Peoples regarding local environments and resource management.

### **9.7.2 Components of an Indigenous Peoples Plan (IPP) / Ethnic Group Engagement Plan (EGEP)**

For sub-projects with potential adverse impacts on Indigenous Peoples, a standalone Indigenous Peoples Plan (IPP) or an Ethnic Group Engagement Plan (EGEP) will be prepared. This plan will be a living document, updated throughout the project lifecycle, and will include:

- **Summary of Baseline Information:** A concise overview of the socio-economic, cultural, and demographical characteristics of the affected Indigenous Peoples, including their land tenure and resource use systems.
- **Legal and Institutional Framework:** A summary of the relevant national and international legal and policy frameworks, including the gap analysis and how AIIB ESS3 will be applied.
- **Summary of Consultation and FPIC Process:** Detailed documentation of the meaningful consultation process, including dates, attendees, issues raised, decisions made, and, critically, the process and outcome of obtaining Free, Prior, and Informed Consent (FPIC) where required.
- **Identified Adverse Impacts and Proposed Mitigation Measures:** A comprehensive list of predicted adverse impacts and detailed, culturally appropriate measures to avoid, minimize, mitigate, and compensate for them. This includes:
  - **Land and Resource Access:** Measures to ensure continued access to traditional lands and natural resources or provide culturally appropriate alternatives/compensation.
  - **Livelihood Restoration and Development:** Specific programs and strategies to restore and improve the livelihoods and standards of living of affected Indigenous Peoples, ensuring these are culturally appropriate and sustainable. This may include skills training, alternative livelihood support, and access to new markets.
  - **Cultural Heritage Protection:** Measures to identify, protect, and manage tangible and intangible cultural heritage sites and practices significant to Indigenous Peoples. This includes chance find procedures and protocols for respecting sacred sites.
- **Measures to Ensure Culturally Appropriate Benefits:** Strategies to ensure that Indigenous Peoples receive social and economic benefits from the project in a manner that is culturally appropriate, gender-sensitive, and enhances their well-being. This may involve preferential employment, business opportunities, or community development initiatives.

- **Institutional Arrangements:** Clear definition of roles and responsibilities for the implementation, monitoring, and reporting of the IPP, including involvement of Indigenous Peoples' institutions.
- **Capacity Building:** Outline of capacity building programs for both project staff and Indigenous Peoples to facilitate effective IPP implementation and monitoring.
- **Budget and Resources:** A detailed budget with specific line items for all IPP activities, including consultation, surveys, impact mitigation, benefit sharing, livelihood programs, capacity building, and monitoring.
- **Monitoring and Evaluation Framework:** A robust framework with specific indicators to track the progress and effectiveness of IPP implementation and its outcomes for Indigenous Peoples.
- **Grievance Redress Mechanism (GRM):** Detailed culturally appropriate GRM procedures specific to Indigenous Peoples' concerns.

### 9.7.3 Free, Prior, and Informed Consent (FPIC) Process

The project will obtain Free, Prior, and Informed Consent (FPIC) from affected Indigenous Peoples when the project activities:

- Are located on lands traditionally owned or customarily used by Indigenous Peoples.
- Would cause the physical relocation of Indigenous Peoples.
- Would have significant impacts on Indigenous Peoples' cultural heritage that is material to their identity and cultural survival.

The FPIC process will adhere to the following principles:

- **Free:** Consent is given voluntarily, without coercion, intimidation, manipulation, or pressure from any source.
- **Prior:** Consent is sought sufficiently in advance of any authorization or commencement of activities, and before any adverse impacts are irreversible.
- **Informed:** Indigenous Peoples are provided with all relevant information about the project in a culturally appropriate and accessible manner, including their own languages. This includes:
  - The nature, size, pace, reversibility, and scope of any proposed project or activity.
  - The purpose, duration, and approximate periodicity of any proposed activity.
  - The areas and territories that may be affected.
  - The likely positive and negative economic, social, cultural, and environmental impacts of the project.
  - The personnel and procedures for conducting the activity.
  - The grievance redress process.
  - The legal and customary framework applicable to the Indigenous Peoples' lands and resources.

- **Consent:** Consent is expressed through the Indigenous Peoples' own traditional or representative institutions and their customary decision-making processes. Consent can be withheld, and if so, the project will not proceed as planned on the affected lands or with the activities requiring FPIC.

The FPIC process will be iterative, ongoing, and documented at each stage, demonstrating agreement or disagreement.

## 9.8 Consultation, Participation, and Disclosure

Meaningful consultation and active participation are central to the IPPF, ensuring Indigenous Peoples are involved in decisions that affect them.

### 9.8.1 Meaningful Consultation

- **Early and Ongoing:** Consultation will commence at the earliest stages of project conceptualization and continue throughout the project lifecycle.
- **Culturally Appropriate:** Consultations will be conducted in a culturally appropriate manner, respecting traditional protocols, using local languages, and accessible formats.
- **Gender and Vulnerability Sensitive:** Special efforts will be made to ensure the full participation of Indigenous women, youth, elders, and other vulnerable subgroups, addressing their specific concerns and ensuring their voices are heard.
- **Representative Participation:** Engage with legitimate and recognized Indigenous Peoples' representatives, customary institutions, and community-based organizations.

### 9.8.2 Information Disclosure

- **Accessible Formats:** All relevant project information, including the IPPF, SIA findings, and IPP/EGEP documents, will be disclosed to affect Indigenous Peoples in culturally appropriate, accessible, and understandable formats and local languages.
- **Public Meetings:** Information will be disseminated through public meetings, community gatherings, local radio, and other customary communication channels.
- **Physical Locations:** Hard copies of documents will be made available at accessible locations within the communities.

### 9.8.3 Documentation of Consultation

All consultation activities, including attendance records, minutes of meetings, issues raised, responses provided, and agreements reached, will be systematically documented and made publicly available to the affected communities. This documentation will form a crucial part of the IPP/EGEP.

## 9.9 Implementation and Monitoring

Effective implementation and robust monitoring are essential to ensure the IPPF and subsequent IPPs achieve their objectives and that Indigenous Peoples' rights are upheld.

### 9.9.1 Institutional Arrangements and Responsibilities

- **DPHE:** The DPHE will have overall responsibility for the implementation of the IPPF and any specific IPPs/EGEPs. A dedicated social unit or focal point within the DPHE will oversee IPPF implementation.
- **Consultants:** Environmental and social consultants engaged for the project will be responsible for conducting SIAs, preparing IPPs/EGEPs, and providing technical support.
- **Contractors:** Contractors will be contractually obligated to adhere to the provisions of the IPPF and IPPs/EGEPs, with specific clauses relating to Indigenous Peoples' rights and engagement.
- **Indigenous Peoples' Institutions:** Customary institutions, community leaders, and representative organizations of Indigenous Peoples will play a crucial role in the implementation and monitoring processes.

### 9.9.2 Capacity Building

Targeted capacity-building programs will be developed and implemented for:

- **DPHE Staff:** Training on AIIB ESS3, Indigenous Peoples' rights, culturally appropriate engagement, SIA methodologies, and IPP implementation.
- **Local Government Officials:** Sensitization and training on the importance of Indigenous Peoples' issues in local development planning.
- **Indigenous Peoples' Communities:** Training on their rights, the project's IPPF, effective participation in consultations, grievance redress mechanisms, and project monitoring.

### 9.9.3 Monitoring and Evaluation Framework

A robust monitoring and evaluation (M&E) framework will be established, with specific, measurable, achievable, relevant, and time-bound (SMART) indicators for Indigenous Peoples.

- **Key Monitoring Indicators:**

- Number and frequency of consultations with Indigenous Peoples.
- Attendance of Indigenous Peoples in consultations, disaggregated by gender and age.
- Completion of IPP/EGEP activities as per schedule.
- Effectiveness of mitigation measures for adverse impacts.
- Access to and utilization of project benefits by Indigenous Peoples.
- Progress of livelihood restoration programs.
- Number and type of grievances from Indigenous Peoples, and their resolution rates.

- Satisfaction levels of Indigenous Peoples with the project and consultation processes.
- Maintenance of cultural sites and traditional practices.
- **Monitoring Activities:** Regular field visits, participatory monitoring with Indigenous communities, collection of disaggregated data, and independent third-party monitoring where appropriate.

#### 9.9.4 Reporting

Regular progress reports will be prepared by the DPHE, detailing the implementation status of the IPPF/IPP, monitoring findings, challenges encountered, and corrective actions taken. These reports will be submitted to AIIB and disclosed to affected Indigenous Peoples in an accessible manner.

#### 9.9.5 Adaptive Management

The monitoring and evaluation findings will inform an adaptive management approach. If new impacts are identified or if existing measures are found to be ineffective, the IPPF/IPP will be revised and updated in consultation with affected Indigenous Peoples.

### 9.10 Grievance Redress Mechanism (GRM) for Indigenous Peoples

*While the overall ESMIF includes a general GRM (Chapter 8.6), this section specifies how the GRM will be made culturally appropriate and accessible to Indigenous Peoples.*

- **Culturally Appropriate Channels:** The GRM will incorporate channels preferred by Indigenous Peoples, including traditional leadership structures, community elders, and Indigenous Peoples' organizations, in addition to formal project-level mechanisms.
- **Accessibility:** Information about the GRM will be widely disseminated in local languages and formats accessible to Indigenous Peoples. Complaints can be submitted verbally, in writing, or through trusted community intermediaries.
- **Impartiality and Transparency:** The GRM will ensure impartiality, fairness, and transparency in addressing grievances, with a clear timeline for resolution.
- **Confidentiality:** Confidentiality of complainants will be respected where requested.
- **Involvement of Indigenous Representatives:** Where appropriate, Indigenous community representatives or elders will be involved in the grievance resolution process, particularly for culturally sensitive issues.
- **Feedback Mechanism:** Complainants will receive timely feedback on the status and outcome of their grievances.

### 9.11 Budget and Resources for IPPF/IPP Implementation

This section provides a clear outline of the financial and human resources allocated for the effective implementation of the IPPF and any subsequent IPPs/EGEPs.

- **Dedicated Budget Line Items:** A specific budget will be allocated for all activities related to Indigenous Peoples, including:
  - Socio-economic surveys and SIAs specific to Indigenous Peoples.
  - Consultation meetings, workshops, and FPIC processes.
  - Preparation of IPPs/EGEPs.
  - Implementation of mitigation measures (e.g., culturally appropriate compensation, alternative land/resource access).
  - Livelihood restoration and development programs.
  - Cultural heritage protection measures.
  - Capacity building for project staff and Indigenous Peoples.
  - Monitoring, evaluation, and reporting specific to Indigenous Peoples.
  - Operation of the Indigenous Peoples' GRM.

**Adequate Staffing:** Ensure that the project has adequate social and cultural expertise, either through dedicated staff or consultants, to manage Indigenous Peoples' issues effectively.

## Chapter 10: Stakeholder Engagement, Grievance Redress Mechanism and Information Disclosure

### 10.1 Identification of Project Stakeholders and Integration in the Sub-project Planning, Designing, and Implementation Process

The Identification of project stakeholders and integration of their perspectives in the Sub-project Planning, Designing, and Implementation Process is a critical element in ensuring that the diverse perspectives and needs of stakeholders, including indigenous communities, are considered and integrated into the project development process.

A Stakeholder Engagement Plan (SEP) has been prepared and designed separately as an inclusive approach to ensure that the voices and perspectives of stakeholders are taken into account, and their needs are integrated into decision-making processes related to project activities. The document emphasizes the importance of identifying and engaging with a wide range of stakeholders, including indigenous communities, throughout the planning, designing, and implementation phases of sub-projects..

Furthermore, the policy and the ESMPF underscore the significance of integrating the perspectives of stakeholders, including indigenous communities, into the sub-project planning and design processes. This integration involves actively seeking input from stakeholders to ensure that their cultural, social, and economic needs are considered in the development of sub-projects.

Moreover, the policy and the ESMPF highlight the need for meaningful engagement with stakeholders, including indigenous communities, to ensure that their perspectives are integrated into the implementation process. This approach is designed to promote transparency, inclusivity, and accountability in the development and execution of sub-projects.

The identification of project stakeholders and integration of their perspectives in the Sub-project Planning, Designing, and Implementation Process underscores the importance of recognizing and respecting the diverse needs and perspectives of stakeholders, including Indigenous communities. This approach is designed to ensure that the project is implemented in a manner that promotes inclusivity, transparency, and meaningful engagement with all relevant stakeholders, ultimately contributing to sustainable and ethical project development.

### 10.2 Stakeholder Category

The Stakeholders are systematically organized into groups, identifies their interests and concerns, and assesses their influence and impact on the project. This ensures inclusive and effective engagement. For this project, stakeholders have been classified into three overlapping categories to facilitate targeted and meaningful involvement.

- **Affected peoples** include individuals, groups, and communities directly or indirectly impacted by the project, particularly those adversely affected or vulnerable to project-related changes, requiring their active engagement in identifying impacts and decision-making on mitigation measures.

- **Interested parties** predominantly refer to those who are not directly affected by project activities, but are interested owing to its proximity, as in broader local communities where beneficiaries are located, or by virtue of their role in project preparation and implementation.
- **Disadvantaged and vulnerable groups**, including women, the elderly, children, female-headed households, persons with disabilities (PWD), indigenous people, and religious minorities, face unique barriers to participation and are often underrepresented. Due to their vulnerability, they are disproportionately impacted and require targeted efforts, such as tailored communication and additional support, to ensure equitable involvement in consultation and decision-making processes.

## 10.3 Stakeholder Engagement

Engaging with all identified stakeholders maximizes their contributions by leveraging their expertise, experience, and networks, while fostering community and institutional support for the successful implementation of the project. Below is a general list of stakeholder groups, along with a specific table highlighting vulnerable or disadvantaged stakeholders:

**Table 10-1:** Project-Specific Stakeholder Groups and Interested Parties

<b>Stakeholder Groups and Interested Parties</b>	<b>Relevance of Engagement</b>
Ministry of Local Government and Rural Development and Cooperatives	Administrative ministry of DPHE, leading project design and implementation.
Urban Local Bodies (ULBs)	Responsible for delivering economic opportunities and services to communities under the project at respective municipalities.
Local Project Advisory Committee (LPAC)	Responsible for local stakeholders to collaborate, oversee project activities, and ensure that community needs and priorities are integrated into project planning and implementation, fostering ownership and sustainability.
Department of Public Health and Engineering (DPHE)	National implementation agency supporting municipalities in subproject identification, design, appraisal, funding, and oversight, including environmental and social compliance.
District Administration, Directorate of Social Services (DOSS), and other divisional/district-level government entities	Provide support to ULBs in project implementation, including managing GBV and SEA/SH risks and incidents.
Project beneficiaries and affected persons, including vulnerable and disadvantaged communities	Ensure inclusion of vulnerable groups in project participation, employment, and access to benefits.
Print and electronic media	Facilitate communication for project promotion and dissemination.

<b>Stakeholder Groups and Interested Parties</b>	<b>Relevance of Engagement</b>
Civil Society Organizations (CSOs), CBOs, and NGOs	Provide input for project design, beneficiary engagement, and selection.
Academia, Think Tanks, and other influencers	Offer insights for project design, baseline analysis, future predictions, and experience sharing from similar projects.

Stakeholder engagement activities aim to provide relevant information to stakeholder groups and create opportunities for them to express their views on matters that concern or affect them. The information dissemination process should be straightforward and accessible to everyone. The briefing materials, all prepared in the local language, can include: (a) Brochures containing project information, details of entitlements (such as compensation and assistance for Project-Affected Persons (PAPs)), and information on the grievance mechanism, which can be made available at the project site office. (b) Posters displayed at prominent locations. (c) Leaflets distributed within the project areas.

Additionally, consultation meetings should be organized regularly by the project to inform the community, target group beneficiaries, and affected persons about the following topics:

- Timeline and progress of the project by components;
- Information on beneficiary participation;
- Information of involuntary displacement, compensation and entitlements;
- Information of the participation of small indigenous communities;

The community's opinions and consensus must be sought regarding livelihood transformation, relocation of community assets, and involuntary resettlement management. Information disclosure procedures are required to provide citizen-focused information and all necessary documentation to address any queries. Disclosing this information will enhance governance and accountability, particularly in terms of strengthening monitoring indicators, which will assist the AIIB in monitoring compliance with agreements and assessing the impact on outcomes. The methods will include:

- Public/community meetings, separate meetings for women and vulnerable
- Face-to-face meetings
- Focus Group Discussions
- Key Informant Interviews
- Workshop with the Experts
- Surveys, polls etc.
- Interviewing stakeholders and relevant organizations
- Mass/social media communication (as needed)
- Disclosure of written information: brochures, posters, flyers, DPHE website

## 10.4 Outcome and Results of Consultation Meetings

The outcome and results of consultation meetings are essential components of the stakeholder engagement process. The following highlights the key aspects of the outcome and results of consultation meetings

1. **Informed Decision-Making:** The outcome of consultation meetings is aimed at providing project decision-makers with a comprehensive understanding of the perspectives, concerns, and aspirations of stakeholders, including indigenous communities. This information is used to inform project planning, design, and implementation processes.
2. **Feedback Integration:** The results of consultation meetings are integrated into the decision-making process to ensure that the feedback and input provided by stakeholders, including indigenous communities, are considered and addressed in project-related activities.
3. **Actionable Recommendations:** The outcome of consultation meetings often includes actionable recommendations and suggestions from stakeholders, particularly indigenous communities, which are used to refine project plans, mitigate potential impacts, and enhance the overall project design.
4. **Transparent Documentation:** The results of consultation meetings are transparently documented to capture the key themes, concerns, and recommendations expressed by stakeholders, including indigenous communities. This documentation serves as a record of the consultation process and the outcomes of stakeholder engagement.
5. **Continuous Improvement:** The outcome of consultation meetings contributes to a process of continuous improvement, where the feedback and results are used to refine stakeholder engagement strategies, project plans, and decision-making processes in subsequent phases of the project.
6. **Conflict Resolution:** The results of consultation meetings may highlight areas of disagreement or conflict among stakeholders, including indigenous communities. Efforts are made to address these conflicts through dialogue, mediation, and consensus-building to ensure that the concerns of all stakeholders are adequately considered.
7. **Empowerment of Stakeholders:** The outcome of consultation meetings aims to empower stakeholders, particularly indigenous communities, by providing them with a platform to voice their concerns, contribute to decision-making, and actively participate in the project development process.

The outcome and results of consultation meetings play a crucial role in informing project decision-making, integrating stakeholder feedback, and promoting transparency and inclusivity in the development of the project. This approach is intended to ensure that the perspectives and concerns of stakeholders, including indigenous communities, are meaningfully considered and addressed throughout the project lifecycle.

## 10.5 Information Disclosure

The Information Disclosure aspect is a critical component of stakeholder engagement and transparency throughout the project lifecycle. The following highlights the key aspects of information disclosure:

1. **Transparency:** The policy of the AIIB and the ESMPF emphasizes the importance of transparent information disclosure to stakeholders, including indigenous communities, regarding project plans, activities, potential impacts, and decision-making processes.

2. **Accessible Formats:** Information disclosure is designed to be accessible to diverse stakeholders, including indigenous communities, through the use of multiple formats such as visual aids, audio-visual materials, written documents, and local languages to ensure that information is understandable and relevant.
3. **Timely Dissemination:** The policy and the ESMPF emphasize the timely dissemination of project-related information to stakeholders, including indigenous communities, to ensure that they have sufficient time to review, understand, and provide feedback on project plans and activities.
4. **Consultation Documentation:** The policy and the ESMPF require the documentation of consultation processes, including the recording of feedback, concerns, and recommendations expressed by stakeholders, particularly indigenous communities, to ensure that their perspectives are accurately captured and considered.
5. **Public Meetings and Disclosure:** The policy and the ESMPF may require the organization of public meetings and the disclosure of project-related information to stakeholders, including indigenous communities, to provide a platform for open dialogue, exchange of ideas, and the dissemination of relevant information.
6. **Online Platforms:** The policy and the ESMPF may include provisions for the use of online platforms to facilitate information disclosure, allowing stakeholders, including indigenous communities, to access project-related information, provide feedback, and engage in consultation processes.
7. **Continuous Engagement:** The policy and the ESMPF emphasize the importance of continuous engagement and information disclosure throughout the project lifecycle, ensuring that stakeholders, including indigenous communities, are kept informed about project developments and decision-making processes.

The Information Disclosure aspect is designed to promote transparency, inclusivity, and ethical engagement with stakeholders, including Indigenous communities, throughout the project lifecycle. This approach is intended to ensure that stakeholders have access to relevant information, are empowered to provide feedback, and are meaningfully engaged in the development of the project.

**Table 10-2: Project Information Disclosure Program**

<b>Project Phase</b>	<b>Information to be Disclosed</b>	<b>Mechanism Used (Tentative)</b>	<b>Schedule and Location</b>	<b>Target Stakeholders (Tentative)</b>	<b>Responsible Parties</b>
Preparation (i.e., prior to project effectiveness)	Project Information Document	Project/DPHE website, and physical informational products	Following approval of the document	All project stakeholders and interested parties, with particular emphasis on eligible project beneficiaries and ULBs	PMU, DPHE MOLGRD&C
	Environmental and Social Action Plan			PMU/ ULBs	PMU, DPHE
	Environmental and Social Impact Assessment	Project/DPHE website	Following approval of the document	All project stakeholders, project affected peoples and interested parties	PMU, DPHE
	Stakeholder Engagement Plan	Project/DPHE website, and physical informational products and in-person consultations as needed	Following approval of first draft and every time thereafter accompanying a revision	All project stakeholders and interested parties for initial session only, with emphasis only on implementing entities and project beneficiaries thereafter	PMU, DPHE
	Environmental and Social Management Planning Framework	Project/DPHE website, and physical informational products and in-person consultations as needed	Following approval of first draft	NGOs and other partners contributing to project activities	PMU, DPHE
	Terms of Reference for Environmental and Social Specialist, and third-party monitoring firm	Project website, job search portals and appropriate physical news outlets	Following approval of the document	Eligible candidates, NGOs and other partners contributing to project activities	PMU, DPHE
	Labor Management Plan	Project/DPHE website, and physical informational products and in-person consultations as needed	Following approval of first draft, with online publication only taking place after final approval	NGOs, contractors, master craftsmen, project affected peoples and direct project beneficiaries	PMU, DPHE
	Occupational Health and Safety Measures				PMU, DPHE
	Emergency Action Plan				PMU, DPHE
	Sexual Exploitation and Abuse/Sexual Harassment Prevention and Response Plan				PMU, DPHE
	Grievance Redress Mechanism				PMU, DPHE
	Gender Action Plan				PMU, DPHE

<b>Project Phase</b>	<b>Information to be Disclosed</b>	<b>Mechanism Used (Tentative)</b>	<b>Schedule and Location</b>	<b>Target Stakeholders (Tentative)</b>	<b>Responsible Parties</b>	
<b>Implementation</b>	Project Appraisal Document	Project/ DPHE website, and physical informational products and in-person consultations as needed	Following AIIB approval of the Project	All project stakeholders and interested parties, with particular emphasis on eligible project beneficiaries and NGOs serving them	PMU, DPHE MOLGRD&C	
	Annual Work Plan		Following approval of the document	NGOs, contractors, and master craftsmen	PMU, DPHE	
	Project Procurement Plan				PMU, DPHE	
	Bidding Documents for Procurement	Project/ DPHE website and appropriate physical news outlets	Published following completion of training sessions	Eligible candidates and firms, NGOs, contractors and other stakeholders contributing to project activities	PMU, DPHE	
	Labor Management, Occupational Health and Safety Training and Corresponding Module, including Code of Conduct	Project website, and in-person training sessions for each of the target stakeholder groups		NGOs, master craftsmen, and project beneficiaries	PMU, DPHE	
	Sexual Exploitation and Abuse/ Sexual Harassment Training and Corresponding Module, including Code of Conduct				PMU, DPHE	
	Grievance Redress and Feedback Mechanism Training and Corresponding Module				PMU, DPHE	
	Environmental and Social Management Plans for Sub-Projects	Project/ DPHE website, and physical information products and in-person consultations as needed	Following approval of the document	NGOs, contractors, and other interest parties contributing to project activities	PMU, DPHE	
	Incidents and Accidents Report		Following resolution of issues presented, or otherwise as needed	AIIB, ULBs, Project affected peoples	PMU, DPHE	
	Grievance Redress Reports and/or Resolution				PMU, DPHE	
	Project monthly, quarterly and annual reports and if contracted firms		Following approval of the document	AIIB	PMU, DPHE	

<b><i>Project Phase</i></b>	<b><i>Information to be Disclosed</i></b>	<b><i>Mechanism Used (Tentative)</i></b>	<b><i>Schedule and Location</i></b>	<b><i>Target Stakeholders (Tentative)</i></b>	<b><i>Responsible Parties</i></b>
<b>Closure</b>	Impact Evaluation	Project/ DPHE website, and physical information products and in-person consultations as needed.	Following approval of the document	Project stakeholders	PMU, DPHE
	Final Audit	Project/ DPHE website, and physical information products and in-person consultations as needed.	Following approval of the document	AIIB and other Stakeholders	PMU, DPHE

## 10.6 Grievance Redress Mechanism (GRM)

The Grievance Redress Mechanism (GRM) for the Bangladesh Citywide Inclusive Sanitation Project (BCISP) is a robust and officially recognized system designed by the Department of Public Health Engineering (DPHE) to ensure transparency, accessibility, and timely resolution of grievances. Adhering to AIIB's Environmental and Social Standards and local regulations, the GRM primarily aims to address disputes related to resettlement, compensation, environmental and safety issues, and other social concerns (GBV/SEA/HE), thereby fostering project accountability and democratizing the development process at the local level. Its fundamental objective is to resolve all concerns from project-affected communities and workers fairly and amicably, avoiding expensive and time-consuming legal actions.

### 10.6.1 Structure of the GRM

Two distinct channels of operation will enable the GRM to support both project-affected people's environmental and social concerns and worker labor issues. The GRM will follow a dual-step procedure which will start with addressing complaints at field level (Tier 1) and further moving unresolved matters to PMU (Tier 2) resolution. Both tiers contain committees will be supported by DPHE staff together with SMC, contractor representatives and local government officials and chosen community leaders who will maintain balanced decision-making.

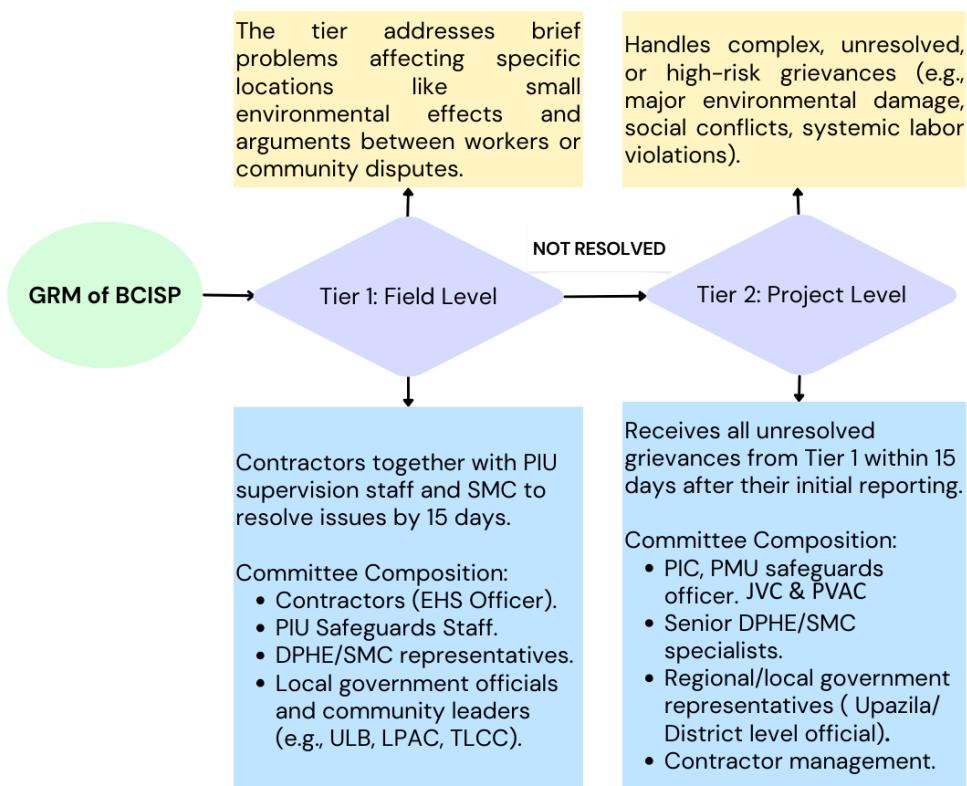


Figure 10-1: Grievance Redress Mechanism of BCISP

## **Process for Affected Communities**

The grievance process will allow affected people to present complaints using multiple channels including written documentation, verbal discussions that DPHE staff document, free hotline access. Social and environmental matters including noise pollution problems and water pollution incidents as well as property conflicts and labor disputes among communities will receive top priority status. Members of Tier 1 committee located in the fields must resolve all complaints in no more than 15 days before sending written responses to grievant. Appeals from the first stage lead to the PMU (Tier 2) where the final determination requires 15 more days for completion. The organization will respond to urgent critical grievances at once.

## **Worker-Specific GRM**

The dedicated GRM system will handle worker complaints such as wage issues and unsafe work environments and insufficient sanitary conditions as well as employee harassment. The construction site committees comprising DPHE engineers together with worker delegates and contractor representatives and labor (foremen) who will maintain impartiality. Worker reporting without risk of retaliation combined with anonymous complaint mechanisms will protect employees at all times. AIIB shall receive semi-annual documents that contain recorded resolutions from all sub-projects.

## **Integration with National Systems**

When allocating compensation fails to solve the problem a complainant has the legal option to move their dispute to Bangladesh's National Grievance Portal <sup>19</sup>. The DPHE GRM will operate alongside existing government complaint mechanisms to provide enhanced complaint access to disadvantaged communities especially women and minority groups.

## **Awareness and Accessibility**

The public dissemination of GRM information will happen through combined efforts using community meetings and local billboards as well as signs in conjunction with Pourashava surrounding Union Parishad offices. Staff at DPHE together with contractors and community members must attend training programs in order to understand both their rights and their obligations. The administration of grievance submission points will take place at both DPHE local offices and community centers to improve accessibility for everyone.

## **Monitoring and Transparency**

The DPHE PMU will supervise GRM delivery by creating comprehensive records about reported grievances and associated actions and outcome resolutions. The AIIB Semi-Annual Monitoring Reports and Quarterly Progress Reports will include project data that the organization publicly displays through anonymized statistics to maintain transparency.

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<sup>19</sup> <https://www.grs.gov.bd/>

## Information Disclosure

The water supply and associated infrastructure sub-projects of BCISP will implement transparent information disclosure systems to stakeholders with special focus on indigenous communities while following AIIB's Environmental and Social Framework (ESF). Key aspects include:

- Project plans and impacts and updates will receive communication in local languages (Bangla) and formats such as visual aids and audio-visual tools and simplified documents to maintain inclusivity for marginalized groups.
- The distribution of essential project information (such as resettlement plans and construction timelines) will disseminate before important project benchmarks so stakeholders can examine the materials and express their opinions.
- The documentation system will manage consultation procedures and stakeholder feedback and complaints in a location which AIIB and government agencies access for accountability needs.
- The community will maintain open communication through regular town halls and workshops at ULB's that take place with public notices reaching community leaders and school principals and religious leaders.
- The project information will exist online through interactive web portals yet low-connectivity areas get additional support through social media platforms and physical noticeboards.
- The project will deliver progress reports and monitoring results and adaptive measures along with briefings that reach communities using culturally appropriate communication channels.

The Information Disclosure aspect will enable project stakeholders to gain access to essential information along with creating transparent and ethical stakeholder engagement throughout project development. The procedure will work to establish stakeholder access to appropriate information and allow stakeholders to exercise feedback while participating actively in project development.

### 10.6.2 Grievances Redress Committee (GRC)

A grievance redress committee (GRC) will be functional in this project to redress grievances of the aggrieved persons regarding social resettlement and environmental issues throughout the project period. Considering of other development projects, a multitier grievance redress mechanism (GRM) will be suitable for this project.

First, there will be GRCs at the local level, hereafter called local GRC (may be different for different areas, for example, 25 Pourashava); and the next level of GRC is to give room for grievances to be reviewed, which is called as the Project GRC. These GRCs will be established through official orders from the BCISP/DPHE/LGD. The Project Affected People (PAPs) will be informed through public consultation and by other suitable means that they have a right to lodge their grievances to the local committee as well as they can ask for review by the Project level committee. If they are not satisfied or their grievances are remaining unresolved then they can submit their complain to ministry level ([grs@cabinet.gov.bd](mailto:grs@cabinet.gov.bd)) either online or offline. The

PAPs can also call upon the support of the RAP IA (NGO/Firm) to assist them in presenting their grievances or queries to the GRC. Other than disputes relating to ownership rights under the court of law, the GRC will review grievances involving all resettlement assistance, entitlement, and other support. The Local level GRCs (LGRCs) will hear the grievances first. Unresolved issues will be forwarded to the next tier – Project level GRC (PGRC) by the local level GRC for further review and resolution. In case of dissatisfaction of the aggrieved person on local level GRC decision, he/she may submit an appeal to the Project level GRC through the convener of LGRC for further review. GRC decisions will be on a majority basis and will be disclosed and available for review by the stakeholders.

### *1. Formation of GRC*

*The following formation is proposed for Project Level GRC:*

- 1) Project Director, BCISP/DPHE - Convener
- 2) Deputy Project Director, BCISP/DPHE - Member
- 3) Representative from Project Management Consultant - Member
- 4) Representative of PAPs - Member
- 5) Deputy Team Leader/Focal Person, RAP IA (NGO/Firm)-Member-Secretary

*The following formation is proposed for Local Level GRC:*

- 1) Mayor/Chairman, Respective Municipality - Convener
- 2) Executive Engineer, BCISP/DPHE - Member
- 3) Representative from Project Management Consultant- Member
- 4) Team Leader, RAP IA (NGO/Firm) - Member-Secretary

The convener of the committees can co-opt any person into the committee if required. Also, the committee can call any person to provide their opinion. All GRC members may be given a meeting honorarium at the prevailing Government rate.

The Focal Person of RAP IA (INGO/Firm) will be always available and accessible for PAPs to address concerns and grievances. Female elected representatives of the local government will participate in the grievance redress sessions when the complainant is a female.

### *2. Scope and Jurisdiction of the GRCs*

The scope and jurisdiction of the work of the GRCs are proposed below:

- The GRCs will be activated with authority to resolve resettlement benefits, compensation, and other social and environmental issues.
- The GRC will receive grievances from the aggrieved persons through RAP IA.
- Regarding environmental issues, the aggrieved persons may lodge their complaints to the GRC through the RAP IA.
- The above-mentioned scope and jurisdiction are proposed following DPHE's precedence for the BCISP. The GRC meetings will be held at the project office or any other convenient place selected by the committee.
- If needed, the GRC members may undertake field visits to verify and review the issues in dispute, including the titles/share, reasons for any delay in payment, or other relevant matters.

### *3. Proceedings of GRC*

The procedure for solving the grievances will be as follows:

- PAPs should be able to submit their grievances/complaints about any aspects of the Resettlement Plan implementation and compensation.
- Complaints from the PAPs will be received at the field office of the RAP IA.
- If required, RAP IA will assist the aggrieved PAPs to produce a written grievance at no cost.
- The RAP IA field officials will record the grievance application and fill up the opening register.
- PAPs can also submit the complaints at the RAP IA Head Office and Project Site Office. In that case, the complaints should be forwarded to the RAP IA Field Office for proper recording.
- PAPs can also submit their complaints through grievance page of BCISP/DPHE website. In that case, the complaints should be forwarded to the RAP IA field office for proper recording.
- Upon receipt of the complaint, the representative of the RAP IA will inform the convener of the GRC. The convener will organize a hearing session for the complaint.
- The GRC will review the complaint and pass a verdict that will be conveyed to the PAP concerned through the RAP IA.
- Unresolved cases will be forwarded by the Member-Secretary of the Local GRC to the Convener of the Project Level GRC.
- If the aggrieved person is satisfied with the verdict, he/she can request Member-Secretary of the Local GRC to convey his complaint to Project level GRC.
- Based on the approved grievance resolution, the RAP IA processes his/her entitlements and assists BCISP in arranging payment, if applicable.

### *4. Disclosure and Documentation*

- The affected persons and their communities will be informed of the project's GRM through group meetings and by other suitable ways. Bangla translations of the summary RAP including the GRM and application process in the form of information brochures (IEC/BCC Materials) will be distributed among the PAPs. To ensure impartiality and transparency, hearings on complaints will remain open to the public. The GRCs will record the details of the complaints and their resolution in a register, including intake details, resolution process, and closing procedures. RAP IA will maintain the following three Grievance Registers:
- Intake Register: (1) Complaint number, (2) Date of receipt, (3) Name of the complainant, (4) Gender, (5) Father or husband, (6) Complete address, (7) Main grievance regarding social (loss of land/property or entitlements) or environmental, (8) Complainants' facts and expectation with evidence, and (9) Previous records of similar grievances.
- Resolution Register: (1) Serial no., (2) Complaint no., (3) Name of the complainant, (4) Complainant's facts and expectation, (5) Date of hearing, (6) Date of field investigation

(if any), (7) Results of hearing and field investigation, (8) Decision of GRC, (9) Progress (pending, solved), and (10) Agreements or commitments.

- Closing Register: (1) Serial no., (2) Complaint no., (3) Name of the complainant, (4) Decisions and response to complainants, (5) Mode and medium of communication, (6) Date of closing, (7) Confirmation of complainants' satisfaction, and (8) Management actions to avoid recurrence. All the registers should be available for review by any interested persons/entities.

### *5. Grievances Redress Monitoring & Evaluation and Reporting*

- In their regular monthly and quarterly reports, the RAP IA should include the number of complaints, details of each complaint, the number of GRC meetings of the month, minutes of the meetings, decisions made, decisions implemented, and other important aspects of GRM. The Project Consultant will also include grievance-related activities in periodic (quarterly) reports submitted to BCISP and AIIB.

### *6. Access Protocol for Grievances Related to GBV*

The response process for individuals in a GBV situation prioritizes immediate safety, starting with a call to the National Emergency Service (Hotline: 999) for urgent police, fire, or ambulance assistance. Subsequently, GBV-related grievances can be confidentially reported through project mechanisms to the local Grievance Redress Committee (GRC) or designated focal persons at the Project Implementation Unit (PIU) office or via community meetings, with strict adherence to confidentiality and sensitivity. For direct support, counseling, and legal aid, individuals are directed to specialized national support services such as the National Helpline Centre for Violence Against Women and Children (Hotline: 109), Ain o Salish Kendra (ASK) (Hotline: 01724-415677), Bangladesh National Women Lawyers' Association (BNWLA) (Hotline: 01713-161655), and BRAC Legal Aid Services (Hotline: 01730-066666). Immediate medical and psychological support should be sought at the nearest government hospital or health center. Throughout this process, a survivor-centered approach ensures utmost confidentiality, respects the survivor's choice in pursuing legal action or support services, and guarantees no information sharing without informed consent. The project also contributes by raising community awareness about GBV and available support services (Table X).

**Table 10-3: Key GBV Support Contacts in Bangladesh**

Institution/Service	Hotline Number	Services Provided
National Emergency Service	999	Police, fire, ambulance (emergency response)
National Helpline Centre for Violence Against Women	109	24/7 counseling, legal aid, rescue, shelter
Ain o Salish Kendra (ASK)	01724-415677	Legal aid, counseling
BNWLA	01713-161655	Legal assistance, counseling
BRAC Legal Aid Services	01730-066666	Legal advice, mediation

## 7. AIIB Project-affected People's Mechanism (PPM)

**AIIB PPM.** The communities and individuals who believe that they are adversely affected by an AIIB supported project may submit complaints to existing project-level grievance redress mechanism or the AIIB's Project-affected People's Mechanism (PPM). The PPM has been established by the AIIB to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement its Environmental and Social Policy in situations when their concerns cannot be addressed satisfactorily through Project-level Grievance Redress Mechanisms or AIIB Management's processes. For information on how to make submissions to the PPM, please visit <https://www.aiib.org/en/policies-strategies/operational-policies/policy-on-the-project-affected-mechanism.html>

In the context of the **BCISP**, the PPM will play a vital role in safeguarding the rights and interests of communities affected by the project. BCISP, which spans **25 municipalities**, involves significant infrastructure development that may lead to social and environmental challenges, such as displacement, livelihood disruptions, and sanitation service interruptions. The PPM complements the project's **Grievance Redress Mechanism (GRM)** by offering an additional layer of oversight and ensuring that unresolved grievances are addressed independently and fairly.

The alignment of the PPM with BCISP is achieved through several key measures:

- **Independent Complaint Resolution:** If grievances are not adequately resolved through the project-level GRM, affected individuals can escalate their concerns to the PPM for an impartial review and resolution.
- **Compliance Monitoring:** The PPM ensures that BCISP adheres to AIIB's ESF, particularly in areas such as **resettlement, environmental safeguards, and stakeholder engagement**, to minimize adverse impacts.
- **Stakeholder Engagement and Transparency:** The PPM reinforces AIIB's commitment to **inclusive consultation and participatory decision-making**, ensuring that the voices of affected communities are heard and their concerns are addressed effectively.

By integrating the PPM into BCISP, the project aligns with international best practices in social and environmental governance. This integration promotes **equity, transparency, and sustainable development outcomes**, ensuring that the project not only meets its infrastructure goals but also upholds the rights and well-being of affected communities. The PPM's role in BCISP exemplifies AIIB's commitment to responsible and inclusive development, setting a benchmark for accountability in large-scale infrastructure projects.

### 10.6.3 Steps in Submitting Grievances

The Steps in Grievance Redress provide a structured and systematic approach to addressing and resolving grievances related to the project. The following highlights the key steps in the grievance redress process

1. **Grievance Identification and Lodgment:** The process begins with the identification and lodgment of grievances by affected individuals, communities, or workers. This step involves the provision of accessible channels for lodging grievances, including hotlines, complaint boxes, community meetings, and online platforms, to ensure that affected stakeholders can easily submit their concerns.
2. **Grievance Recording and Acknowledgment:** Upon receipt of a grievance, the next step involves the recording and acknowledgment of the grievance. This includes the documentation of the details of the grievance, acknowledgment of receipt to the grievant, and the assignment of a unique reference number for tracking purposes.
3. **Grievance Review and Investigation:** The process includes a review and investigation of the grievance to assess its validity, scope, and potential impact. This step may involve conducting site visits, interviews, and consultations with relevant stakeholders to gather information and understand the nature of the grievance.
4. **Grievance Resolution and Redress:** Following the review and investigation, efforts are made to resolve the grievance and provide redress to the affected party. This may involve mediation, negotiation, or other conflict resolution mechanisms to address the concerns raised and reach a mutually acceptable resolution.
5. **Communication and Feedback:** Throughout the grievance redress process, clear and timely communication is maintained with the grievant, providing updates on the status of the grievance, the steps being taken, and the expected timeline for resolution. Feedback is also sought from the grievant to ensure that their concerns are being addressed satisfactorily.
6. **Documentation and Reporting:** The process includes the documentation of all steps taken in the grievance redress process, including the recording of actions, decisions, and outcomes. Regular reporting on the status of grievances, responses, and resolutions is also conducted to provide transparency and accountability.
7. **Continuous Improvement and Learning:** The grievance redress process emphasizes the importance of continuous improvement and learning, with feedback from the grievance redress process used to inform changes, enhancements, and adaptations to the process to improve its effectiveness and responsiveness.

The Steps in Grievance Redress provides a structured and transparent process for addressing and resolving grievances related to the project. These steps are designed to ensure that affected individuals, communities, and workers have a clear and accessible pathway for raising and resolving concerns, promoting fairness, dialogue, and resolution in the context of the project.

#### **10.6.4 Recording Grievances**

The Recording and Reporting Grievances process is a critical component of the grievance redress mechanism. This process ensures that grievances are systematically documented, tracked, and reported, thereby promoting transparency, accountability, and effective resolution. The following highlights the key aspects of the "Recording and Reporting Grievances" process

1. **Grievance Documentation:** Upon receipt of a grievance, it is systematically documented, including details such as the nature of the grievance, the identity of the grievant, the date of submission, and any supporting evidence or documentation. This documentation provides a comprehensive record of the grievance, which is essential for tracking and resolution.
2. **Unique Reference Number:** Each grievance is assigned a unique reference number to facilitate tracking and monitoring. This reference number serves as an identifier for the grievance throughout the resolution process, ensuring that it can be easily referenced and retrieved for reporting and follow-up.
3. **Centralized Grievance Database:** It emphasizes the establishment of a centralized grievance database or management system. This database serves as a repository for all recorded grievances, enabling efficient tracking, analysis, and reporting of grievance-related data.
4. **Timely Reporting:** The policy and the ESMPF emphasize the importance of timely reporting on the status of grievances. Regular reports are generated to provide an overview of the grievances received, their status in the resolution process, any trends or patterns identified, and the outcomes of resolved grievances.
5. **Transparency and Accessibility:** The recorded grievances and associated reports are made accessible to relevant stakeholders, including affected individuals, communities, and workers. This transparency ensures that stakeholders are informed about the status of their grievances and the actions being taken to address them.
6. **Data Analysis and Trend Identification:** The recorded grievances are subject to data analysis to identify trends, patterns, and recurring issues. This analysis helps in understanding the nature and scope of grievances, informing the development of targeted solutions, and preventing similar issues from arising in the future.
7. **Continuous Improvement:** The Recording and Reporting Grievances process is designed to support continuous improvement. Feedback from the grievance resolution process is used to refine the recording and reporting mechanisms, enhancing their effectiveness and responsiveness over time.

The Recording and Reporting Grievances process ensures that grievances are systematically documented, tracked, and reported. This structured approach promotes transparency, accountability, and informed decision-making, ultimately contributing to the effective resolution of grievances related to the project.

## Chapter 11: Institutional Arrangements

### 11.1 Overall Institutional Arrangement for ES Implementation and Capacity Building

The Project Management Unit (PMU) will have overall responsibility for the environmental performance of the BCISP, including the implementation of the Environmental and Social Management Planning Framework (ESMPF). In addition to the in-house environmental and social specialists, the PMU will engage a Supervision and Monitoring Consultant (S&MC) to oversee contractors in meeting the environmental and social management requirements during construction and infrastructure development activities that have significant environmental impacts identified in the ESMPF/ESIA. The S&MC will also ensure adherence to the monitoring parameters, quality requirements, and all ESMPF measures.

Urban Local Bodies (ULBs) will be primarily responsible for identifying sub-projects and preparing relevant documentation. Specifically, ULBs will:

- Prepare sub-project descriptions by completing "Form 1: Sub-project Description" (Appendix C).
- Conduct environmental and social screening by completing "Form 2: Screening Form for Potential Environmental and Social Issues" (Appendix D).
- Perform an analysis of alternatives by completing "Form 3: Analysis of Alternatives" (Appendix E).

The ULBs will forward the sub-project description, environmental and social screening, and analysis of alternatives to the DPHE for review. At the DPHE level, the Project Management Office (PMO) will manage the sub-projects overall. During the implementation phase, the PMU's individual consultant will conduct a review, with additional support from the S&MC consultant.

The S&MC will include two Environmental Specialists and one Social Specialist, who will assist in determining whether further environmental assessment (such as an IEE or ESIA) is required. If further assessment is needed, the safeguard specialists from either the PMU or the DPHE or the S&MC consultants will carry it out, following the ESMPF guidelines. Once completed, the DPHE will be responsible for obtaining clearance from DoE and AIIB.

The PMU of the DPHE will ensure that the ESMP and ECoP are implemented by the contractors, with support from the ULBs and S&MC consultants. Additionally, the DPHE will appoint a 'third party' to monitor the overall environmental management of the BCISP. The ToR for third party monitoring is presented in Appendix I.

### 11.2 Environmental and Social Management Information System (ESMIS)

An Environmental and Social Management Information System (ESMIS) may be developed for the BCISP to manage project data and monitor progress and impact. The ESMIS will serve as a central repository for data on a wide range of environmental and social indicators relevant

to the ESMPF, IEE, and ESIA, as well as data related to the sub-projects. Additionally, it will function as a knowledge management tool for the sector, facilitating the analytical evaluation of available data.

Key activities in establishing the ESMIS include the following:

- Assessing the information needs of the project, donors, and stakeholders.
- Designing customized databases and user-friendly software tailored to different categories of users.
- Installing and managing databases, network systems, and user access.
- Compiling and regularly updating primary and secondary data relevant to the project.
- Designing and implementing data processing modules to generate reports and desired outputs.
- Establishing data storage facilities, ensuring regular data backup, and maintaining system integrity.
- Creating a mechanism for regular data flow from sector stakeholders and information centers to support project needs.
- Developing and maintaining a website and other web applications for information collection and sharing.
- Procuring necessary hardware and software for the ESMIS.

### **11.3 Special Environmental and Social Clauses for Tender Documents**

Apart from the provisions under “General Specification” and “Particular Specification” for different sub-project components, the following special environmental and social clauses (SESCs) shall be included in the Tender Document under General/Particular Specification. These clauses are aimed at ensuring that the Contractor carries out his responsibility of implementing the ESMP and other environmental, social and safety measures.

**Environmental and Social Management Plan (ESMP):** The Contractor shall carry out all mitigation and enhancement measures (including those related to mitigation of air/noise/water pollution; drainage/traffic congestion) as specified in the Environmental and Social Management Plan (ESMP).

**Temporary Works:** The Contractor shall make sure that all equipment and safeguards required for the construction work such as temporary stair, ladder, ramp, scaffold, run away, barricade, lift, shutter etc. are substantially constructed and erected, so as not to create any unsafe situation for the workers using them or the workmen and general public passing under, on or near them.

#### **Health and Safety:**

- The Contractor shall observe and maintain standards of Health and Safety towards all of his employees not less than those laid down by the national standards or statutory regulations.

- The Contractor shall provide all appropriate protective clothing and equipment for the work to be done and ensure its proper use. Where required, safety nets, belts, harnesses and lines shall be provided by the contractor. The “safety directives for work equipment” and “safety directives for protective gears”, as specified in the Occupational Health and Safety Guidelines (attached) shall be followed.
- The Contractor shall provide and maintain in prominent and well-marked positions all necessary first-aid equipment, medical supplies and other related facilities. A sufficient number of trained personnel will be required to be available at all times to render first aid.
- The Contractor must provide or ensure that appropriate safety and/or health signs are in place at their work sites where hazards cannot be avoided or reduced.
- The contractor must provide safe drinking water for all workers and ensure the availability of sanitary toilets with appropriate gender segregation.
- The Contractor shall report to the Engineer promptly and in writing particulars of any accident or unusual or unforeseen occurrences on the site, whether these are likely to affect progress of the work or not.

**Disposal and Pollution:**

- The Contractor shall not dispose any waste, rubbish or offensive matter in any place not approved by the Engineer or Municipality.
- The Contractor shall take all reasonable precautions to keep public or private roads clean of any spillage or droppings from his vehicles or equipment. Any spillage or droppings which accrue shall be cleaned without delay to the satisfaction of the Engineer.
- The Contractor shall construct sanitary latrine or septic tank system or install portable cabin toilet for disposal of human waste in the site office and temporary labor sheds for workers/ employees; the Contractor shall provide waste bins/ cans for collection of solid waste at appropriate locations (as directed by the Engineer), and ensure proper transfer/ disposal of solid waste with support from the local government authority (Pourashava).

**Earthworks:** During excavation in natural soils, the Contractor shall make sure that the first 300 mm to 450 mm of topsoil be excavated and stored on one side and the rest of the excavated soil is stored separately/ on the other side; during back filling the topsoil should be placed on the top again.

## **11.4 Capacity Needs Assessment and Training Plan**

Capacity building for the effective implementation of ESSs requirements is a crucial component of the ESMPF. This capacity-building effort will be required at all levels of the program, including the DPHE, the PMU, and contractors. At the construction site, the S&MC will lead the implementation of the capacity-building plan, while contractors will also be responsible for conducting training for their staff and workers.

A detail training plan on different safeguard instruments are stated in the below table.

**Table 11-1:** Training Plan for Capacity Development

Topics	Target Groups	Responsibility	Timeline
<b>AIIB Environmental and Social Framework:</b> Training on ESF and the 3 ESSs including preparation of ESMF, E&S Screening, IEE, and ESMP	Selected staff, DPHE PMU, Contractors	PMU/S&MC	Prior to the start of the Project activities. (To be repeated as needed)
<b>Occupational Health and Safety</b> Personal protection equipment, Workplace risk management, Prevention of accidents at work, sites Health and safety rules, Solid and liquid waste management, Hazardous waste management e.g., fueling of vehicles, Preparedness and response to emergency situations, Awareness campaign on HIV/AIDS	Contractors' representatives and Labors	PMU/S&MC	Prior to the start of the construction activities. (To be repeated as needed)
<b>Stakeholder Engagement</b> Stakeholder identification and mapping, SEP Implementation Plan, Strategy and measures of Stakeholder Engagement, Grievance Mechanism and Reporting, Stakeholder Engagement Reporting.	Project Officials, S&MC field level engineers and consultants, Contractors.	PMU	Prior to the start of the project activities, and to be repeated once in a year
<b>Labor and Working Conditions</b> Terms and conditions of employment according to national working laws and regulations as well as AIIB ESF, Contractor and subcontractor codes of conduct, Worker's organizations, Child labor and minimum age employment rules.	Local officials, Contractors Health Safety Officer, Labors	PMU/S&MC	Prior to the start of the construction activities. (To be repeated as needed)

Topics	Target Groups	Responsibility	Timeline
<b>Grievance Redress Mechanism</b> Design and production of a training module addressing the following aspects: Registration and processing procedure, Grievance redress procedure, Documenting and processing grievances, Use of the procedure by different stakeholders.	Local Government Officials, DPHE field office staffs, Civil Society, Local respected persons and Contractors	PMU/S&MC	Prior to Project effectiveness and thereafter once every six months.
<b>GBV, SEA, SH Risk Module</b> Raising awareness and measures to prevent and mitigate GBV, SEA, SH risks. The topics, activities and targeted groups will be developed in the GBV, SEA, SH Action Plan including GBV-specific GRM.	DPHE officials, Contractors Health Safety Officer, Labors, Local NGOs.	PMU/S&MC	Prior to Project effectiveness and thereafter every six months
<b>Ancillary trainings on</b> i) Preparation of RP and SECDP (if required) ii) GBV/SEA/SH risk in the project and its implementation, need to understand and sign Code of Conduct iii) Environmental and Social compliance monitoring iv) Efficient use of resources and prevention of pollution v) Emergency procedure and response including emergency reporting, Root Cause Analysis (RCA) and Safeguard Corrective Action Plan (SCAP)	Staff from PMU & District & Municipality Offices, Contractors' representatives	PMU/S&MC	Training of PIU staffs and consultants within 6 months of effectiveness; and prior to the start of the construction activities for others and to be repeated as required.

## 11.5 Capacity Building Action Plan

Capacity building for environmental and social safeguard management will need to be carried out at all tiers of the project. At the construction site, S&MC will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers.

Training shall be imparted, on a regular interval, to the Project and DPHE officials and Staff on Safeguard Issues. There are some other areas, where target inventions are to be made in order to strengthen the capacity of both DPHE as an institution and the project as well.

**Table 11-2: Action Plan for Project Capacity Development**

Suggested interventions	Rationale
1. Project Staffing	<p>Individual Consultants at PMU in the Positions of:</p> <ul style="list-style-type: none"> <li>• Senior environmental Specialist</li> <li>• Senior Social Development Specialist</li> <li>• Gender Specialist</li> </ul> <p>Environmental, Health, and Safety Specialists (EHSS) to be recruited by the contractors within 1 month of the contract award.</p>
2. Training/Workshops	Sated in Training section
3. Technical and Instrumental Interventions	<p>Consultation services for operation and maintenance of integrated mechanical treatment plant for the municipality and the district DPHE stuffs.</p>

## Chapter 12: Monitoring and Reporting

### 12.1 Periodic Monitoring

The monitoring framework for the ESMP will have several levels to ensure it is properly followed. Contractors must minimize environmental and social risks during construction and ensure proper health and safety measures are in place for both workers and nearby communities. They are responsible for monitoring their own work because their contract with the DPHE legally requires them to follow all environmental and social guidelines. To do this, the contractor will hire a site manager or Environment, Health, and Safety Specialist (EHSS) to monitor these requirements.

Next, design and supervision consultants will oversee the contractors. Once contractors are working on-site, safeguards consultants and the Resident Engineer from the S&MC firm will make sure that all measures in the ESMP are followed, along with the best engineering practices, especially regarding Occupational Health and Safety (OHS).

The Project Management Unit (PMU) will also have environmental and social specialists who will visit the sites regularly. In addition, the Executive Engineer's office in each district will play a key role in monitoring and supervising the civil works and ensuring that all social and environmental safeguards are respected around the sub-project sites.

A monitoring plan throughout different stages of the project is given in the following Table.

**Table 12-1:** Environmental and Social Monitoring Plan

Aspect/Environmental Indicators	Parameters/Units	Means of Monitoring/	Frequency	Responsibility	
				Implementation	Supervision
<b>Preconstruction Phase</b>					
General	Inspection of mitigation compliance	Visual inspection of all active work areas	Daily	Contractor	S&MC, PMU
Land Acquisition	-	Ensure land acquisition compensation is being delivered properly to the affected people	Prior to site preparation	Contractor	S&MC, PMU
Terrestrial Flora	Number of trees felled	Visual inspection	Prior to land clearance	Contractor	S&MC, PMU
Terrestrial Fauna	Monitoring of accidental death, disturbance, rescue and rehabilitation of wildlife	Visual inspection	Daily	Contractor	S&MC, PMU
Community health and safety	Accidents, incidents, diseases, and community complaints	Visual inspection	Based on occurrence	Contractor	S&MC, PMU
Occupational health and safety	Incidents, diseases	Visual inspection	Based on occurrence	Contractor	S&MC, PMU
<b>Construction Phase</b>					
General	Inspection of mitigation compliance	Visual inspection of all active work areas	Daily	Contractor	S&MC, PMU
Ambient Air Quality	Dust	Visual inspection of all active work areas	Daily	Contractor	S&MC, PMU
	PM <sub>10</sub> and PM <sub>2.5</sub> , Nitrogen Oxide (NO <sub>x</sub> ), Sulfur dioxide (SO <sub>2</sub> ), Carbon monoxide (CO), Ozone (O <sub>3</sub> )	Onsite measurement and analysis	Quarterly	Contractor (Third party monitoring team)	S&MC, PMU

Aspect/Environmental Indicators	Parameters/Units	Means of Monitoring/	Frequency	Responsibility	
				Implementation	Supervision
Ambient Noise	Noise Level in dB(A)	Onsite measurement and analysis	Quarterly	Contractor (Third party monitoring team)	S&MC, PMU
Vibration level	Vibration level in mm/s	Onsite measurement and analysis	Quarterly	Contractor (Third party monitoring team)	S&MC, PMU
Surface Water Quality	Water temperature, pH, Turbidity, TOC, BOD <sub>5</sub> , COD, Oil and grease, TSS, TDS, DO, Total coliform	Surface water sampling and laboratory analysis	Quarterly	Contractor (Third party monitoring team)	S&MC, PMU
Groundwater Quality	Temperature, EC, pH, TDS, DO, Salinity, Iron, Manganese, Arsenic, TC, FC, Chloride, Total Alkalinity, Total Hardness	Groundwater sampling and laboratory analysis	Quarterly	Contractor (Third party monitoring team)	S&MC, PMU
Terrestrial Flora	Plant Health Monitoring (Plant Growth, Canopy Coverage, Disease, etc.)	Visual inspection and record keeping	Quarterly	Contractor	S&MC, PMU
Terrestrial Fauna	Faunal species at the project site	Visual inspection and record keeping	Quarterly	Contractor	S&MC, PMU
Aquatic Ecology (Flora and Fauna)	Species Composition, Diversity, abundance, habitat suitability, etc.	Visual inspection, stakeholder consultation, and photographic documentation	Quarterly	Contractor	S&MC, PMU
Waste (Solid and liquid waste)	Waste: Quantity, volume, and waste management	Visual inspection and record keeping	Daily	Contractor	S&MC, PMU
Flooding and drainage	Monitoring the drainage condition	Visual inspection	Weekly	Contractor	S&MC, PMU

Aspect/Environmental Indicators	Parameters/Units	Means of Monitoring/	Frequency	Responsibility	
				Implementation	Supervision
Traffic	Traffic safety, Traffic Signages	Visual inspection	Weekly	Contractor	S&MC, PMU
Community Health and Safety	Accidents, incidents, diseases, dangerous occurrences and community complaints	Visual inspection	Based on occurrence	Contractor	S&MC, PMU
Occupational Health and Safety	Incidents, occupational diseases, dangerous occurrences, first aid, PPE	Visual inspection	Based on occurrence	Contractor	S&MC, PMU
<b>Operation Phase</b>					
Air Quality	PM <sub>2.5</sub> , PM <sub>10</sub> , CO, SO <sub>2</sub> , NO <sub>x</sub> , O <sub>3</sub>	Onsite measurement and analysis	Quarterly	Municipality (Third party monitoring team)	DPHE/PMU
Noise Level	Noise Level in dB (A)	Onsite measurement and analysis	Quarterly	Municipality (Third party monitoring team)	DPHE/PMU
Groundwater Quality	Temperature, Electric, Conductivity (EC), Turbidity, pH, TDS, DO, Salinity, Iron, Fluoride, Arsenic, Total Coliform, Fecal Coliform, Chloride, Total Alkalinity, Total Hardness	Groundwater sampling and laboratory analysis	Quarterly	Municipality (DPHE Lab)	DPHE/PMU
Wastewater	Temperature, pH, BOD <sub>5</sub> , COD, oil & grease, TC, SS, NO <sub>3</sub> , PO <sub>4</sub>	Sampling and laboratory analysis of effluent	Quarterly	Municipality (DPHE Lab)	DPHE/PMU
Aquatic Fauna	Fisheries Resources- diversity, abundance, habitat suitability, etc.	Visual inspection, stakeholder consultation, and	Quarterly	Municipality	DPHE/PMU

Aspect/Environmental Indicators	Parameters/Units	Means of Monitoring/	Frequency	Responsibility	
				Implementation	Supervision
		photographic documentation			
Waste	Quantity and volume	Monitoring and record keeping	Weekly	Municipality	DPHE/PMU
Community Health and Safety	Number accident and incident	Monitoring and record keeping	As required	Municipality	DPHE/PMU
Occupational Health and Safety	Number of accidents, first aid, PPEs, Health checkup of staff	Monitoring and record keeping	As required	Municipality	DPHE/PMU

### **12.1.1 Performance Indicators**

To evaluate the effectiveness of environmental and social monitoring, key performance indicators have been identified to ensure the efficient and timely implementation of the measures and actions outlined in this document. These indicators apply to both the construction and operation phases of the project and serve as benchmarks for assessing compliance, effectiveness, and overall impact.

- The percentage of scheduled environmental and social monitoring activities successfully completed within the stipulated timeframe.
- Analytical monitoring parameters, including air quality, noise levels, and water quality, must remain in full compliance with applicable national and international environmental standards.
- A measurable reduction in the number of environmental and social complaints received from stakeholders, indicating improved community engagement and mitigation effectiveness.
- Maintenance of ecological diversity (species composition, diversity, and abundance) remain nearly constant to the baseline study, ensuring minimal disruption to local ecosystems.
- Reduction in community complaints related to environmental and social concerns annually, reflecting enhanced community well-being and project responsiveness.
- Reduction in workplace health and safety incidents annually, ensuring continuous improvement in worker safety and adherence to OHS protocols.
- Strict adherence to a zero-tolerance policy regarding child labor and forced labor, with rigorous enforcement measures in place.
- Proper and systematic documentation of all environmental and social monitoring activities, including compliance reports, incident records, GRM reports and mitigation measures undertaken.

## **12.2 Reporting Requirement**

During the project implementation stage, several types of reports must be prepared. Environmental and social assessment reports need to be completed before the tendering process, incorporating Environmental Management Plan (EMP) clauses into the tender documents. Additionally, a safeguard screening format should be developed to identify potential impacts. The Supervision and Monitoring Consultant (S&MC) will prepare monthly Grievance Redress Mechanism (GRM) reports in consultation with the Urban Local Bodies (ULBs).

Contractors are required to maintain records such as training logs, accident/incident reports, and first aid case logs, which will be included in the quarterly reports compiled by the S&MC. Environmental and social monitoring reports should also be prepared in accordance with the Environmental and Social Management Plan (ESMP) guidelines. The PMU, with support from the S&MC, will prepare and submit quarterly and annual safeguard reports to the AIIB. These reports will include:

- Progress in implementing the ESMPF, ESIA, and ESMP.

- Findings from the monitoring programs, focusing on any breaches of control standards, action levels, or general site management practices.
- Identification of emerging issues where collected data significantly differs from the baseline data reported in the Environmental Assessment.
- A summary of any external complaints and the actions taken or planned in response

Reporting requirements for this project are summarized in the following table:

## 12.3 External Monitoring

To ensure effective environmental management of the BCISP, an independent third-party consulting firm (to be hired separately by DPHE) will be tasked with monitoring the overall performance of the project's environmental management for Category A/High Risk Sub-Projects under BCISP. This includes ensuring compliance with relevant Government of Bangladesh (GoB) and AIIB regulations, as well as the provisions outlined in the ESMPF developed for the project. The Terms of Reference (ToR) for this consulting firm are provided in **Appendix H**. As part of its monitoring responsibilities, the consulting firm will also prepare a comparative analysis of monitoring outcomes from similar sub-projects across different ULBs. This analysis will help identify lessons learned and best practices, which can then be replicated in future projects.

**Table 12-2:** Reporting Requirement and Responsibilities

Reports	Description	Prepared By	Reviewed By	Timeline
Environmental Screen Reports	Status of environmental and social screening of the sub-projects	Environmental Specialist at S&MC	Safeguard Specialist at PMU	Monthly
Compliance Reporting	Compliance monitoring report on ESHS management on each sub-project sites, OHS and CHS management, safety and security breach and training provided to consultants/staff/workers.	Environmental Health and Safety Specialists (of Contractor) with help of S&MC Environmental Specialist	Safeguard Specialist at PMU	Monthly
Training Records,	Register of all trainings and capacity building activities conducted under the project	Environmental Specialist at S&MC	Safeguard Specialist at PMU	Within 3 weeks of any training/capacity building activities
GRM Records,	Register of Grievance Received and Actions taken	GRC or Consultants during	Project Director	Monthly

Reports	Description	Prepared By	Reviewed By	Timeline
	construction period			
Incident / Accident Reporting	Prompt notification of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers including accidents that could result in fatalities, injuries, and incidents of Gender Based Violence/Sexual Exploitation and Abuse/ Sexual harassment (GBV/SEA/SH), security breach, etc.	Safeguards Consultants from S&MC; with the help of field level staffs	Safeguard Specialist at PMU	Initially notify within 24 hours of learning of the incident or accident. A detailed report will be provided within 96 hours including classification of incident.
Stakeholder Meetings/ Consultations	Objective, number and mode of consultations as SEP compliance report	Safeguards Consultants from S&MC	Safeguard Specialist at PMU	Quarterly
Third-Party Monitoring (TPM) Reports	Independent verification of ESMPF compliance for Category A/high-risk sub-projects against GoB/AIIB standards. Includes comparative analysis of sub-project performance across ULBs to identify best practices/gaps (per Appendix H-ToR).	Third-Party Monitoring Consultant	Project Director and Safeguard Specialist at PMU	As per requirement
Specific Management Plan reporting	If the project requires to prepare any specific assessment/management plans/instruments, under any circumstances, those will be provided.	Safeguards Consultants at PIU, and S&MC Safeguards staffs	Project Director	As and when necessary

## Chapter 13: Indicative Budget for Implementation of ESMPF

Cost estimates will need to be prepared for all the mitigation and monitoring measures to be proposed in the specific assessment in accordance with the ESMPF. The cost estimates for some of the mitigation measures to be identified in the ESMP will be part of civil works contract.

The Development Project Proposal (DPP) of DPHE for the proposed project should reflect the ESMP activities with budget for successful environmental and social management of the project. Total US\$ 3.72 million is estimated for implementation of ESMPF, which should be embedded in the proposed total project budget from AIIB. All the budgetary allocation for the components under table 13-1 will be coming from the PA (Project Assistance) part of the project financing.

**Table 13-1: Cost Estimates for ESMPF Implementation of the BCISP Subprojects**

SI No.	Description	Amount million (BDT)
1	Labor shed construction for male and female (portable water + first aid box + kitchen facilities + waste management + separate toilet)	50.00
2	Procurement of personal protective equipment (PPE)	12.00
3	Consultation fee for ESIA preparation	12.50
4	Environmental parameters monitoring at baseline, construction and completion phases (Air, Water and Noise)	40.00
5	Tree plantation development and maintenance	.50
6	Dust suppression activities	12.50
7	Traffic signages and Disclosure Board	2.50
8	Development of ES assessment, management and monitoring documents during construction and operation (5 years), training to workers, monitoring of sites	66.00
9	Implementation of Resettlement Policy Framework (without requisition and resettlement)	.50
10	Implementation of GBV Action Plan	1.00
11	Implementation of SEP	10.00
12	PMU Safeguard Consultants	21.00
<b>Total</b>		<b>178.5</b>

## Appendix A: Ineligible/Negative Criteria List

The Bank will not knowingly finance Projects involving the following:

1. Forced labor<sup>20</sup> or harmful or exploitative forms of child labor<sup>21</sup>.
2. The production of, or trade in, any product or activity deemed illegal under national laws or regulations of the Member in whose territory the Project is located, or international conventions and agreements, or subject to international phase out or bans, such as:
  - 2.1. Production of, or trade in, products containing polychlorinated biphenyl (PCBs)<sup>22</sup>.
  - 2.2. Production of, or trade in, pharmaceuticals, pesticides/herbicides and other hazardous substances subject to international phase outs or bans (Rotterdam Convention, Stockholm Convention)<sup>23</sup>.
  - 2.3. Production of, or trade in, ozone depleting substances subject to international phase out (Montreal Protocol)<sup>24</sup>.

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20 Forced labor means any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty (including any kind of forced or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements, or labor by trafficked persons).

21 For purposes of this List, harmful or exploitative forms of child labor means the employment of children under the age of 18 for work which by its nature or the circumstances in which it is carried out is likely to jeopardize their health, safety or morals. However, if the laws or regulations of the country in which the Project is located provide, in conformity with the International Labour Organization's Minimum Age Convention, 1973, that children at least 16 years of age may be employed for such work on condition that their health, safety and morals are fully protected and that they have received adequate specific instruction or vocational training in the relevant branch of activity, then child labor means employment of children for work that does not comply with these laws and regulations.

22 PCBs: Polychlorinated biphenyls are a group of highly toxic chemicals. PCBs are likely to be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950 to 1985.

23 United Nations Consolidated List of Products whose Consumption and/or Sale have been Banned, Withdrawn, Severely Restricted or not Approved by Governments; Convention on the Prior Informed Consent Procedures for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention); Stockholm Convention on Persistent Organic Pollutants; World Health Organization Recommended Classification of Pesticides by Hazard. A list of pharmaceutical products subject to phase outs or bans is available at

[https://www.who.int/medicines/areas/quality\\_safety/safety\\_efficacy/pharm\\_restrictions/en/](https://www.who.int/medicines/areas/quality_safety/safety_efficacy/pharm_restrictions/en/). A list of pesticides, herbicides and other hazardous substances subject to phase outs or bans is available at

<http://www.pic.int/TheConvention/Chemicals/AnnexIIIChemicals/tabid/1132/language/en-US/Default.aspx>

24 Ozone Depleting Substances (ODSs): Chemical compounds which react with and deplete stratospheric ozone, resulting in the widely publicized “ozone holes.” The Montreal Protocol on Substances that Deplete the Ozone Layer lists ODSs and their

3. Trade in wildlife or production of, or trade in, wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)<sup>25</sup>.
4. Transboundary movements of waste prohibited under international law (Basel Convention)<sup>26</sup>.
5. Production of, or trade in, weapons and munitions, including paramilitary materials.
6. Production of, or trade in, alcoholic beverages, excluding beer and wine<sup>27</sup>.
7. Production of, or trade in, tobacco<sup>28</sup>.
8. Gambling, casinos and equivalent enterprises<sup>29</sup>.
9. Production of, trade in, or use of asbestos fibers, whether or not bonded<sup>30</sup>.
10. Activities prohibited by legislation of the Member in whose territory the Project is located or by international conventions relating to the protection of biodiversity resources or cultural resources, such as, Bonn Convention, Ramsar Convention, World Heritage Convention and Convention on Biological Diversity<sup>31</sup>.

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target reduction and phase out dates. A list of the chemical compounds regulated by the Montreal Protocol, which includes aerosols, refrigerants, foam blowing agents, solvents and fire protection agents, together with details of signatory countries and phase out target dates, is available from the United Nations Environment Programme, <https://ozone.unep.org/treaties/montreal-protocol>

25 The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). A list of CITES listed species is available from the CITES secretariat, <https://www.cites.org/eng/disc/species.php>

26 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, see <http://www.basel.int>

27 This does not apply to Clients who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to the entity's primary operations.

28 This does not apply to Clients who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to the entity's primary operations.

29 This does not apply to Clients who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to the entity's primary operations.

30 In special circumstances, if necessary to enable a Client to transition from the use of bonded asbestos to alternative materials, the Bank may agree with the Client on a reasonable transition period, provided that the asbestos content of the materials being used is less than 20 percent. Projects involving disposal of asbestos are not prohibited, provided a suitable asbestos management plan is adopted for such disposal.

31 Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) - <https://www.cms.int/>; Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar Convention) - <https://www.ramsar.org/>; Convention Concerning the Protection of the World Cultural and Natural Heritage - <https://whc.unesco.org/en/convention/>; Convention on Biological Diversity - <https://www.cbd.int/>

11. Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests.
12. Production or trade in wood or other forestry products other than from sustainably managed forests.
13. Marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.
14. Shipment of oil or other hazardous substances in tankers that do not comply with IMO requirements (IMO, MARPOL, SOLAS and Paris MOU)32.
15. Thermal coal mining, coal-fired power and heating plants or Projects that are functionally related to coal33.

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32 Noncompliance with International Maritime Organisation (IMO) requirements: tankers that do not have all required International Convention for the Prevention of Pollution from Ships (MARPOL) or International Convention for the Safety of Life at Sea (SOLAS) certificates (including, without limitation, International Safety Management Code compliance), tankers banned by the Paris Memorandum of Understanding on Port State Control (Paris MOU), and tankers due for phase out under MARPOL regulation 13G. No single hull tanker over 25 years old should be used.  
[http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-thePrevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-thePrevention-of-Pollution-from-Ships-(MARPOL).aspx)

33 Projects functionally related to coal means associated facilities that are dedicated to enable the mining and use of coal or projects that would not be carried out without dedicated coal-based power supply. In order to assist Clients to reduce their coal use, the Bank may support Projects that aim at early retirement of coal plants, replacement of coal with lower-carbon fuel sources, or Projects for decommissioning, remediation, and redevelopment of affected coal facility sites and communities.

## Appendix B: Eligibility/Selection Criteria for Sub-projects

SL No	Eligibility and Readiness requirements for each sites/location for subproject
1	Availability of govt own land.
2	Availability of funds for possible resettlement and relocation due to land acquisition or economic displacement (if required).
3	Safer distances of site locations away from ecological sensitive area, sanctuary, reserve forest, designated wetlands, mangrove and estuarine.
4	Safer distance from any designated archeological site.
5	Relocation/shifting of existing utilities are not required or minimum for the sub-projects.

## Appendix C: Sub-Project Description

### Form 1: Subproject Description (to be completed by Pourashava)

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**Name of Pourashava** :

- Name of sub-project :
- i) Brief description of sub-project :

Please use separate page for subproject description

- ii) Location of sub-project and coordinates :  
(attach location map)
- a. Location of Subproject – Within the Pourashava; Outside the Pourashava

If subproject is outside of the Pourashava

- b. Distance approximately of the subproject site (in km):
  - i. From the Pourashava :
  - ii. From the nearest settlement outside the Pourashava
  - iii) Layout of the sub-project:  
(attach layout map)
- iv) Amount of Land required for the subproject :
- v) Ownership of sub-project land:
  - (a) Government/Pourashava owned:

General Description of the Land:

Year in which land ownership was established either through acquisition or transfer from different agencies)

The lands currently used by:

The lands currently used for:

Any presence of squatters/encroachers and or vulnerable groups:

Other loss categories (wage laborers, salaried workers, sharecroppers):

- (b) Private land
- (c) General Description of the Land:
  - vi) Name of ownership (If available) :
  - vii) When was this land acquired?
  - viii) Is adequate documentation to establish ownership available:
  - ix) The lands currently used for :
  - x) Other loss categories (wage laborers, salaried workers, sharecroppers, squatters and encroachers and or vulnerable groups):

In case of private ownership, how would the Pourashava obtain the lands:

Acquisition (collect the land paper if available)

Willing buyer willing seller (if yes, please collect the procedures)

Voluntary land donation (if yes, please collect the procedures)

(attach a copy of the agency's permission to use their land, if available)

xi) Brief description of sub-project site:

(indicate the information on present land use, HFL for last 30 years and Important Environmental Features<sup>34</sup> (IEFs) adjacent the site)

xii) Brief information of environment within sub-project influence area<sup>35</sup> (within 200- and 500-meter influence area)

(description of water, flora, fauna, historical or culturally important sites, sensitive receptors like schools, hospitals)

xiii) Key activities of sub-project :

xiv) Estimated cost of sub-project: (in Million BDT)

xv) Schedule of implementation :

(a) Sub-project duration (months) :

(b) Tentative start date :

(c) Tentative completion date :

xvi) Potential benefit from sub-project :

(Including estimated number of people benefited)

**Prepared by:**

**Reviewed by:**

Name:

Designation:

Mobile number:

Signature:

Date:

Signature:

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<sup>34</sup> 34 human settlements, educational institutions, healthcare, pond, canal, river, utility infrastructure, park, green area etc.

<sup>35</sup> 35 Follow Project Influence Area Criteria

## Appendix D: Screening Form for potential Environmental and Social Issues

### Form 2: Environmental and Social Screening Checklist

**Name of Pourashava** :

**Name of Sub-project** :

**Brief description of Sub-project** :

### SCREENING INFORMATION

No.	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (S/M/I/N)*
<b>(a) Project Siting</b>					
1	Densely populated				
2	Cultural heritage site				
3	Protected Area (Forest)				
4	Wetland (Beel, Haor)				
5	National Park				
6	Wildlife sanctuary				
7	Buffer zone of protected area				
8	Special area for protecting biodiversity				
9	Borewells for drinking water in the neighborhood				
<b>(b) Environmental conditions:</b>					
10	Is the construction being carried out in an ecologically sensitive area?				
11	Will there be loss in agricultural land?				
12	Is there a possibility of loss of natural floral or faunal habitats?				
13	Will there be negative effects on rare (vulnerable), threatened or endangered species of flora or fauna?				
14	Will the project affect fish?				
15	Will there be negative effects on designated wetlands?				
16	Will there be required tree cutting and loss of habitat?				
17	Is there water logging in the Pourashava?				
18	Will the construction activities hinder natural storm water drainage?				
19	Will there be a loss of existing means of livelihood?				
20	Will there be negative impacts on wildlife habitat, corridor of movement?				
<b>(c) Potential Environmental impacts during construction:</b>					

No.	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (S/M/I/N)*
21	Will dust and vibration-generating equipment be used?				(mention what kind of equipment will be used)
22	Will the excavation/ trenching work and movement of vehicles generate air pollution?				
23	Will there be noise pollution during the operation?				
24	Will fuel and/or hazardous goods be used in construction activities?				
25	Will fuel and/or hazardous substances be stored at the construction site?				
26	Is there a possibility of discharging liquid effluent from the construction site?				
27	Will construction materials be stockpiled near surface waters, and natural water courses?				
28	Will construction activities affect the natural drainage pattern of the site (e.g., filling up low-lying land)?				
29	Is earthwork (earth excavation, backfilling, stockpiling of excavated soil) involved in construction activities?				
30	Is there a possibility of water stagnation at the construction site?				
31	Will the construction involve blocking of narrow roads (e.g., pipeline laying)?				
32	Will any archaeological and historical structures be affected?				
33	Will any structure(s)/ entity(s) (e.g., shops) be temporarily affected during sub-project activity?				
34	Will any squatter(s) be temporarily displaced during sub-project activity?				
35	Will any mobile vendor(s) be affected potentially?				
<b>(d) Potential Environmental impacts during construction:</b>					
36	Negative effects on neighborhood or community characters?				
37	Negative effects on local business, institutions or public facilities?				
38	Potential social conflict between occupational groups?				
39	Degradation or disturbance of historical or culturally important sites (mosque, graveyards, monuments etc.)?				
40	Conflicts in water supply rights and related social conflicts?				
<b>(e) Environmental and Social Risks</b>					

No.	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (S/M/I/N)*
41	Is significant movement of vehicles involved during construction activities?				
42	Will child and pregnant women be used in construction activities?				
43	Is there a risk to safety and human health to people other than workers?				
44	Will the sub-project affect the way of life adversely and restrict access to common property resources of any indigenous people?				
<b>(f) Potential Operational Risks</b>					
45	Is there enough capacity in the Pourashava to monitor sanitation infrastructure?				
46	Is there sufficient maintenance staff in the Pourashava to monitor the operation of FSTP or sanitation infrastructure?				
47	Is there any risk to deterioration of water quality due to inadequate sludge disposal or direct discharge of untreated sewage water?				
48	Will there be any negative effect on neighborhood or community character?				
49	Will there be any negative effect on business, institutions and public facilities?				

\*Note: *S = Significant; M = Moderate; I = Insignificant; and N = None*

Category of Sub-Project:

Project Categorization prepared by Environmental and Social Specialist: \_\_\_\_\_

Signature of responsible person:

Date: \_\_\_\_\_

Categorization of the Risk	Low Risk	Moderate Risk	High Risk
	The Applicant need to prepare:	The Applicant need to prepare:	The Applicant need to prepare:
	ESMP	ESMP or ESIA	Full ESIA
Approval			

## Appendix E: Analysis of alternatives (Sub-Project Identification, Design & Materials)

### Form 3: Analysis of Alternatives

(to be completed by ULBs)

**Name of ULB** :

**Name of Sub-project** :

**Brief description of Sub-project** :

#### **(a) Analysis of alternative routes/ alignments/ locations:**

The ULB authority will identify alternative route/ alignment (e.g., for pipe network, drain sub-project), and alternative locations (e.g., for FSTP, IWTP, DEWATS, public toilet, secondary transfer station etc.) for the sub-project in question. Then the advantages and disadvantages of these alternatives will be listed in the following table. Based on the assessment the relative advantages and disadvantages, a route/ alignment/ location for a particular sub-project will be selected.

Route/ Alignment/ Location	Advantages/ Considerations	Disadvantages/ Considerations

Selected Route/ Alignment/ Location:

#### **(b) Analysis of alternative designs:**

For some sub-projects, alternative designs would have to be assessed. For example, for a drain sub-project, alternative designs may include HDPE and RCC drain; for a FSTP sub-project, alternative designs may include Lime, Anaerobic lagoons (centralized), Aerobic treatment (aeration), Biological multi-state (central), Anaerobic baffled reactor (ABR) etc. The ULB authority will identify alternative designs for the sub-project (where appropriate), and list the advantages and disadvantages of these alternative designs. Based on an assessment of relative advantages and disadvantages, a design will be proposed by the ULB authority.

Design Alternatives	Advantages	Disadvantages

Selected Design:

#### **(c) Analysis of alternative technologies/ methods of construction:**

For some sub-projects, alternative methods of construction would have to be assessed. For example, for a DEWATS sub-project, alternative methods of construction may include construction of underground tanks or installation of plastic tank above ground. The ULB authority will identify alternative method of construction (where appropriate), and list their advantages and disadvantages. Based on an assessment of relative advantages and disadvantages, a method of construction will be selected by the ULB authority.

Construction method	Advantages	Disadvantages

Selected method of construction:

**(d) No Sub-project Scenario:** Briefly describe the difficulties the ULB will face if the sub-project is not implemented

**(e) Conclusion:** On selected method/design/technology and route/location of subproject.

## Appendix F: Criteria for assessment of Ecological Impacts

### 1. Project Information:

- **Name of the Pourashava:**
- **Location:**
- **Project Proponent:**
- **Project Description:**

### 2. Screening Criteria:

#### A. Project Location and Environmental Sensitivity:

- Is the project located near or within any protected areas (e.g., national parks, wildlife sanctuaries, wetlands, forests)?
  - Yes/No
- Is the project site part of a critical habitat for any endangered, vulnerable, or threatened species?
  - Yes/No
- Are there any significant ecological corridors or migratory routes in the project area?
  - Yes/No
- Is the project in a climate-sensitive area prone to natural disasters (e.g., floods, droughts)?
  - Yes/No

#### B. Habitat and Biodiversity Impacts:

- Will the project lead to the loss of natural habitats (forests, wetlands, grasslands)?
  - Yes/No
- Will the project cause fragmentation of habitats or ecological corridors?
  - Yes/No
- Could the project result in the loss of biodiversity, including rare, endemic, or keystone species?
  - Yes/No
- Will invasive species be introduced or spread as a result of the project?
  - Yes/No
- Will the project affect any critical nesting, breeding, or feeding areas?
  - Yes/No

### **C. Water and Soil Impacts:**

- Will the project result in the contamination or depletion of local water resources (rivers, lakes, groundwater)?
  - Yes/No
- Could the project cause soil erosion, degradation, or compaction?
  - Yes/No
- Will the project alter natural drainage patterns or water flow?
  - Yes/No
- Will wastewater or effluent discharge from the project affect nearby aquatic ecosystems?
  - Yes/No

### **D. Air and Climate Impacts:**

- Will the project emit air pollutants that could harm local flora and fauna?
  - Yes/No
- Could the project contribute to greenhouse gas emissions or climate change?
  - Yes/No
- Will the project result in the loss of carbon sinks (e.g., deforestation, wetland destruction)?
  - Yes/No

### **E. Ecosystem Services and Livelihoods:**

- Will the project disrupt ecosystem services (e.g., water filtration, pollination, carbon sequestration)?
  - Yes/No
- Will the project affect local communities that rely on the natural ecosystem for their livelihoods (e.g., fishing, agriculture)?
  - Yes/No
- Will the project alter the aesthetic, cultural, or recreational value of the environment?
  - Yes/No

## **3. Impact Assessment:**

### **A. Nature of Impact:**

- **Positive/Negative:**

- **Reversible/Irreversible:**
- **Direct/Indirect:**
- **Short-term/Long-term:**

#### **B. Magnitude of Impact:**

- **Low:** Minor impact with no significant alteration to ecological functions.
- **Medium:** Moderate impact that may require mitigation measures but does not cause irreversible damage.
- **High:** Significant impact that could lead to long-term or irreversible damage to the ecosystem.

#### **C. Impact Duration:**

- **Short-term:** Impact occurs only during project implementation.
- **Medium-term:** Impact may persist for some time after project completion.
- **Long-term:** Impact has lasting effects on the ecosystem.

#### **D. Geographic Extent:**

- **Localized:** Impact limited to the immediate project area.
- **Regional:** Impact extends to surrounding areas beyond the project site.
- **National/Global:** Impact has national or global implications (e.g., loss of critical habitat for migratory species).

### **4. Mitigation Measures:**

For each identified impact, provide recommended mitigation measures to minimize or offset negative ecological effects. This section can include:

- **Habitat restoration or rehabilitation plans.**
- **Wildlife protection measures.**
- **Pollution control technologies.**
- **Reforestation or afforestation initiatives.**
- **Monitoring and management plans.**

### **5. Stakeholder and Expert Consultation:**

- **Were local stakeholders consulted on potential ecological impacts?**
  - Yes/No
- **Were ecologists or biodiversity experts involved in the impact assessment?**
  - Yes/No

- **Is there a need for further ecological surveys or studies?**

- Yes/No

## **6. Conclusion and Recommendations:**

Summarize the key findings of the ecological screening, including:

- **Overall risk level (Low, Medium, High).**
- **Key impacts and corresponding mitigation strategies.**
- **Recommendations for further actions (e.g., detailed environmental impact assessment, ecological monitoring).**

### Guideline for Archaeological Impact Assessment

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Bangladesh has long cultural history right from 3<sup>rd</sup> century BC onwards. Enormous major and minor historical records are scattered in different parts of the country. The features of these antiquities have separated values and identities. During implementation of large-scale infrastructural development work/s an archaeologist needs to be present to rescue or recover any cultural resources present at the site.

To reduce the possibility of damaging archaeological objects, in case they are found while undertaking excavation works for different types of constructions, an authorized archaeological unit or at least an archaeologist should be asked to monitor the site periodically. The archaeologist, according to the Rules and Regulation of the Government of Bangladesh will study, make inventory and record it for the future.

#### Tasks:

- (i) Conduct archaeological impact assessment for development programs at ULBs.
- (ii) Execute sampling excavation and assess the significance of the materials found, propose mitigation measures to safeguard buried archaeology or erected/surface remains and suggest future research activity.
- (iii) Assess risks to these archaeological materials by the proposed infrastructure and suggest changes to the infrastructural works.
- (iv) Identify suitable mitigation measures and prepare environmental management plan.

#### Investigation

Archaeological impact assessment in the project area and its vicinity to identify impacted sites/remains in relation to the infrastructural work proposed. A team of experts need to conduct an extensive study and survey at the sub-project areas. The objective of this survey will also be to develop proposal of appropriate mitigation measures to be undertaken to safeguard the buried or surface archaeology. The other objective is to suggest for changes, if any, to the proposed infrastructure works which could better assure the safeguarding of archaeological materials of cultural and historical significance and also suggest for future archaeological research and excavation of the buried archaeology.

The team can adopt three different methods for this purpose.

- (i) Examination of available cartographic and other photographic records.
- (ii) Review of available literature, reports of archaeological researches and explorations conducted at the Pourashava/ CC and surrounding areas.
  - a. Combing the city block by block or lane by lane through site inspection to unveil the historical facts.
  - b. On-site interaction with local people and to investigate clues if any in their traditions and legends.

## **Appendix H: ToR for Third Party Monitoring of Environmental & Social Management under BCISP**

### **A. Objectives of The Consultancy Services**

The main objective of the consultancy services under these terms of reference (ToR) is to allow a third-party team to monitor performance of the overall environmental management of the BCISP; specifically, the third party will monitor compliance of the project activities with the Environment and Safeguards documents, including the relevant GoB regulations, AIIB ESP policies, and provisions of the ESMPF developed for the BCISP.

### **B. Scope of Work**

The consultant will work with the concerned experts/ officials of the AIIB, and DPHE to monitor and assess environmental management issues of the BCISIP. The Consultant will carry out the tasks in accordance with accepted professional standards, utilizing sound engineering, economic, financial, and management practices. For all sub-projects to be implemented at the selected Municipalities by the DPHE, the third-party Consulting firm will monitor the following:

- Sub-projects are selected and approved by the Municipality as following the standard practice (e.g., with discussion and approval in TLCC and Poura Parishad Meetings), in line with the feasibility study (if carried out)/ Pourashava master plan (if present).
- Sub-project description is prepared properly, and sub-project and “environmental screening” are carried out properly by the Municipalities and DPHE-appointed Consultant following the formats and guidelines provided in the EMF.
- Decision regarding environmental assessment (EA) of the sub-project is taken by DPHE following the provisions of the relevant GoB regulations (ECR 1997) and AIIB ESP policies.
- Environmental assessment (EA) of the sub-projects (i.e., ESIA/ ESMP) is prepared following the ESMPF, and satisfying the relevant provisions of the GoB and AIIB; and necessary environmental clearance/ approval are taken from the DoE and AIIB for sub-project execution.
- Specific environmental requirements/ clauses are included in the bidding document and they are being met.
- The sub-project activities meet the EMP and ESCoP requirements.
- Implementation and effectiveness of the mitigation and enhancement measures specified in the EMP.
- Actual and predicted changes to the environment, so that immediate actions could be taken to mitigate unanticipated impacts.
- Actual and predicted impacts, so that better prediction/ assessment of impacts could be made in the future;
- Environmental monitoring is carried out in the field as outlined in the EMP, monitoring

and progress reports are regularly prepared and shared with DPHE/ AIIB; the monitoring reports are recorded and evaluated (by DPHE/ AIIB), and adequate feedbacks are provided to the field management.

In addition, for any observation of non-compliance, the third-party consultant will provide specific recommendations for improvement of environmental management.

## **C. Deliverables**

The consultant shall prepare the reports as described below. The reports will be provided in soft and hard copies (five hard copies).

### **(i) Inception Report**

The consultant will submit an inception report based on the initial findings, describing the work program at the end of third week after commencement of work. The consultant will identify any constraint and suggest solutions, together with any action required by DPHE/ AIIB to facilitate the successful implementation of the work.

### **(ii) Quarterly Report**

The consultant will submit quarterly reports, summarizing monitoring activities (as outlined in the scope of works). The reports will summarize the sub-project specific monitoring outcomes for each Pourashava separately. A comparison of monitoring outcomes of same/similar sub-projects carried out in different ULBs should be provided, so that lessons learned and best practices could be replicated.

### **(iii) Final/ Completion Report**

This report will be prepared at the end of the project. It will be a comprehensive report on the consultancy services throughout the contract. This report will summarize the major findings, constraints, lessons learnt; and provide recommendation for proper environmental management and monitoring in future projects. The Table of Contents of the Report will be submitted for the clearance by DPHE/ AIIB six months before completion of the contract. The draft report will be provided to DPHE one month before completion of the contract.

## Appendix I: Chance Find Procedures

A chance find procedure is a Project-specific procedure which sets out how chance finds associated with the Project will be managed. This procedure generally includes a requirement to notify relevant authorities of found objects or sites, to close off the area of finds or sites to avoid further disturbance, to conduct an assessment of found objects or sites by cultural resources experts, to identify and implement actions consistent with the requirements of Environmental and Social Standard (ESS) 1 and national law and to train Project workers on chance find procedures.

This Chance Finds Procedure covers the actions to be taken from the discovering of a heritage site or item to its investigation and assessment by a professional archaeologist or other appropriately qualified person to its rescue or salvage.

If cultural resources (e.g., archaeological sites, historical sites, remains, objects, graveyards or individual graves) are discovered when undertaking small-scale construction activities, civil works and/or renovation activities, the following procedure will be executed

- Halt the construction activities around the chance find to avoid any (or further) damage.
- Report the discovery to the site engineer or the Environmental specialist (or project equivalent) immediately.
- Delineate and fence the discovered site or area and provide a 25-meter buffer zone around all sides of the find;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard will be arranged until the responsible local authorities or the District/ Divisional Department of Archaeology, if available, can take over;
- Forbid any removal of the objects by the workers or other parties;
- Note the type of archaeological materials, their location (GPS) and if possible, the depth below the surface the find occurred;
- Photographic the exposed materials, preferably with a scale (e.g., a file binder, coin, rules etc.);
- Notify the responsible local authorities and the relevant Institute of Archaeology immediately (within 24 hours or less);
- Responsible local authorities would oversee protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the local Institute of Archaeology. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; these include the aesthetic, historic, scientific or research, social, and economic values;
- Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the physical investment layout (such as when finding an

irremovable remain of cultural or archaeological importance) conservation, preservation, restoration, and/or salvage;

- Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities;
- The mitigation measures could include the change of proposed Project design/ layout, protection, conservation, restoration, and/or preservation of the sites and/or objects;
- Construction work at the site could resume only after permission is given from the responsible local authorities concerning safeguard of the heritage; and
- The physical investment proponent is responsible for cooperating with the relevant local authorities to monitor all construction activities and ensure that the adequate preservation actions are taken and hence the heritage sites protected.

In addition, DPHE is obliged to declare the chance find discovery at the earliest possible date to the AIIB.

## **Appendix J: Draft Terms of Reference for the Preparation of ESMP, Resettlement Plan (RP) and Indigenous Peoples Plan (IPP)**

### **A. Background**

Bangladesh has a high population density and has experienced rapid urbanization. The percentage of the population living in slums has increased, leading to poor sanitation conditions and a higher risk of water-borne diseases. While access to basic drinking water facilities is relatively good, the quality of drinking water is often poor due to contamination.

Most urban households in Bangladesh have access to toilets, but the functionality of on-site sanitation systems is a concern. Without proper management of fecal sludge, there have been cases of sludge management crises, impacting human and environmental health. Women and children in slums and informal settlements are particularly vulnerable to water-borne diseases caused by unsafe drinking water and poor sanitation and hygiene conditions.

While formally planned urban areas may have access to publicly funded sewerage systems, the poor and those living in slums and informal settlements are left behind with little or no support. In those areas, infrastructure and services for safe containment, emptying, conveyance, treatment and disposal are largely absent. Pits and septic tanks are illegally connected to surface drains or water bodies. The fecal sludge is emptied by informal and unhygienic methods and openly dumped into the environment. This weak link in the sanitation service chain in Bangladesh has been not only contaminating the environment (including drinking water sources) but also posing significant risks to human health (causing recurrent outbreaks of diseases such as diarrhea, cholera, and typhoid).

To address these challenges, the Government of Bangladesh has prioritized urban sanitation and approved an Institutional and Regulatory Framework (IRF) for Fecal Sludge Management (FSM). A National Action Plan has been developed to implement the IRF and ensure effective FSM by 2030. The establishment of a Citywide Inclusive Sanitation (CWIS)-FSM support Cell aims to facilitate integrated sanitation management.

To tackle these issues at the city level, the Government of Bangladesh conducted a feasibility study project for implementing solid waste and fecal sludge management systems in 53 district-level Municipalities and 8 city Corporations. The project received technical and financial support from the Bill and Melinda Gates Foundation. The study provided a comprehensive analysis of the existing waste and fecal sludge management situation, including demand, viable technological solutions, and environmental considerations. The findings of the study are available on the open web link [www.sanboard.gov.bd](http://www.sanboard.gov.bd) and serve as a basis for future development projects and sustainable plans.

### **B. Objectives of the Assignment**

The overall objective of this assignment is to prepare the following plans:

### **Environmental and Social Management Plan (ESMP):**

To identify and manage the environmental and social impacts of the project, define mitigation measures, and outline monitoring and reporting systems as per the terms and conditions outlined in AIIB's ESS-1.

### **Resettlement Plan (RP):**

To outline the strategies for addressing land acquisition, resettlement, and compensation for affected communities, ensuring that displacement is minimized, and that affected individuals or households are compensated and rehabilitated in accordance with national laws and AIIB's ESS-2.

### **Indigenous Peoples Plan (IPP):**

To define measures to avoid adverse impacts on Indigenous Peoples, to ensure their participation in the project, and to protect their rights in accordance with national laws and AIIB policy on Indigenous Peoples.

## **C. Scope of Work**

### ***1.1 Environmental and Social Management Plan (ESMP)***

**Baseline Data Collection:** Gather baseline data on environmental and social conditions in the project area (e.g., air quality, water quality, noise level, biodiversity, livelihoods, and socio-economic conditions).

**Impact Assessment:** Conduct an environmental and social impact assessment to identify and evaluate potential negative and positive impacts of the sub-project activities.

**Mitigation Measures:** Propose specific measures to mitigate adverse environmental and social impacts.

**Monitoring and Reporting Plan:** Develop a monitoring and reporting framework to track the implementation of mitigation measures and the effectiveness of the ESMP.

**Institutional Arrangements:** Define roles and responsibilities for implementing and monitoring the ESMP.

**Cost of Mitigations:** Propose the tentative cost of ESMP implementation which will be included in the BoQ.

### ***1.2 Resettlement Plan (RP)***

**Identification of Affected Persons (APs):** Identify and map all individuals or households affected by the project, including those whose land or property will be impacted.

**Socio-Economic Study:** Conduct a socio-economic study of the affected populations to assess their livelihoods, needs, and vulnerabilities.

**Compensation and Assistance Framework:** Define the framework for compensation (cash or in-kind) and assistance to displaced persons, ensuring that affected communities are adequately compensated, resettled, and rehabilitated.

**Consultation and Participation:** Develop a strategy for consultation and participation of affected communities throughout the planning and implementation process.

**Grievance Redress Mechanism:** Establish a system for addressing grievances and disputes related to resettlement and compensation.

**Institutional Arrangements:** Identify the responsible institutions, their roles, and capacity-building requirements for the implementation of the RP.

### **1.3 Indigenous Peoples Plan (IPP)**

**Identification of Indigenous Peoples:** Identify and map Indigenous Peoples within the project area, including demographic, cultural, and economic characteristics.

**Cultural Impact Assessment:** Assess the potential impacts of the project on Indigenous cultures, lands, and livelihoods.

**Engagement and Consultation:** Develop a culturally appropriate consultation and participation process for Indigenous Peoples, ensuring their active involvement in project planning and implementation.

**Mitigation Measures:** Define measures to avoid or mitigate negative impacts on Indigenous Peoples, and enhance positive impacts.

**Benefit Sharing:** Develop strategies to ensure that Indigenous communities directly benefit from the project, including economic development opportunities, capacity-building, and the protection of their rights.

**Monitoring and Reporting:** Establish a monitoring and reporting mechanism to track the implementation of the IPP and assess its effectiveness.

## **D. Methodology**

The preparation of the ESMP, RP, and IPP will follow the following steps:

**Desk Review:** Review relevant project documents, previous studies, and reports (e.g., environmental and social assessments, legal and regulatory frameworks etc.)

**Stakeholder Consultations:** Organize and conduct consultations with relevant stakeholders, including local communities, Indigenous Peoples, government authorities, and other affected parties.

**Field Surveys and Data Collection:** Conduct surveys and collect primary data in the field, including environmental baseline surveys, socio-economic studies, and community consultations.

**Analysis and Reporting:** Analyze the collected data, identify impacts, and propose mitigation measures. Develop the ESMP, RP, and IPP in consultation with stakeholders.

**Review and Finalization:** Present the draft reports to the implementing agency and key stakeholders for review, incorporate feedback, and finalize the documents.

## **E. Deliverables**

**Inception Report:** A detailed work plan outlining the approach, methodology, and schedule for the assignment.

**Draft ESMP:** A comprehensive draft of the Environmental and Social Management Plan, including baseline data, impact assessment, mitigation measures, and monitoring framework.

**Draft RP:** A detailed draft Resettlement Plan, including identification of affected persons, compensation framework, and resettlement strategy.

**Draft IPP:** A draft Indigenous Peoples Plan, including impact assessment, engagement strategy, and benefit-sharing measures.

**Final Reports:** A consolidated final report, incorporating feedback from the implementing agency and stakeholders, including the ESMP, RP, and IPP.

**Presentation to Stakeholders:** A presentation summarizing the findings, recommendations, and mitigation measures in the ESMP, RP, and IPP to key stakeholders.

## **F. Timeline (During sub-project preparation and implementation)**

The assignment is expected to be completed during sub-project preparation and implementation. The key deliverables include:

- Inception Report
- Draft ESMP, RP, and IPP
- Stakeholder Review and Feedback
- Final ESMP, RP, and IPP
- Final Presentation

## **G. Team Composition and Qualifications**

The consulting team/firm should consist of professionals with expertise in the following areas:

**Environmental Expert:** Knowledge of environmental assessments, environmental management systems, and relevant local and international regulations.

**Social and Gender Specialist:** Expertise in social impact assessments, resettlement planning, and social risk management.

**Community Engagement Specialist:** Experience in community consultation, stakeholder engagement, and grievance redress mechanisms.

Each expert should have at least 10 years of professional experience and 5 years of relevant experience in their field and familiarity with the MDB-funded projects (ex. AIIB, WB, IFC, ADB etc.).

## Appendix K: Draft TOR for Environmental & Social Impact Assessment

### 1. Introduction

The Bangladesh City Inclusive Sanitation Project (BCISP), implemented by the Department of Public Health and Engineering (DPHE), aims to improve urban sanitation services in 25 selected cities across Bangladesh. The project focuses on inclusive sanitation solutions, particularly targeting underserved and vulnerable populations, including those in informal settlements. This Terms of Reference (TOR) outlines the scope, methodology, and deliverables for conducting an Environmental and Social Impact Assessment (ESIA) to ensure that the project is environmentally sustainable and socially equitable.

The ESIA will identify potential environmental and social impacts associated with BCISP activities, propose mitigation measures, and develop an Environmental and Social Management Plan (ESMP). The assessment will align with national environmental regulations, international best practices, and the environmental and social standards of the Asian Infrastructure Investment Bank (AIIB). The ESIA will also ensure compliance with relevant laws, policies, and guidelines in Bangladesh.

### 2. Project Description

#### 2.1 Project Background

The BCISP is a transformative initiative designed to address urban sanitation challenges in Bangladesh. Rapid urbanization has led to inadequate sanitation systems in many cities, resulting in public health risks, environmental degradation, and social inequities. The project emphasizes inclusive sanitation services that cater to all segments of society, especially low-income communities.

Key objectives of BCISP include:

- Improving the coverage of safely managed sanitation through the use of safe, sustainable sanitation technology in 25 Towns.
- Improving the life and livelihood of the people in the project area through establishing household, community, public toilets and containment system.
- To reach the targets of SDG 6.2 through implementing modern and innovative technology of integrated sanitation & bio-waste management system, transforming waste to resources, including enhancement of the capacity of the Municipalities and the overall environment.

To strengthen governance accountability through development of municipal level CWIS framework and guidelines. The project interventions will be implemented across 25 selected cities in Bangladesh. These cities represent diverse geographic, demographic, and socio-economic conditions, necessitating a comprehensive ESIA to assess localized impacts.

#### 2.2 Project Components

The BCISP consists of the following major components:

- 1) Construction and Rehabilitation of Sanitation Infrastructure:

- Development of new public toilets in urban areas.
- Rehabilitation or upgrading of existing septic tanks and sewer lines.
- Construction of decentralized wastewater treatment facilities.

2) Strengthening Fecal Sludge Management (FSM) Systems:

- Establishment or improvement of FSM infrastructure for safe emptying, transportation, treatment, and disposal.
- Development of FSM service delivery models for effective operations.

3) Hygiene Promotion Activities:

- Community awareness campaigns on hygiene practices.
- Training programs for households on safe sanitation practices.

4) Capacity Building:

- Training local governments on sanitation planning, monitoring, and service delivery.
- Enhancing institutional frameworks for sustainable sanitation management.

### **3. Scope of Work**

The ESIA will include both environmental and social assessments to evaluate potential impacts during the planning, construction, operation, and decommissioning phases of the project.

#### **3.1 Environmental Impact Assessment**

##### **Baseline Data Collection**

The consultant will collect baseline data to establish a comprehensive understanding of existing environmental conditions in the project areas. This includes:

- **Air Quality:** Measurement of particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), and other pollutants.
- **Water Quality:** Analysis of surface water bodies (e.g., rivers, lakes) and groundwater sources for parameters such as pH levels, dissolved oxygen, biological oxygen demand (BOD), chemical oxygen demand (COD), and microbial contamination.
- **Noise Levels:** Monitoring ambient noise levels at key locations.
- **Soil Quality:** Assessing soil contamination risks due to improper waste disposal or construction activities.
- **Biodiversity:** Identifying flora and fauna that may be affected by construction or operational activities.
- **Climate Change Vulnerability:** Evaluating climate-related risks such as flooding or extreme weather events that could impact project infrastructure.

##### **Impact Prediction and Assessment**

The consultant will assess potential environmental impacts associated with project activities:

##### **Construction Phase Impacts:**

- Air pollution from dust generation and emissions from construction equipment.
- Noise pollution from machinery operation.
- Soil erosion due to land clearing activities.

- Loss of vegetation or deforestation.

#### **Operational Phase Impacts:**

- Potential contamination from untreated wastewater discharge.
- Odor emissions from fecal sludge treatment facilities.
- Greenhouse gas emissions from FSM operations.

#### **Impacts on Biodiversity:**

- Potential disruption to local ecosystems due to construction or wastewater discharge.

#### **Climate Change Impacts:**

- Assessing how climate variability may affect infrastructure resilience.

#### **Risk Assessment**

The consultant will identify potential environmental risks such as flooding, landslides, or contamination risks arising from improper waste management.

### **3.2 Social Impact Assessment**

#### **Baseline Data Collection**

Baseline socio-economic data will be collected through surveys, interviews, focus group discussions, and secondary data sources. Key aspects include:

- **Demographics:** Population size, age distribution, gender ratio.
- **Socio-economic Characteristics:** Income levels, employment patterns, education levels.
- **Land Use:** Current land use patterns and tenure systems in project areas.
- **Livelihoods:** Primary income-generating activities in affected communities.
- **Cultural Values:** Local traditions or cultural practices that may be impacted by project activities.
- **Access to Services:** Availability of education facilities, healthcare services, water supply systems.

#### **Impact Prediction and Assessment**

The consultant will assess potential social impacts such as:

##### **1) Involuntary Resettlement:**

- Identifying households or businesses that may require relocation due to land acquisition.

##### **2) Livelihood Impacts:**

- Evaluating how construction activities may disrupt economic activities or income sources.

##### **3) Cultural Impacts:**

- Assessing potential disruptions to cultural heritage sites or practices.

#### **4) Impacts on Vulnerable Groups:**

- Special focus on women-headed households, children, elderly individuals, people with disabilities, ethnic minorities.

#### **5) Stakeholder Engagement Impacts:**

- Identifying key stakeholders affected by the project directly or indirectly.

### **3.3 Mitigation Measures**

The consultant will develop mitigation strategies to minimize adverse impacts identified during the assessment process. These measures will be evaluated based on their feasibility, effectiveness, cost-efficiency, and alignment with national policies.

### **3.4 Environmental and Social Management Plan (ESMP)**

An Environmental and Social Management Plan (ESMP) will be developed as part of the ESIA report. The ESMP will include:

- 1) Specific mitigation measures for managing identified risks during construction and operation phases.
- 2) Monitoring frameworks with indicators for tracking mitigation effectiveness.
- 3) Roles and responsibilities for implementing mitigation measures.

### **3.5 Stakeholder Consultation**

Meaningful consultations will be conducted with affected communities throughout the ESIA process to ensure their concerns are addressed in the project design. Special efforts will be made to engage vulnerable groups such as women's groups or ethnic minorities.

## **4. Reporting Requirements**

The ESIA report must meet the following requirements:

- 1) **Language:** Reports should be prepared in English as well as local languages spoken in project areas.
- 2) **Format:** The report must include an executive summary summarizing key findings; detailed sections on baseline conditions; impact assessments; mitigation measures; stakeholder consultation outcomes; ESMP; and annexes with supporting data/evidence.
- 3) **Submission:** Reports must be submitted to DPHE per agreed timelines.

## **5. Qualifications of Consultant**

The consulting firm selected for conducting the Environmental and Social Impact Assessment (ESIA) must possess a robust set of qualifications to ensure effective execution of the project. Firstly, the firm should have a minimum of five years of experience specifically in developing ESAs for infrastructure projects, demonstrating a proven track record in identifying and mitigating environmental and social impacts. Additionally, the firm should have successfully completed at least two ESAs that received approval from relevant governmental authorities, showcasing their capability to meet regulatory standards. A multidisciplinary team is essential, including experts in environmental science, social sciences, and engineering, to address the diverse aspects of the assessment comprehensively. Finally, familiarity with local regulations

and experience working in Bangladesh are crucial to navigate the specific environmental and social contexts effectively.

## **6. Timeframe**

The consulting firm selected to conduct the Environmental and Social Impact Assessment (ESIA) must provide a detailed work plan within two weeks of contract signing, outlining specific timelines for each activity involved in the assessment process. This work plan should include key milestones such as baseline data collection, stakeholder consultations, impact assessments, and the development of mitigation measures. Each activity should be clearly defined with associated deadlines to ensure timely completion of the ESIA. The firm must demonstrate flexibility in adapting the work plan as needed based on stakeholder feedback or unforeseen challenges during the assessment process. Additionally, regular progress updates should be integrated into the work plan to maintain transparency and facilitate effective communication with the Department of Public Health and Engineering (DPHE) and other stakeholders throughout the project.

## **7. Budget**

The consulting firm is required to submit a comprehensive budget proposal that outlines all costs associated with conducting the Environmental and Social Impact Assessment (ESIA), ensuring transparency and accountability in financial planning. This budget should detail expenses related to personnel, field surveys, stakeholder consultations, data analysis, report preparation, and any necessary travel or logistical support to facilitate a thorough assessment process.

## **8. Reporting & Communication**

Regular progress reports must ensure transparency between consultants/DPHE stakeholders throughout this process. Regular progress reports are essential to maintain transparency between the consulting firm and the Department of Public Health and Engineering (DPHE) stakeholders throughout the ESIA process. These reports will provide updates on the status of various activities, highlight any challenges encountered, and outline steps taken to address them. By ensuring that compliance milestones are met effectively, these reports will facilitate ongoing communication and collaboration, ultimately contributing to the successful completion of the assessment.

## Appendix L: Sample Template for ESIA

### Abbreviation and Acronyms

### Executive Summary

#### 1. Introduction

- 1.1 Background
- 1.2 Project Objectives and Components
- 1.3 Rationale of the Study
- 1.4 Approach and Methodology
- 1.5 Scope of Work
- 1.6 Structure of the ESIA Report
- 1.7 ESIA Team

#### 2. Regulatory and Policy Consideration

- 2.1 Introduction
- 2.2 Relevant Regulations of the GoB
- 2.3 AIIB Environmental and Social Standards
- 2.4 Gap Analysis of AIIB Requirements and National Laws
- 2.5 International Treaties Signed by the GoB
- 2.6 Category of the Project
- 2.7 Procedure for Environmental Clearance

#### 3. Project Descriptions

- 3.1 Project Description
- 3.2 Project Location
- 3.3 Amount of Land: Land Required, Land Ownership, Land Acquisition
- 3.4 Accessibility to the Site
- 3.5 Project Activities and Implementation Schedule

#### 4. Environmental and Social Baseline Condition

- 4.1 Physical Environment
  - 4.1.1 Topography
  - 4.1.2 Climate
  - 4.1.3 Natural Hazards
  - 4.1.4 Physiography
  - 4.1.5 Agro-ecological Zone
  - 4.1.6 Soil type
  - 4.1.7 Seismicity
  - 4.1.8 Ecologically Critical Area (ECA)
  - 4.1.9 Environmental Quality Test (Air, Noise and Water)
  - 4.1.10 Land Use
  - 4.1.11 Existing Sources of Pollution
  - 4.1.12 Assessment of Disaster Risk of the Project
- 4.2 Biological Environment
  - 4.2.1 Flora
  - 4.2.2 Fauna
  - 4.2.3 Bio-ecological Zones

- 4.2.4 Ecologically Critical Areas
- 4.3 Socio-Economic Condition
  - 4.3.1 Population and Demographic
  - 4.3.2 Religion
  - 4.3.3 Housing Characteristics
  - 4.3.4 Economic Activities
  - 4.3.5 Water Supply
  - 4.3.6 Sanitation
  - 4.3.7 Electricity
  - 4.3.8 Literacy
  - 4.3.9 Income
  - 4.3.10 Services
  - 4.3.11 Traffic and Transport
  - 4.3.12 Public Health
  - 4.3.13 Positive Impact

## **5. Analysis of Alternative**

- 5.1 Introduction
- 5.2 No Project Alternative
- 5.3 With Project Scenario
- 5.4 Technical Alternative
  - 5.4.1 Technical, Financial/Economic, Environmental and Social Considerations of Selected Options
  - 5.4.2 Alternatives During Construction
  - 5.4.3 Alternatives for Workforce Procurement
  - 5.4.4 Alternatives for Mode of Transportation

## **6. Stakeholder Engagement and Public Consultation**

- 6.1 Introduction
- 6.2 Objectives of Stakeholder Consultation
- 6.3 Approach and Methodology
- 6.3.1 Consultation Process
- 6.4 Information Disclosure and Consultation
- 6.5 Identification of Stakeholders
  - 6.5.1 Project Affected Parties
  - 6.5.2 Other Interested Parties
  - 6.5.3 Disadvantaged and Vulnerable Individuals and Groups
- 6.6 Consultation and Focus Group Discussions

- 6.6.1 Consultation
- 6.6.2 Focus Group Discussion

## **7. Assessment of Environmental and Social Impacts**

- 7.1 Introduction
- 7.2 Risk Screening
- 7.3 Positive Impacts of the Project
- 7.4 Assessment of Environmental and Social Issues
- 7.5 Anticipated Adverse Impacts and Mitigation Measures

- 7.5.1 Impact During Pre-Construction Phase
- 7.5.2 Impact During Construction Phase
- 7.5.3 Impact During Post-Construction Phase

## **8. Environmental and Social Management Plan (ESMP)**

- 8.1 Introduction
- 8.2 Environmental Mitigation Plan
- 8.3 Environmental Monitoring Plan
- 8.4 Costing of EMP
- 8.5 Grievance Redress Mechanism (GRM)
  - 8.5.1 Project Grievance Redress Mechanism
  - 8.5.2 Grievance Redress Committees (GRC)
  - 8.5.3 Grievance Resolution Process

## **9. Conclusion and Recommendation**

## **Appendix**

## **Appendix M: Sample Template for Resettlement Plan**

### **Abbreviation and Acronyms**

### **Executive Summary**

### **Chapter 1. Project Overview and Methodology**

- 1.1 Background of the Project
- 1.2 Salient Features of the Project
- 1.3 Land Acquisition and Resettlement Requirement
- 1.4 Objective of the Resettlement Plan (RAP)
- 1.5 Methodology for Preparing the Resettlement Plan (RP)
- 1.6 Social Cut-off Dates (COD)

### **Chapter 2. Socio-economic Characteristics of Affected Area**

- 2.1 Introduction
- 2.2 Methodologies Adopted in Conducting Surveys
- 2.3 Demographic Characteristics in Project Affected Area
- 2.4 Age Composition
- 2.5 Marital Status
- 2.6 Household by Religion
- 2.7 Education
- 2.8 Poverty Line, Income, and Expenditure of HHs
- 2.9 Occupation Pattern
- 2.10 Access to Various Civic Amenities
- 2.11 Cumulative Impacts of the Project

### **Chapter 3. Land Acquisition and Resettlement Impacts**

- 3.1 Approach
- 3.2 Scope of Land Acquisition
- 3.3 Land Category
- 3.4 Structure and Tree Loss
- 3.5 Affected CPRs
- 3.6 Loss of Business Enterprises
- 3.7 Special Measures for Vulnerable Groups
- 3.8 Significance of Impact
- 3.9 Probable Temporary Impact from Noise and Vibration

### **Chapter 4. Consultation, Participation, and Disclosure**

- 4.1 Overview
- 4.2 Key Stakeholders of the Project
- 4.3 Approaches and Methodology
- 4.4 Process of Stakeholder Consultation Meeting (SCM)
- 4.5 Venue and Nature of Participants of the Consultation Meetings
- 4.6 Major Findings/Outcomes of the Consultation Meetings
- 4.7 Impacts Identified by the Stakeholders
- 4.8 Details of Consultation Meetings
- 4.9 Consultation and Participation during Project Implementation
- 4.10 Disclosure of the RP

## **Chapter 5. Legal and Policy Framework**

5.1 Legal Framework

5.2 Acquisition and Requisition of Immovable Properties Act (ARIPA) 2017

5.3 AIIB's Operational Policy on Involuntary Resettlement

5.4 Environmental, Resettlement and Social Management Framework (ERSMF)

## **Chapter 6. Eligibility Policy and Entitlement Matrix**

6.1 Compensation and Resettlement Assurances

6.2 Principles, Legal, and Policy Commitments

6.3 Eligibility Criteria and Cut-off Date

6.4 Entitlements and Entitlement Matrix

6.5 Compensation Payment Procedure to Title Holder

6.6 Compensation Payment Procedure to Non-Title Holder

## **Chapter 7. Resettlement and Income & Livelihood Restoration**

7.1 Scope of Resettlement

7.2 Relocation of Housing and Other Establishments

7.3 Replacement of Agriculture Land

7.4 Income and Livelihood Restoration Strategy

7.5 Employment in Construction

## **Chapter 8. Grievance Redress Mechanism (GRM)**

8.1 Requirements for Grievances Redress Mechanism (GRM)

8.2 Grievances Redress Committee (GRC)

8.3 Formation of GRC

8.3 Scope and Jurisdiction of the GRCs

8.4 Proceedings of GRC

8.5 Disclosure and Documentation

8.6 Grievances Redress Monitoring and Reporting

## **Chapter 9. RP Implementation Arrangement**

9.1 Overall Institutional Responsibilities

9.2 Project Implementation Unit of BCISP

9.3 Other Agencies Involved in the Process

9.3.1 BCISP Office

9.3.2 Project Consultant

9.3.3 RP Implementing Agency (RP IA)

9.4 Statutory RP Committees

9.4.1 Joint Verification Committee (JVC)

9.4.2 Property Valuation Assessment Committee (PVAC)

9.4.3 Resettlement Advisory Committee (RAC)

9.4.4 Women Groups in Resettlement Process

9.5 RP Implementation Schedule

## **Chapter 10. Cost and Budget**

10.1 Budgeting and Financial Planning

10.2 Estimation of Resettlement Benefits

## **Chapter 11. Monitoring and Evaluation**

11.1 Monitoring and Evaluation

11.2 Internal Monitoring

11.3 External Monitoring and Evaluation

11.3.1 Compliance Monitoring

11.3.2 Social Impact Evaluation

11.4 Reporting Requirements

## **Chapter 12. Conclusion and Recommendations**

## **Appendix N: Sample Template for Ethnic Group Engagement Plan (EGEP)**

### **1. Introduction**

1.1 Project Background

1.2 Rationale for EGEP

1.3 Objectives

### **2. Project Area and Target Ethnic Groups**

2.1 Project Area Description

2.2 Identification of Target Ethnic Groups

### **3. Engagement Activities**

3.1 Planning and Preparation

- Consultations
- Capacity Building
- Material Development

3.2 Implementation

- Community Engagement
- Culturally Appropriate Service Delivery
- Monitoring

### **4. Grievance Redress Mechanism (GRM)**

4.1 Framework

4.2 Training

4.3 Continuous Improvement

### **5. Monitoring and Evaluation**

5.1 Framework Development

5.2 Data Collection

5.3 Independent Monitoring

### **6. Coordination and Collaboration**

6.1 Stakeholder Collaboration

6.2 Best Practices Sharing

### **7. Budget and Resources**

7.1 Allocation

7.2 Efficiency

### **8. Sustainability**

8.1 Long-term Plan

8.2 Community Empowerment

## **Appendix O: Sample template for ESMP**

### **1. Introduction**

1.1 Project Background

1.2 Purpose of the ESMP

1.3 Objectives of the ESMP

### **2. Legal and Regulatory Framework**

2.1 National Laws and Policies

2.2 AIIB Environmental and Social Standards

2.3 Gap Analysis

### **3. Baseline Environmental and Social Conditions**

3.1 Physical Environment

3.2 Biological Environment

3.3 Socio-Economic Conditions

### **4. Potential Environmental and Social Impacts**

4.1 Anticipated Impacts

### **5. Environmental and Social Management Plan**

5.1 Planning Phase

5.2 Construction Phase

5.3 Operation Phase

### **6. Grievance Redress Mechanism (GRM)**

6.1 Framework

6.2 Implementation

### **7. Monitoring and Evaluation**

7.1 Monitoring Plan

7.2 Reporting

7.3 Third-Party Audits

### **8. Institutional Arrangements**

8.1 Roles and Responsibilities

8.2 Capacity Building

### **9. Budget**

9.1 Budget Allocation for Implementing the ESMP